

Socio-demographic correlates of self-rated health among Santals of rural West Bengal, India

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Abstract

Objectives: Self-rated health (SRH) is considered as a subjective measure of health and widely used in population surveys. The present study aimed to see the socio-demographic characteristics and reported morbidity wise variation of self-rated health and to examine the association between socio-demographic characteristics and self-rated health of the rural Santals.

Methods: Using a standard household census schedule socio-demographic data were collected from 425 adult Santals of both sexes of Bankura district, West Bengal. SRH data were collected asking people to choose their current health status within five possible options: 'very good,' 'good,' 'average,' 'bad,' and 'very bad.' Univariate and multivariate forward stepwise logistic regression analyses used to examine the association between SRH and socio-demographic characteristics. **Results:** Majority of the study participant rated their health as 'average' followed by 'bad,' 'good,' and 'very bad' irrespective of sex. Results of univariate logistic regression analyses showed that SRH has significant association with age group, level of education, occupation types, marital status, house type, and sex. Elderly (OR= 6.78) and middle-aged (OR=2.52) individuals were more likely to report 'bad' health compared to young individuals. Participants with formal education i.e. from primary level (OR= 0.42) to higher secondary and above (OR= 0.04) were less likely to report 'bad' health compared to non-literate participants. Unmarried people (OR= 0.36) were less likely to report 'bad' health, while widowed/ divorced/ separated individuals (OR = 2.87) were more likely to report 'bad' health compared to married individuals. Males (OR= 0.67) were less likely to report 'bad' SRH than females. **Conclusion:** SRH cannot be used as single item measure of health because such rating is always influenced by several socio-demographic factors especially among socio-economically disadvantaged community.

Keywords: Self-rated health, reported morbidity, socio-demographic characteristics, rural Santal

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Introduction

Health is an essential component for human survival and over all development. Health is not merely a state of well-being but also a resource for everyday life, which also includes social and personal status, as well as physical capabilities. Measuring health status objectively is always preferable however, not possible in large-scale survey research where self-rated health provides useful information as a subjective health measure and it is easy to monitor, less time consuming and economic as well.

Self-rated health is one of the most common indicators of health research, which has also been recommended by the World Health Organization for health monitoring (de Bruin et al., 1996) and the method has been tested for its reliability (Lundberg and Manderbacka, 1996; Zajacova and Dowd, 2011). Self-rated health has been widely used as a single item measure of health or overall health status of individuals/population (Jylha, 2009). Mossey and Shapiro (1982) mentioned it as a good predictor of subsequent health outcomes including mortality. Self-rated health does not necessarily covers physical ailment(s)/symptoms but also covers the changes of mood due to individual's mental and social status for that specific time (Fillenbaum, 1979). Krause and Jay (1994) found that 70% respondent identified some physical health problem as the primary factor for reporting health of his/her own. Graham (2000) pointed out that unequal distribution of the social and economic determinants of health such as income, employment, education, housing and environment affect health reporting. Therefore, self-rated health may have enormous variation in the thinking pattern between individuals of different space and time dimension along with their cultural background (Zimmer et al., 2000; Browning et al., 2003).

Understanding the correlates of self-rated health may help public health professionals; prioritize health-promotion and disease-prevention interventions (Phillips et al., 2005). Self-rated health has been proved to be a valid measure of morbidity, mortality and has strong association with different demographic and socio-economic characteristics in developed countries (Idler and Benyamini, 1997; Benyamini and Idler, 1999; Franks et al., 2003), but in developing countries this association is still not clear (Sen, 2002; Rahman and Barsky, 2003). Sen (2002) argued that socially disadvantaged individuals fail to perceive and report the presence of illness or health problems because individuals' assessment of their own health is directly dependent on social experiences. Therefore, self-rated health or morbidity study from developing countries like India, Iran, etc. on educationally and economically less advanced people is misleading (Sen, 2002; Manesh et al., 2008). Subramanian and associates (2009) reported that, those with low or no education were significantly more likely to report morbidities or perceive poor health, compared to those with higher levels of education. In India, very little work has been done on self-rated health issues across population (Subramanian et al., 2009) and majority of them worked on elderly/aged people (Reddy et al., 2003; Mini, 2009; Hirve et al., 2010). Therefore, this micro-level study was attempted to explore the relationship between SRH and socio-demographic characteristics of an indigenous community viz. Santal.

Many studies have found significant association between socio-economic status (SES) and various health outcomes including self-rated health (Kennedy et al., 1998; Fiscella and Franks, 2000; Subramanian et al., 2003; Hildebrand and Van Kerm, 2009). Self-rated health was correlated with different socio-demographic characteristics, e.g. age (Salthouse et al., 1990; McFadden et al., 2008), gender (Anson et al., 1993; Peersman et al., 2012), marital status (Bourne, 2009), level of education (IIPS and WHO, 2006; Subramanian et al., 2009), occupational/employment category

(McFadden et al., 2008), economic status, resident types, social support and health behaviour or health risk factors (Manderbacka et al., 1999). Self-rated health and socio-demographic traits has been examined on individuals with chronic illness and other forms of morbidity (Browning et al., 2003; Franks et al., 2003), however, the results of studies were not consistent.

In view of the above the objectives of the present study were

- i) to investigate the socio-demographic characteristics and reported morbidity wise variation of self-rated health of rural Santals;
- ii) to find out the association between socio-demographic characteristics and self-rated health of rural Santals.

Materials and methods

Study area and population

Cross-sectional data were collected from the rural areas of Bankura district of West Bengal. Four adjacent Santal villages of Chhandar Gram Panchayet area were completely enumerated as part of a larger bio-medical project; all the Santal households had a more or less similar socio-economic status.

Santals are the largest scheduled tribe community of West Bengal distributed in most of the districts and third largest in India (Census, 2001). Santals were classified as 'Pre-Dravidian' tribe (Orans, 1965) and their language, *Santali* belongs to the Mundari branch of the Austro-Asiatic language family (Mukherjee, 1962)

Data

Complete enumeration of the household had been done for demographic and socio-economic information. Self-rated health (SRH) and reported ailments/symptoms data collected from 425 adult individuals of both sexes out of 600 adults from 183 households. The individuals who voluntarily participated in the study were incorporated as study sample and rests (about 30%) were absent at the time of data collection due to preoccupations. To avoid inter-observer error a single investigator (First author) collected entire data by face to face interview. The nature, objectives and importance of the study explained to all the study participants and written consent obtained before data collection and the study was approved by the Institutional Ethics Committee on human experimentation.

Socio-demographic data were collected through standard household census schedule, which include name, date of birth/age, sex, place of birth, marital status, educational status, occupation for all the household members and monthly household expenditure were also noted. Age of each individual was recorded as correctly as possible because birth records were not always available and it was estimated by reference to some important local events of recent history, and cross-checked with the age of the individuals with birth records. Self-rated health data were collected using a standard five point scale instrument by asking individuals as 'what is your present health status' with five possible answers: 'very good', 'good', 'average', 'bad' and 'very bad' (Gilmore et al., 2002). Self-reported ailments/symptoms data were collected using a well-tested schedule. Individuals were asked to report ailments/symptoms they experienced during last 3 months prior to survey. Per capita monthly expenditure was collected instead of household income for understanding economic condition because information on item-wise expenditure was relatively easy to obtain than income.

Classification of data

Age was categorized into 3-age cohorts i.e. 18-39 years as 'young,' 40-59 years as

'middle-aged' and 60+ years as 'elderly.' For binomial logistic regression analysis between socio-demographic measures and self-rated health, self-rated health was classified as 'bad' (for responses 'bad' and 'very bad') and 'not bad' (for responses 'very good,' 'good,' and 'average') and considered as dependent dichotomous variable. Whereas socio-demographic variables were considered as independent variable [marital status was classified as married, unmarried, and widowed/divorced/separated; level of education as non-literate, primary, secondary and higher secondary and above; Occupation types were categorized as cultivation, daily wage/labour, salaried, household work and others (including dependent, unemployed, domestication of animal, and petty business); expenditure level was classified on the basis of median value, house type was used as strong indicator of household economic condition classified on the basis of kachcha house (made of wood, bamboo, mud, straw, etc.) and pucca house (brick built)].

Statistical analysis and study design

Descriptive statistics and cross tabulation were used to know the distribution of socio-demographic characteristics and self-rated health by age group and sex. Binomial logistic regression analyses had been done to examine the association between socio-demographic variables and self-rated health (SRH). For each categorical independent variable, the category with the highest frequency was considered as reference category and the association of other categories with the dependent variable were presented in terms of odds ratios (OR) and 95% confidence interval (CI). Initially univariate/unadjusted logistic regression analysis had been done for self-rated health with all socio-demographic characteristics and then multivariate logistic regression performed as forward stepwise method with all socio-demographic characteristics. Finally, age group, educational level, occupation types and sexes had been considered as strong predictor of self-rated health in Model I through Model IV. All statistical analyses had been done using SPSS software 11.0 (SPSS Inc., Chicago, IL, USA).

Results

Socio-demographic characteristics of the study group (Table 1) shows that out of 41% males and 59% females, majorities belong to young age group (18-39 years, 46.59%), followed by middle-aged (40-59 years, 34.82%) and elderly (60 years and above, 18.59%) age group. Maximum numbers of individuals were married (76.47%) followed by widowed/divorced/separated (14.59%) and unmarried (8.94%). Educational qualification of the study individual indicates that non-literate individuals (58.35%) were more, compared to 28% secondary level education and 5% higher secondary & above education. Majority of the individuals were engaged as agricultural labour/daily wage (47.53%) activity, followed by household work (20.94%), cultivation (17.18%), others (including dependent, unemployed, domestication of animal, and petty business; 10.59%) and salaried (3.76%). Socio-economic status has been assessed in terms of per capita monthly expenditure, which is almost equal for both groups because of median value (used as cut off value). Most of the individuals live in kachcha houses (made of wood, bamboo, mud, straw/tiles, etc.; 79.53%) and most of the households have more than four members (63.76%).

Majority of the study participants, irrespective of sex rated their health as 'average' (18.47% males and 24.24% females), followed by 'bad' (11.28% males and 23.08% females), 'good' (10.12% males and 8.47% females) and 'very bad' (3.08% males and 3.29% females). None of the individual rated their health as 'very good'

Table 1: Self-rated health of the adult Santals by socio-demographic characteristics

Population characteristics	No.	%	Self-rated health (n=425)		
			Bad	Average	Good
Sex					
Male	174	(40.94)	61 (14.35)	70 (16.47)	43 (10.12)
Female	251	(59.06)	112 (26.35)	103 (24.24)	36 (8.47)
Age group (years)					
Young (18-39)	198	(46.59)	50 (11.76)	101 (23.76)	47 (11.06)
Middle-aged (40-59)	148	(34.82)	68 (16.00)	56 (13.18)	24 (5.65)
Elderly (60+)	79	(18.59)	55 (12.94)	16 (3.76)	8 (1.88)
Marital status					
Married	325	(76.47)	126 (29.65)	136 (32.00)	63 (14.82)
Unmarried	38	(8.94)	7 (1.65)	21 (4.94)	10 (2.35)
Divorced/separated/widowed	62	(14.59)	40 (9.41)	16 (3.76)	6 (1.41)
Education					
Non-literate	248	(58.35)	129 (30.35)	82 (19.29)	37 (8.71)
Primary	35	(8.24)	11 (2.59)	14 (3.29)	10 (2.35)
Secondary	120	(28.24)	32 (7.53)	63 (14.82)	25 (5.88)
Higher secondary & above	22	(5.18)	1 (0.24)	14 (3.29)	7 (1.65)
Occupation					
Cultivation	73	(17.18)	23 (5.41)	31 (7.29)	19 (4.47)
Daily labour/wage	202	(47.53)	78 (18.35)	87 (20.47)	37 (8.71)
Salaried	16	(3.76)	2 (0.47)	7 (1.65)	7 (1.65)
Household work	89	(20.94)	39 (9.18)	37 (8.71)	13 (3.06)
Others #	45	(10.59)	31 (7.29)	11 (2.59)	3 (0.71)
Per capita expenditure					
Up to Rs.617/-	216	(50.82)	93 (21.88)	90 (21.18)	33 (7.76)
More than Rs.617/-	209	(49.18)	80 (18.82)	83 (19.53)	46 (10.82)
House type					
Kachcha	338	(79.53)	148 (34.82)	130 (30.59)	60 (14.12)
Pucca	87	(20.47)	25 (5.88)	43 (10.12)	19 (4.47)
Household size					
Up to 4 members	154	(36.24)	57 (13.41)	64 (15.06)	33 (7.76)
More than 4 members	271	(63.76)	116 (27.29)	109 (25.65)	46 (10.82)

Others include dependent, unemployed, domestication of animal, and petty business.

Figure in the parenthesis indicates percentages.

(Figure 1). Many females (26.35%) reported 'bad' health compared to males (14.35%). Considering the age group, higher number of young individuals rated their health as 'average' (23.76%), followed by 'bad' (11.76%) and 'good' (11.06%). While higher percentages of middle-aged (16.00%) and elderly (12.94%) individuals rated their health as 'bad' compared to 'average' (13.18% middle-aged and 3.76% elderly) and 'good' (5.65% middle-aged and 1.88% elderly). Among females, there is a sharp decreasing trend for reporting of 'average' or 'good' health with the increase of age, but there is no such trend among males as well as between 'bad' SRH and age group (Figure 2). Majority of married respondent rated their health as 'average' (32.0%) or 'bad' (29.65%), while widowed/divorced/separated individuals rated their health as 'bad' (9.41%). A greater percentage of non-literate individuals rated their health as 'bad' (30.35%) or 'average' (19.29%) compared to other educational categories, where majority of individuals in secondary (14.82%), primary (3.29%) and higher secondary

& above (3.29%) category rated their health as 'average.' Occupation category indicates that majority of study participants, engaged in agricultural labour/daily wage activity rated their health as 'average' (20.47%) or 'bad' (18.35%), very few people who are engaged in service rated their health as 'bad' (0.47%). Reporting of 'bad' health is more frequent among individuals engaged in household work (9.18%) and 'others' (7.29%). More number of individuals with less than Rs.617/- per capita monthly expenditure, rated 'bad' health (21.88%) compared to their upper expenditure group (18.82%). More number of individuals who were living in Kachcha houses rated their health as 'bad' (34.82%) or 'average' (30.59%) compared to individuals living in Pucca houses. Reporting of 'bad' health was more frequent to those household members who lived with more than four members (27.29%), in single household, while individuals who live with up to 4 members rated their health as 'average' (15.06%) or 'bad' (13.41%).

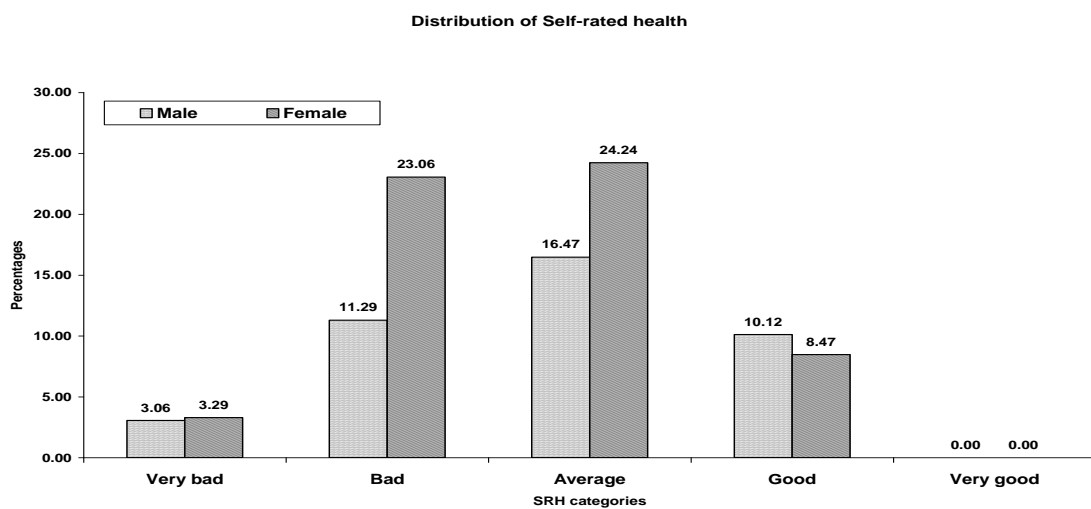


Fig. 1: Sex wise distribution of self-rated health of the study group.

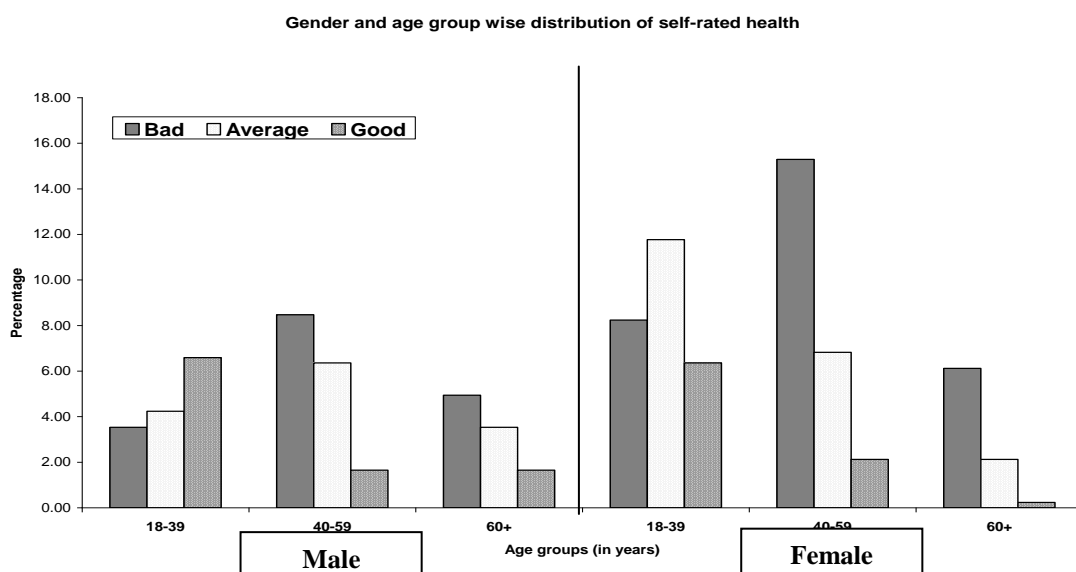


Fig. 2: Sex and age group wise distribution of self-rated health of the study group.

Self-rated health versus reported ailments/symptoms of the participants has been presented in Table 2. The effort was to establish a relationship between self-rated health and reported ailment/symptoms of the individuals.

Table 2: Distribution of self-rated health of the adult Santals by reported ailments/symptoms (morbidity)

Types of reported morbidity	Reporting status	Total	Males (n=174)			Females (n=251)		
			Bad	Average	Good	Bad	Average	Good
Sore throat or runny nose with fever	Not reported	218 (51.29)	25 (5.88)	32 (7.53)	32 (7.53)	52 (12.24)	51 (12.00)	26 (6.12)
	Reported	207 (48.71)	36 (8.47)	38 (8.94)	11 (2.59)	60 (14.12)	52 (12.24)	10 (2.35)
Repeated indigestion and stomach upset	Not reported	274 (64.47)	31 (7.29)	39 (9.18)	34 (8.00)	67 (15.76)	73 (17.18)	30 (7.06)
	Reported	151 (35.53)	30 (7.06)	31 (7.29)	9 (2.12)	45 (10.59)	30 (7.06)	6 (1.41)
Blood mixed with stool	Not reported	362 (85.17)	45 (10.59)	57 (13.41)	39 (9.18)	97 (22.82)	89 (20.94)	35 (8.24)
	Reported	63 (14.82)	16 (3.76)	13 (3.06)	4 (0.94)	15 (3.53)	14 (3.29)	1 (0.24)
Abdominal pain lasting more than a day	Not reported	325 (76.47)	46 (10.82)	55 (12.94)	38 (8.94)	77 (18.12)	79 (18.59)	30 (7.06)
	Reported	100 (23.53)	15 (3.53)	15 (3.53)	5 (1.18)	35 (8.24)	24 (5.65)	6 (1.41)
Repeated pain over chest	Not reported	374 (88.00)	49 (11.53)	61 (14.35)	42 (9.88)	95 (22.35)	93 (21.88)	34 (8.00)
	Reported	51 (12.00)	12 (2.82)	9 (2.12)	1 (0.24)	17 (4.00)	10 (2.35)	2 (0.47)
Feeling tired frequently	Not reported	360 (84.71)	39 (9.18)	67 (15.76)	42 (9.88)	81 (19.06)	95 (22.35)	36 (8.47)
	Reported	65 (15.29)	22 (5.18)	3 (0.71)	1 (0.24)	31 (7.29)	8 (1.88)	-
Frequent headache	Not reported	228 (53.65)	34 (8.00)	49 (11.53)	33 (7.76)	40 (9.41)	49 (11.53)	23 (5.41)
	Reported	197 (46.35)	27 (6.35)	21 (4.94)	10 (2.35)	72 (16.94)	54 (12.71)	13 (3.06)
Frequent backache	Not reported	240 (56.47)	35 (8.24)	56 (13.18)	40 (9.41)	26 (6.12)	60 (14.12)	23 (5.41)
	Reported	185 (43.53)	26 (6.12)	14 (3.29)	3 (0.71)	86 (20.24)	43 (10.12)	13 (3.06)
Waking up with stiff joint	Not reported	298 (70.12)	44 (10.35)	58 (13.65)	40 (9.41)	45 (10.59)	79 (18.59)	32 (7.53)
	Reported	127 (29.88)	17 (4.00)	12 (2.82)	3 (0.71)	67 (15.76)	24 (5.65)	4 (0.94)
Skin diseases	Not reported	345 (81.18)	47 (11.06)	56 (13.18)	32 (7.53)	95 (22.35)	84 (19.76)	31 (7.29)
	Reported	80 (18.82)	14 (3.29)	14 (3.29)	11 (2.59)	17 (4.00)	19 (4.47)	5 (1.18)

Figure in the parenthesis indicates percentages.

Male participants who had experienced the ailments/symptoms like sore throat or runny nose with fever, repeated indigestion and stomach upset, abdominal pain lasting more than a day and skin diseases at least once during last three months prior to survey, rated their health as 'average' or 'bad' and for other reported ailments/symptoms like blood mixed with stool, repeated pain over chest, feeling tired frequently, frequent headache, frequent backache and walking up with stiff joint, most of the male participants rated their health as 'bad' or average.' On the other, majority of the females who had experienced the earlier mentioned ailments/symptoms during last three months prior to survey rated their health as 'bad' or 'average,' with an exception in case of skin diseases. An interesting observation is that the individuals who did not report any of the above ailments, rated their health as 'good' with higher percentages than the individuals who had experienced at least once irrespective of sex. It may be mentioned that out of total 425 individuals, 13 participants did not report any ailment/symptoms, female participants reported morbidity with higher percentages than males. As a note, a single individual may have reported multiple ailments/symptoms and there are chances to include those individuals multiple times. Therefore, the association between self-rated health and ailment/symptoms are not conclusive.

Table 3 shows the results of univariate logistic regression examining the association of self-rated health with different socio-demographic variables. Self-rated health was found to be significantly associated with age group, level of education, occupational types, marital status, house type and sex of the study participant. Elderly (OR= 6.78) and middle-aged (OR=2.52) individuals were more likely to report 'bad' health compared to young individuals. Participants with formal education i.e. from primary level (OR= 0.42) to higher secondary and above (OR= 0.04) were less likely to report 'bad' health compared to non-literate participants. In case of occupation, only the 'others' category (OR= 3.52) showed significant association with 'bad' SRH compared to the 'labourer' category. Unmarried people (OR= 0.36) were less likely to report 'bad' health, while widowed/ divorced/ separated individuals (OR = 2.87) were more likely to report 'bad' health compared to married individuals. People, who were living in 'pucca' houses (OR = 0.52), were less likely to report 'bad' SRH compared to people living in 'kachcha' houses. Males (OR= 0.67) were less likely to report 'bad' SRH than females. Other two socio-demographic variables i.e. household size and per capita monthly household expenditure did not show any significant association with self-rated health.

Table 4 shows the results of multivariate stepwise logistic regression analyses examining the association of SRH with different socio-demographic variables. Out of four models the most fitted model (Model IV) presented here. The Model I was an unadjusted model selected only one independent variable (age group). In the subsequent models; educational level, occupation type and sex were included. The value of odds ratios in the most fitted model (i.e. Model IV) indicates that elderly (OR= 4.43) and middle-aged (OR=2.37) individuals were more likely to report 'bad' health compared to young individuals. The participants having higher secondary and above level of education (OR= 0.03) were less likely to report 'bad' health with respect to non-literate participants. Considering occupation, only the 'others' category (OR= 6.07) showed significant association with 'bad' SRH compared to the 'labourer' category. Males (OR= 0.54) were less likely to report 'bad' SRH than females. R square values of the corresponding models increased subsequently ($R^2 = 0.183$ in Model III, $R^2 = 0.191$ in Model IV). The percentage of correctly predicted cases was also increased in each subsequent logistic regression models (70.4% in Model III and 71.3% in Model IV).

Table 3: Results of univariate logistic regression for self-rated health in respect of different socio-demographic variables

Socio-demographic variables		Univariate logistic regression models	
		Odds ratio (95% CI)	R square
Age group	Young	Ref.	0.110
	Middle-aged	2.52** (1.60 – 3.97)	
	Elderly	6.78** (3.81 – 12.08)	
Educational level	Non-literate	Ref.	0.090
	Primary	0.42* (0.20 – 0.90)	
	Secondary	0.34** (0.21 – 0.54)	
	Higher secondary and above	0.04** (0.01 – 0.33)	
Occupational types	Daily labour/wage	Ref.	0.055
	Cultivation	0.73 (0.41 – 1.29)	
	Salaried	0.23 (0.05 – 1.03)	
	Household work	1.24 (0.75 – 2.06)	
	Others#	3.52** (1.76 – 7.03)	
Marital status	Married	Ref.	0.054
	Unmarried	0.36* (0.15 – 0.86)	
	Widowed/divorced/separated	2.87** (1.63 – 5.06)	
House type	Kachcha	Ref.	0.016
	Pucca	0.52* (0.31 – 0.86)	
Sex	Female	Ref.	0.009
	Male	0.67* (0.45 – 0.99)	
Household size	More than 4 members	Ref.	0.003
	Up to 4 members	0.79 (0.52 – 1.18)	
Per capita expenditure	More than Rs.617/-	Ref.	0.002
	Up to Rs.617/-	1.22 (0.83 – 1.80)	

* $P < 0.05$, ** $P < 0.01$; Ref.: reference category; # Others include dependent, unemployed, domestication of animal, and petty business

Table 4: Results of forward stepwise multivariate logistic regressions for self-rated health in respect of different socio-demographic variables

Socio-demographic variables		Multivariate logistic regression model (IV)
		Odds Ratio (95% CI)
Age Group	Young	Ref.
	Middle-aged	2.37** (1.43 - 3.94)
	Elderly	4.43** (2.03 - 9.67)
Educational level	Non-literate	Ref.
	Primary	0.61 (0.27 - 1.39)
	Secondary	0.65 (0.36 - 1.19)
	Higher secondary and above	0.03** (0.00 - 0.33)
Occupational types	Daily labour/wage	Ref.
	Cultivation	0.99 (0.47 – 2.08)
	Salaried	0.28 (0.05 - 1.47)
	Household work	0.76 (0.41 - 1.41)
	Others#	6.07** (1.92 – 19.16)
Sex	Female	Ref.
	Male	0.54* (0.30 – 0.99)
R square		0.191
Model correctly predicted (%)		71.3

* $P < 0.05$, ** $P < 0.01$; Ref.: reference category; # 'Others' include dependent, unemployed, domestication of animal, and petty business. Note: Marital status, house type, household size and per-capita expenditure were excluded from all stepwise multivariate logistic regression models.

Discussion

The study attempted to enquire into the variation of SRH and its possible association with different socio-demographic characteristics among the Santals of rural areas of Bankura district, West Bengal. The study population (Santals) of the area was economically and educationally backward tribal community. It was presumed that self-rated health may not necessarily represent physical ailment(s)/symptoms but may represent the changes of mood due to individual's mental and social state for that specific time (data collection) which is primarily dependent on several socio-demographic traits. Several studies have identified age, gender, income, employment, education, housing and environment as well as some physical health problem as the primary factor for reporting one's own health (Fiscella and Franks, 2000; Kennedy et al., 1998; Gilmore et al., 2002; Asfar et al., 2007; Hildebrand and Van Kerm, 2009; Peersman et al., 2012).

Majority of the respondent rated their health as 'average' followed by 'bad', 'good' and 'very bad' respectively irrespective of sex and age. None of them reported 'very good' health. It may reflect a customary response of people to avoid further questions on health. However, further probing behind such answer opened other avenues like poor economic condition, un-/under-employment etc. Therefore, SRH is not only depending upon physical ailment/symptom but also on other socio-economic factors, which has been reflected in their responses regarding current overall health status.

Elderly and middle-aged individuals were more likely to report 'bad' SRH irrespective of sex, compared to young individuals who rated their health as 'average' or 'good.' Therefore, age seemed to be an important determinant of SRH rating. Besides the level of education, occupation categories also play roles in SRH rating. Present study result is corroborative with the findings of other studies (Asfar et al., 2007; Peersman et al., 2012).

Females were more likely to report 'bad' SRH than males in all age categories, which is corroborative with studies from developing countries (Gilmore et al., 2002; Rahman and Barsky, 2003; Liu and Zhang, 2004), but contrasts with the studies of Ferraro (1980). Sen (2002) pointed out that non-literacy was very common among females and they failed to assess their health properly. Contrasting to that O'Neil et al. (1995) pointed out that in male dominating societies, males feel to be independent, self-reliant, not to show emotions and to complain or seek assistance for health problems to others/outside, even if they have health problems and this may be one of the reason that males were less likely to report 'bad' SRH.

In the present study, educational level of study participant showed an inverse relationship with 'bad' SRH. Considering non-literate group as reference category, individuals with higher level of education were less likely to report 'bad' SRH, which is consistent with the national level study from India (Subramanian et al., 2009) and a study among older people from China (Liu and Zhang, 2004). World Health Survey (2003) based on Indian data reported that 21% non-literate people responded 'bad' and 'very bad' health compared to 5% people with eleven years or higher level of schooling (IIPS and WHO, 2006), while present study shows 30% non-literate people reported 'bad' SRH compared to 8% individuals having secondary or above level of education. This is also corroborative with the argument of Sen that non-literate people could not perceive their health status (Sen, 2002).

Results of the present study suggested that marital status was a significant predictor of 'bad' SRH. Unmarried individuals were less likely to report 'bad' SRH

than married ones, which is corroborative with the study of Asfar et al. (2007) but contrasts with the studies of Bourne (2009). It may be argued that married people (especially women) have extra burden of household duties along with their activity as daily wage/agricultural labourer outside household work. The widowed/divorced/separated participants reported 'bad' SRH almost three times more than married females and this may be due to the absence of marital bond and economic security. Studies also revealed that divorced or separated or widowed women experience greater levels of depression (Cano and O'Leary, 2000; Christian-Herman et al., 2001).

Considering occupation, 'others' category were significantly more likely to report 'bad' SRH compared to daily wage/agricultural labour category and this may be due to the presence of older and dependent individuals in 'others' category who were unable to contribute any income or service for their household and hence do not feel comfortable in the family. Salaried persons were less likely to report 'bad' health compared to daily wage/agricultural labour category, but the association was not statistically significant. However, comparable studies in this regard seem to be scanty. The economic condition of the present population was primarily agricultural activity and individuals were engaged as labourer and/or daily wage earner and there were no heterogeneity in income and per capita household expenditure as well and it did not show any significant association with reported SRH. House type (as an indicator of their economic status) showed significant association with SRH. Association between reported morbidity (ailments/symptoms) and self-rated health shows that who had experienced the ailment/symptoms at least once during last three months prior to survey, more than 50% of them reported 'bad' SRH.

Population of the present study was educationally and economically less advanced, their economic pursuits revolve around agriculture, and therefore, health is a less priority issue for them. Primary priority would obviously be food, dress and shelter. If an individual do not have any idea about ideal health, then proper rating of health is pretty difficult. However, the data of the present study shows expected (observed in other studies) association between SRH and socio-demographic traits, indicate that the population has an idea on health, but the rating of health is always influenced by the underlying socio-demographic factors. A lot more micro level, cross-sectional studies among populations with simple societies in India may be helpful to test the validity and reliability of self-rated health in the population level. However, as a note of caution SRH cannot be used as single item measure of health because several socio-demographic factors are linked with such reporting as revealed in the present study.

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Conflicts of Interest

No authors have any conflict of interest for their participation in preparation of this article as well as for financial assistance.

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