

- Has blurred vision but had no occasion to test if her/his eyesight would improve after taking corrective measures

Hearing: a person may be considered as having disability in hearing if she/he

- Cannot hear at all;
- Has difficulty in hearing day-to-day conversational speech(heard of hearing); or
- If she/he was using a hearing aid

Speech: A person will be considered having disability in speech if she/he was above the age of 3 years and

- Cannot speak at all or she/he was unable to speak normally on account of certain difficulties linked to speech disorder; or
- Able to speak in single words only and was not able to speak in sentences or
- Stammers to such an extent that the speech was not comprehensible. However, persons who stammer but whose speech is comprehensible may not be treated as disabled in speech

Movement: A person may be considered as having disability in movement if she/he has a disability of bones, joints or muscles of the limbs leading to substantial restriction of movement;

- Do not have both arms; or
- Do not have both legs; or
- Were paralysed and were unable to move; or
- Were unable to walk but crawl to move from one place to the other; or
- Were able to move only with the help of caliper/s, wheelchair, tricycle, walking frame, crutches etc; or
- Have acute and permanent problems of joints/muscles that have resulted in limited movement; or
- Have lost all the fingers or toes or a thumb; or
- Were not able to move or pick up any small thing placed nearby; or

- Have stiffness or tightness in movement, or have loose, involuntary movements or tremors of the body or have fragile bones; or
- Have difficulty in balancing and coordinating body movements; or
- Have loss of sensation in the body due to paralysis or leprosy or any other reason; or
- Have any deformity of the body part/s like having a hunch back; or
- Were very short statured (dwarf)

Mental Retardation: A person may be considered as having the disability of mental retardation if she/he

- Lacks understanding/comprehension as compared to her/his own age group; or
- Was unable to communicate her/his needs when compared to other persons of her/his age group; or
- Has difficulty in doing daily activities like looking after toilet needs, cleaning teeth, bathing, wearing clothes, taking care of personal hygiene and nutrition and general household tasks; or
- Has difficulty in understanding routine instructions; or
- Has extreme difficulty in making decisions, remembering things or solving problems

Mental Illness: A person may be considered as having the disability of mental illness if she/he Was taking medicines or other treatment for mental illness; or

- Exhibits unnecessary and excessive worry and anxiety, unexplained withdrawal or problems in sleep, loss of appetite and/or depression, thought of dying, unattended personal hygiene; or
- Exhibits repetitive (obsessive-compulsive) behavior/thoughts; or
- Exhibits sustained changes of mood or mood swings (joy and sadness) leading to having many days or weeks of not being able to function and behave normally; or

- Has unusual experiences-such as hearing voices, seeing visions, experience of strange smells or sensations or strange taste; or
- Has difficulty in social interactions and adapting at home, at school, at workplace or generally in society

Any other: This option enabled respondents to report those disabilities, which are not listed in the question. In such cases, where informant was not sure about the type of disability this option of reporting disability as 'Any Other' was available to her/him.

Multiple disabilities: It means a combination of two or more disabilities. Persons suffering from any of the two or more disabilities may be treated as having multiple disabilities with a combination of maximum three types of disabilities.

For the current analysis, Census 2011 data from C-20 series, which included data on disability by age group and type of disability, was used. Percentages were calculated for easy interpretation of the results. For the study purpose, Scheduled tribe population was taken into consideration, and to assess the regional variation in the existing level of disability among Scheduled tribes in Odisha, the entire state was divided into five regions as per their geographical proximity, namely Northern, Eastern, Western, Central and Southern Odisha. Table 1 represents the districts included under different geographical regions of the state.

Table 1: Districts under Different Geographical Regions of Odisha

<i>S. No.</i>	<i>Region</i>	<i>No. of Districts</i>	<i>District</i>
01	Northern Odisha	04	Mayurbhanj, Kendujhar, Baleshwar and Bhadrak
02	Eastern Odisha	09	Jajapur, Jagatsinghapur, Cuttack, Kendrapara, Puri, Nayagarh, Khordha, Ganjam and Gajapati
03	Western Odisha	09	Sundargarh, Jharsuguda, Debagarh, Sambalpur, Bargarh, Balangir, Subarnapur, Kalahandi and Nuapada
04	Central Odisha	04	Anugul, Dhenkanal, Baudh and Kandhamal
05	Southern Odisha	04	Nabarangapur, Rayagada, Koraput and Malkangiri

16.3 RESULTS AND DISCUSSION

From Figure 1, which shows the percentage of disabled scheduled tribe population by states in India, it is evident that more than two percent of the Scheduled Tribe population in India were reported to be disabled. The states having the lowest disabled population were from three Northeastern States, namely Assam, Mizoram and Tripura with 1.4% of scheduled tribe population being disabled in each of these states, whereas the highest disabled scheduled tribe population was found in the states of Sikkim and Jammu and Kashmir (2.8% each). Prevalence of disability among scheduled tribe population has also been in a critical stage for Odisha, which stood at the fourth position in terms of percentage of scheduled tribe being disabled.

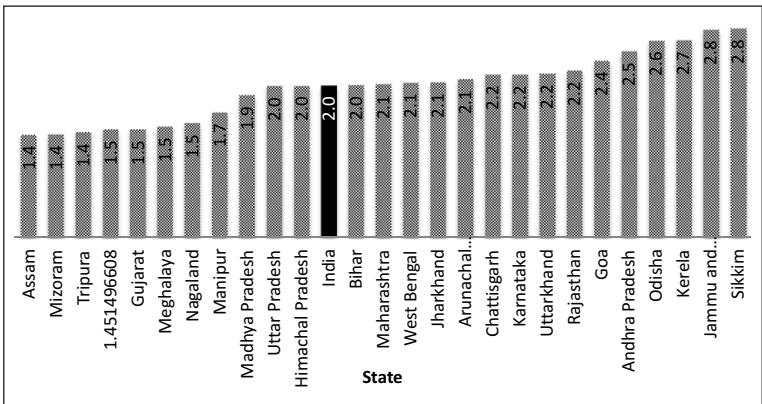


Figure 1: Percentage of disabled Scheduled Tribe population by state, India, census 2011

Looking at the district wise variation (Figure 2) in the prevalence of disability among scheduled tribe population in Odisha it was found out that Jajpur district under Eastern region constituted the lowest proportion of disabled scheduled tribe population (1.9%) followed by Kendujhar (2.2%), whereas the highest proportion of disabled scheduled tribe population was found in two districts (Nayagarh and Cuttack) from Eastern and one district (Jharsuguda) from western region, with 4.1% of the tribal being disabled.

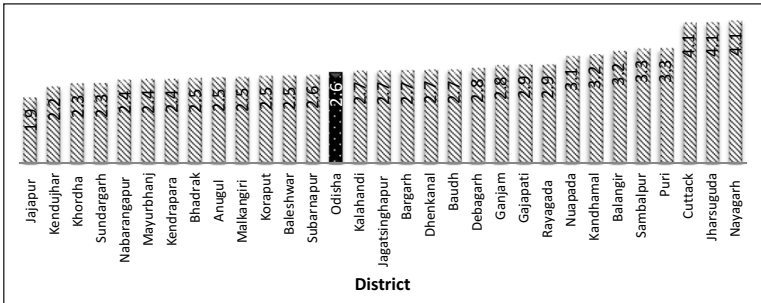


Figure 2: Percentage of disabled Scheduled Tribe population by district, Odisha, India, Census 2011

Figure 3 shows the percentage share of total disabilities by type of disability in Odisha and it was found from the analysis that although movement related disability constitute the highest proportion of disabled scheduled tribe population in India, for Odisha, the highest percentage share of disability was in the category ‘seeing’ (23%), followed by hearing (22%). Movement related disability was the third major category of disabled population in the state. Further, Mental retardation was also found to be a high level 5%, which is almost the same with that of the national average for disabled scheduled tribe population.

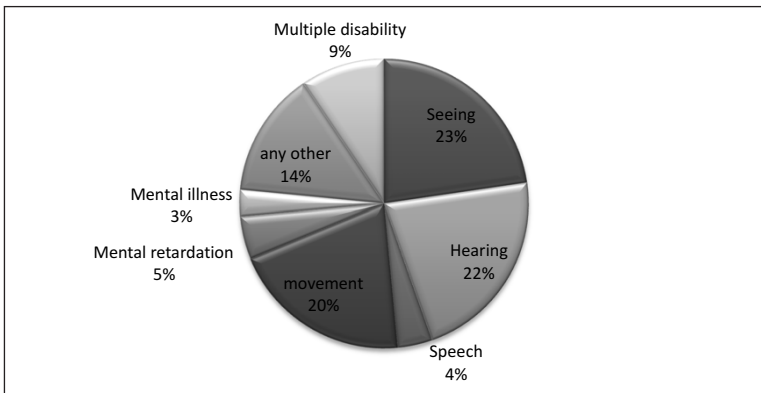


Figure 3: Percentage share of disabled Scheduled Tribe population by type of disability, Odisha, Census 2011

From Table 2, which shows the percentage share of different categories of disability among scheduled tribe population by

regions of Odisha, it was clear that prevalence of disability in seeing was at a very high level for districts in Southern, Eastern and Central regions of the state, where as disability in hearing was a major problem for the scheduled tribe population in the districts of Southern and Northern Odisha. Interestingly, districts from northern and southern Odisha, which experienced higher degree of hearing related disability, were in better positions as far as speech related disabilities were concerned. As a matter of fact, proportion of speech related disabled scheduled tribe population was much lower than the state average for the Southern as well as Northern regions. Further, as far as Mental retardation was concerned, the proportion of disabled population was relatively higher for the Eastern region (5.2%) and for multiple disabilities, the scheduled tribe people of the Central region were in a disadvantaged conditions with more than one tenth of the disabled in that category were found to be with multiple disability.

Table 2: Percentage share of disabled Scheduled Tribe population by type of disability

<i>Region</i>	<i>Seeing</i>	<i>Hearing</i>	<i>Speech</i>	<i>Movement</i>	<i>Mental retardation</i>	<i>Mental illness</i>	<i>Any other disability</i>	<i>Multiple disability</i>	<i>Total</i>
Northern	19.5	22.4	3.8	21.5	5	3.4	0.2	9	2.4
Eastern	27.7	20.8	4.2	19.1	5.2	2.3	11.9	8.8	2.8
Western	20.4	20.2	4.1	22.6	4.8	3.4	14.6	10	2.8
Central	21.5	21.3	4	21.5	4.9	3	12.8	11	2.9
Southern	27.8	24.8	3.5	15.8	4.3	2.1	13.2	8.7	2.6

Figure 4 depicts a picture of prevalence of disability among scheduled tribe population by sex and place of residence in Odisha in comparison to the prevalence rate for the entire country. It was found from the analysis that across sex and place of residence, the percentage of disabled scheduled tribe population was higher than the national average in all the categories.

Most of the studies done on disability revealed the association between female sex and disability prevalence. As reported by WHO (2011), Female sex was associated with higher disability prevalence,

a trend which had been widely reported across epidemiological studies. Newman and Brach (2001) also found in their study that women had consistently reported higher rates of disability than men. Further, Hosseinpoor et. al., (2016) in an empirical analysis using World Health Survey data found that disability was higher in females than in males in all study countries except Czech Republic and the sex difference was statistically significant too. However, the picture was quite different for the scheduled tribe population of the country and also the state of Odisha. In fact, disability rate was significantly higher among males compared to females not only for the total ST population of India but also for that of the state, which was contradictory to the existing literature. Although, unlike rest of the world, female population were not found to be with higher level of disability rate than male, vulnerability of disabled tribal women can never be ignored. In fact, Mehrotra (2004) argued that women with disabilities in India face double discrimination due to the prevalence of traditional gender roles and expectations. Also, working on the conditions of women with disability in the state of Odish, Nayak (2013) opined that women with disability were more marginalized and discriminated in the society and in case of employment also, people with disability were facing problem, particularly women.

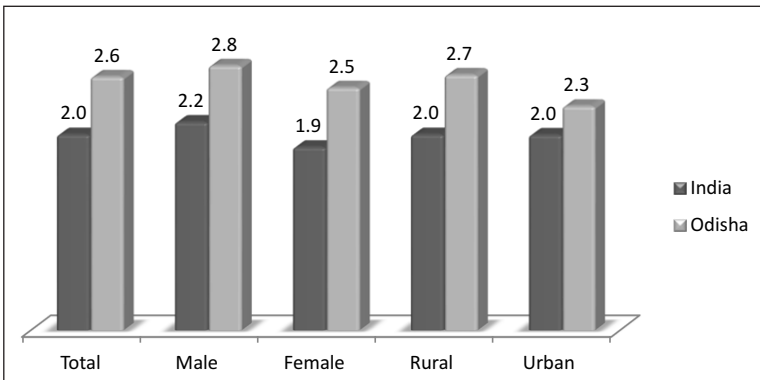


Figure 4: Percentage of disabled Scheduled Tribe population by sex and place of residence, Census 2011

As cited by Hosseinpoor et. al., (2016), rural and urban environments each contain unique situational factors for

disabilities, including greater risk of injury from accidents in urban areas (Elwan, 1999) and more limited access to appropriate health treatment and services in rural areas (World Health Organization, 2011). Hosseinpoor et. al., (2016) found a higher prevalence of disability in rural than urban areas in different countries of the world, although the difference was not found to be statistically significant. Regarding the variation in type of residence of the disabled population, a study by Kumar et. al., (2012) had revealed that In India, a majority of the disabled resided in rural areas where accessibility, availability, and utilization of rehabilitation services and its cost-effectiveness are the major issues to be considered. NSSO (2003) also observed higher disability among rural residents than their urban counterparts. Similar findings were obtained in the current study for the scheduled tribe people of the state, where 2.7% of the scheduled tribe people living in rural areas were having some kind of disability, where as the figure was lower (2.3%) for those residing in urban areas.

Many studies have found a close association between age and disability, which is quite obvious too. Hosseinpoor et. al., (2016) in their analysis of World Health Survey data found that Disability prevalence had demonstrated a positive association with age and the differences among age groups were found to be statistically significant in all countries. NSSO (2003) also found that burden of disability was more among the geriatric (>60 years) age group. Going in line with the existing literature, the current analysis also found a significantly higher rate of disability prevalence among the old age scheduled tribe population of the state in comparison to the younger people, and the trend was similar for all regions of the state. Fig 5 shows the variation in the proportion of disabled scheduled tribe population by age group in the state of Odisha as well as in its five geographical regions, from which it is clear that percentage of disabled population was much higher among the people aged 70 or more. Interestingly, in this context, Northern Odisha consisting of districts like Mayurbahnj, Keonjhar, Balasore and Bhadrak was in a far better position than other districts of the state, with less than 10% of the scheduled tribe people above age 70 years of Northern Odisha being disabled in comparison to above 11% in case of other regions.

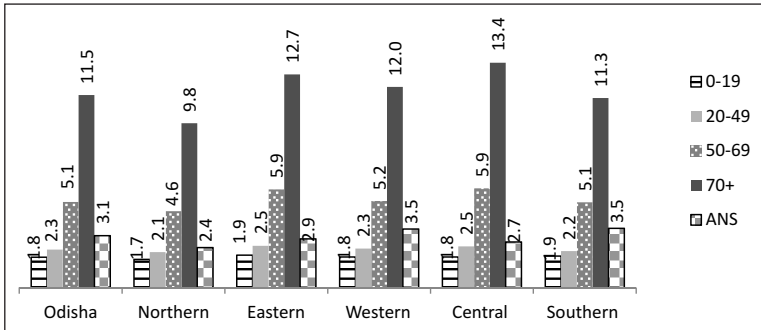


Figure 5: Percentage of disabled Scheduled Tribe population by age groups, Census, 2011

Note: ANS-Age not stated

In the words of Ferucci et. al., (1996), oldest old were the most rapidly growing segment of the population and were also with highest level of severe disability. In this connection, figure 6 portrays a comparative scenario of age wise distribution of disability in Odisha between Male and Female scheduled tribe population. An interesting picture came out of this analysis, which revealed that up to age 50, scheduled tribe men experienced more disability than women, where as for the age group 50-59 years the situation was quite similar for both males and females. However, there was complete turn round in the pattern of disability prevalence among the scheduled tribe people in the old ages. In fact, the percentage of people with disability was found to be higher for females than males during the old ages. The finding was quite similar to the existing literature, which suggest that overall, women experience more disability in old age than do men (Hosseinpour et. al., 2016). Such findings have been found in most of the countries like those in UK (Jagger et. al., 2007), the U.S. and Canada (Chappell and Dujela 2008), Spain (Sagardui-Villamor et. al., 2005), the Netherlands (van Der Wiel et. al., 2001) and Mexico (Andrade, 2009) with few exceptions reported by Murray and Acharya (1997) for sub-Saharan Africa.

16.4 CONCLUSION

Because of difficulty in identifying the mild and moderate degrees of physical and mental disability which are unrecognized by

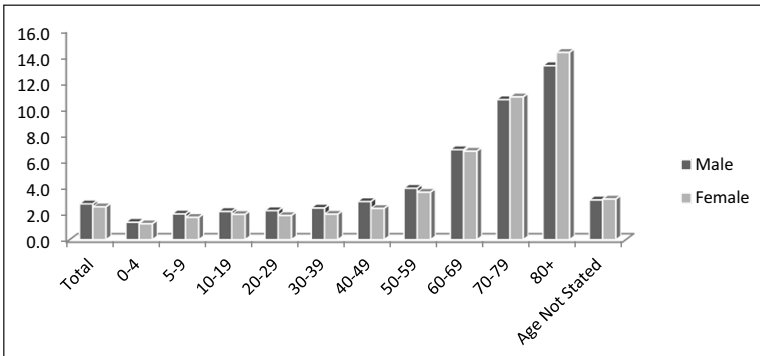


Figure 6: Percentage of disabled scheduled tribe population by age group in Odisha, Census 2011

the health care delivery system and the survey team members, disability rate for a country like India is likely to be understated, for which it is often quoted as the best example of the iceberg phenomenon of disease (Kumar, 2009). Disability has been accepted as one of the emerging health concerns for the country and percentage of disabled population among the scheduled tribes in Odisha being higher than that of the entire country, makes it even more serious for the state with almost, where almost one fourth of the population are categorized as ST. As a matter of fact, as far as Census of India 2011 results were concerned, Odisha ranked fourth in terms of percentage of ST population who were disabled. The study also found differences in the prevalence of disability across geographical regions with districts from Central Odisha having highest percentage of its tribal population being disabled, whereas Northern Odisha was found to be in a relatively better position. Disability differentials in terms of place of residence, sex and age was also observed among the ST people of Odisha. While rural residents were found to be experiencing higher level of disability in Odisha, males surprisingly had a higher disability rate than females, up to age 60 years. Irrespective of sex, disability was extremely high for the older people and with increasing life expectancy all over the globe; it may create a grave situation in the future. In the words of Kumar et. al., (2012), disability is an important public health problem especially in developing countries like India and the problem will increase in future because of increase in trend

of non-communicable diseases and change in age structure with an increase in life expectancy. And for a state like Odisha where tribal share of population, poverty level and percentage of people living in rural areas are relatively higher, the problem may come out to be more serious. As such, public health planners need to aim at the marginalized tribal population of the state with disability management strategies specific to the concerned category of population and region.

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