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Original Research Article

Perceived health versus perceived disability among individuals with lower limb amputation and its associating factors: evidence from an exploratory study in Mumbai and Kolkata, India

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ABSTRACT

Background: Self-rated health (SRH) has been used to predict the perception of health in objective measures. Understanding the perception of disability goes beyond simple perception of health. Lower limb amputation and locomotors disability has been studied in various aspects, however, measurement of the extent of disability in a single term has hardly been done. This study aims to find the difference between perceived health (SRH) and perceived disability self-rated disability (SRD) and its association with demographic and socio-economic factors.
Methods: A primary study has been conducted on 270 adult lower limb amputees in Mumbai and Kolkata following mixed methodology approach. Descriptive statistics, correlations and narration were used to measure the SRH and SRD among individuals with lower limb amputation.
Results: The 63% of respondents have achieved good SRH, while only 43% have achieved good SRD. Prosthetics satisfaction, perceived support, perceived body shape, and level of education influence the SRH and SRD. Health components explain SRH, whereas, functional components explain SRD more.
Conclusions: SRD can be better in analyzing the coping with the disability status, and promoting the role of health care and rehabilitation programs. It can be used not only for the population having disability, but in a larger population with functional restrictions that can be used to address the health care need.

Keywords: Lower limb amputation, SRH, SRD, Perception

INTRODUCTION

Perception of health is a strong predictor of wellbeing that of objective measures of health.[1] Self-rated health (SRH) or subjective health is a generic term used to predict mortality, health inequality, and health services.[2-5] Conversely, the incidence of disability also reflects various health and socio-economic inequalities, which highlights the requirement of a subjective approach for measurement.[6] The chronic morbid conditions that give rise to functional limitations have not studied before in terms of the extent to which disability is perceived by an individual. Presently, the sustainable development targets are premised upon an inclusive development of society. Measurement of disability demands a thorough understanding in regards to health status and rehabilitation. Along with that the importance of measuring the perceived health and disability and its determining factors have been felt to be equivocal.

Among 26.8 million disabled (2.2% of the population) in India (2011), locomotor disability contributes highest share among all disabilities (20.28% of total disabled).[7,8] One of the primary causes of locomotor disability is lower limb amputation. Amputation-led locomotor disability occurs due to diseases or injuries giving rise to

permanent disability and poses a long-term effect.[9-10] A growing incidence of road traffic accidents, injuries, diabetes, etc. in low-middle-income countries adds a risk of locomotor disability. Non-communicable and chronic conditions contribute significantly to the health burden of India.[11-12] Apart from consequences to health, it has a profound social and economic impact on individuals and households.[13] In the long run, an incidence of disability can result in psychosocial trauma that alters the quality of life.[14]

The loss of limb brings forth several alterations in the course of life. A sudden incidence of disability can result in the poor orientation of body image, pain, loss of functions, longer time to recovery, and several other psycho-social complexities.[15] Lower limb amputees who suffer from phantom pain are significantly inferior in perceiving their body image. Further, it reduces the quality of life, which results into role limitation, social function, physical functioning etc.[16] Reductions in functions and social stigma attached to the disability are evident in poor body image after amputation.[17] Alteration of the bodily functions and social roles are major set-backs that develop stress and lack of acceptance of their body.[18] In the Australian population, a study found that SRH is negatively associated with somatization i.e., excess thought about physical health or diseases.[19] In other words, the perception of health is influenced by the functions of the body. The trauma faced by the individual due to somatic reasons influences the disability outcomes. The nature of trauma faced since the inception of the disease/ injury is discussed based on event experienced, avoidance, or dealing with trauma and the psychological repercussions of illness. Those factors are commonly termed as “accumulated burden of adversity” or “trauma spectrum disorder”.[20-21] It results in psychological morbidity like post-traumatic stress disorder. Post-traumatic stress disorder shows a negative association with the illness perception, which is explained through the consequence of disease, personal control, labelling of the diseases etc.[22]

The subjective perception of health has been measured with the help of SRH. Although SRH is criticized for incompetency in capturing the health experience adequately, due to its robustness and easy-to-use nature, this indicator has been primarily used in the health research and policy forum for a wide range of population. The subjectivity of illness is determined by the life course events of the individuals. It explains the coping adopted to the illness is affected by labelling, manipulation, assessment of the events etc.[23] The illness perception has been associated with causal attribution, treatment control, illness coherence as well as the identity.[24]

Additionally, common sense model evokes that the expression of illness is based on preconceived notions about the diseases/ disability feedback collected at the present context, coping response, and appraisal of coping effort outcome.[25] The expression of disability drives beyond the simple understanding of health. The labelling of illness and functional restrictions shape the disability outcome of an individual. The long-term illness reduces the potential of individuals in terms of human capital, such as lost participation in employment. A study by Pietiläinen et al has shown that the association of self-rated health (SRH) and subsequent disability retirement is significantly explained by the working conditions like work shift, overtime work, high demand for the employment etc.[25]

Disability is an extreme health outcome that occurs after an illness or injury. The outcome and adjustment of disability are also known to be significantly impacted by social and environmental factors. For the lower limb amputees, prosthesis's role becomes important to uplift the physical and emotional outcomes of disability.[27] The human agency of a person with a disability is likely to improve with the restoration of functional capacity.[28] Hence, it can be said that the perception of disability is more explanatory for promoting individuals' functional outcome.

In this paper, we studied the perception of health and disability among individuals suffering from limb amputation due to injuries or chronic diseases. The paper aims to find out and compare the association of socio-demographic and health factors of the individuals with the perception of health and disability.

METHODS

Study settings

For this study, a primary survey has been done on the individuals having lower limb amputation in the last ten years in reference to November 2018. The study is exploratory and cross-sectional in nature. The data has been collected from two cities of India, Mumbai and Kolkata, in the durations of November 2018 to April 2019. The collection has been done from government hospitals for disability rehabilitation and research, and non-governmental organizations providing prosthetic service to the amputees. After discussing with the clinical prosthetists, the nature of flow of amputees for treatment-seeking on those departments, the study has collected data on 273 lower limb amputees who have given written informed consent for their participation. Here, we are using 270 amputees those who have replied to the interview entirely in the dimensions studied in this paper. Ethical clearance for the study has been taken from the Institutional Review Board (IRB) of International Institute for Population Sciences (IIPS), under the Ministry of Health and Family Welfare, Government of India.

Case inclusion criteria

Lower limb amputees have present age 18 and above. Incidence of amputation has occurred less than age 17 so

that the study can incorporate the coping adopted for disability in adulthood. Acquired lower limb amputation due to road traffic accidents, injuries, diseases like diabetes, peripheral arterial diseases, infections etc.

Should not have any other medically diagnosed disability.

Regularly using a prosthesis with or without any assistive devices.

Data collection and description

This study has used an interview schedule for understanding the disability among lower limb amputees and check list for case studies of the selected amputees. A mixed method technique has been followed for this study. The information was gathered for the quantitative part of the study is on demographic background, medical profile of the amputation, prosthetics adjustments, perception of health and disability after limb amputation and household-level information on the socio-demographic status of the household members, as a part of this study. Furthermore, further information on psychological adjustments, social support, social stigma, and coping mechanism adopted, work participation, and economic change have also been collected. The medical history includes two types of pain; those are residual limb pain and phantom limb pain. Residual limb pain is defined as any pain felt in the amputed stump of the individuals. Phantom limb pain is defined as a feeling of excruciating pain in the part of the surgical limb. For the qualitative part of the study, physical, psychological, social and economic coping has been interrogated from the respondents through face-to-face interviews.

Description of the variables

Dependent variables

The SRH and self-rated disability (SRD) has been taken as a dependent variable to understand the level of adjustments after limb amputation. The question asked for SRH was "how would you rate your health today", and the category is divided into bad (very bad and bad) (0), moderate (1), good (good and very good) (2). The question asked for SRD was "Overall, how much disabled do you feel yourself?". The category is divided into bad (extreme and severe) (0), moderate (1) and good (quite a bit and not at all) (2). For the sake of calculation, the categories are merged after running a description tabulation with the amputees' basic characteristics.

Independent variables

The study has considered the level of amputation in the below-knee (BK) and above-knee (AK) levels, and the types of prosthesis use is a conventional and advanced type of prosthesis. For the independent variables, the analysis has included three different categories of variables. Firstly, demographic variables include age category (18-35, 35-49, 50 and above), sex (male and female), marital status (currently married and others), place of residence (rural and urban), monthly HH expenditure (lower, middle, upper), years of education (Below 5, 5-9, 10 and above), the status of work after amputation (never and ever). Secondly, variables for health include phantom limb pain (yes and no), residual limb pain (yes and no), presence of chronic conditions (yes and no), reasons of amputation (accidents/ injuries and diseases), age at amputation, duration of amputation since the incidence of the first symptom (Below 1, 2-5 and 6 and more), and the number of household members seeking any health care expenses. Thirdly, prosthetics adjustments, including perceiving the body shape after amputation (ugly, not a matter and not an ugly), fear of falling while walking (no and yes). The adjustment and satisfaction with the prosthesis have been measured with TAPES scale.[29] The total scores for TAPES scale have been generated with the t-score of the individual components from their subcomponents; components are Prosthetics Adjustments, functional adjustments, and satisfaction with the prosthesis. The reliability scores i.e., Cronbach's Alpha for the components varies from 0.724-0.809. The t-scores of three components of TAPES has been added and divided into quintiles. Additionally, we have asked the fear of falling while walking with prosthesis to understand the adjustment with the prosthesis.

Social support has been measured with the multi-dimensional scales for perceived social support. It has 12 items. It asks questions on perceived social support for family, friends, and significant others.[30] The components of scales are made unidirectional. The scoring for the components is done in a Likert scale in manner 1 "very strongly disagree" to 7 "very strongly agree". The reliability for the scale shows that Cronbach's alpha value is 0.816.

Social participation has been measured through participation scale, a scale to measure the participation restriction in society with respect to their peers.[31] This scale addresses an understanding the stigma among disabled in a poor resource setting. It is an 18-item scale constructed with the participation domains like community, mobility, self-care, domestic life, major life areas etc., in reference to domains construct of WHO-ICF (World health organization-international classifications for functioning, disability and health). The responses have been marked as no participation (0), some participation but no problem (1), small problem (2), medium problem (3), and large problem (5). The total score has been generated for every individual and kept the value in a continuous form. The reliability score for this scale is found to be 0.82.

The study has also incorporated few narratives which collected for case-studies of the lower limb amputees for an in-depth understanding. The qualitative insights

mentioned here would orient us better in the sense of explanation of health and disability perceived by the lower limb amputees.

Statistical analysis

To measure the sample characteristics, we have done a descriptive analysis with Chi-square tests. For the variable in a continuous form, we have taken the mean and standard deviation of the score, and Fisher exact test was done. To understand the association, we have employed Pearson's pairwise correlation with the level of significant value to be $p<0.05$. The analysis has been done in STATA version 15.1 software.

RESULTS

Table 1 summarizes the distribution of LLAs across SRH and SRD across background characteristics. The significant share of the respondents belongs to the age group of 18-35 years, currently married, living in rural areas, years of education 10 and above, and ever worked category. The study has observed that age groups of 18-35 and 35-49 years have a higher share of the population in good SRH and SRD. The age group of 50 and above showed only 49.45%, and 28.57% have a good SRH and SRD, respectively. Males show higher SRH and SRD than females. Belonging to the higher category of education and ever worked have shown a higher share in good SRH and SRD with a significant association. The reasons for amputation show that those amputed due to accidents/injuries have a higher share in the category of good SRH (69.7%) and good SRD (46.06%) than those amputated due to diseases. The health conditions like phantom limb pain and residual limb pain show any kind of pain have a lower share in good SRH and SRD than those who do not have any. The number of amputees who don't feel any phantom or residual limb pain at present are 111 (41%) and 105 (39%), respectively. Presence of other chronic conditions, doing physical exercise, perceiving body shape as not an ugly after amputation led limb loss, and no fear of falling while walking show higher share in the category of good SRH and SRD. The percentage of respondents in good SRH and SRD gradually increases across the quintiles of TAPES score (49.45% for low TAPES, 60.44% for medium TAPES, 80.68% for higher TAPES) ($p<0.001$); and (16.48% for low TAPES, 45.05% for medium TAPES, and 70.45% for higher TAPES) ($p<0.001$). Infirmities developed among individuals can also be comprehended by the notion possessed by society.

A respondent replied in support to that. "My health is quite better now. My artificial limb didn't have a knee joint. I faced a lot of trouble while walking, boarding a train, and sitting somewhere. I used to rotate the leg and walk in normal time. For accessing the toilets, I felt a lot of trouble. This is for sure that I am self-reliant. I don't need to depend upon someone to get anything. But I know I can't go for any job" (24 years, male, married, transtibial amputation, Kolkata).

Those who are amputed after the inception of symptoms or injuries below one month have highest share of good SRH than the respective categories. The number of family members require health care expenses, perceived social support, and age at amputation have shown a significant difference for SRH and SRD. SRD significantly differs across the categories of social participation ($p<0.01$).

They also mentioned the notion of previous birth ideologies and karma as a cause of disability in several cases, "Now I feel I have become 80% handicapped after this. But my health remains good. I don't feel myself to be ugly. What would I do thinking about it! What my fate has given. I have to accept it. Sometimes, I think that I have done wrong in the last birth. That's why God is punishing me. I had a lot of dreams. After the accident, I don't think I can't do anything. I wished to do for my family. There is nobody to support me." (25 years, male, married, transtibial amputation, Mumbai).

Figure 1 shows the distribution of SRH and SRD across amputees in the study. Though the sample has represented same pattern of share in SRH and SRD. The 63% sample has good SRH, whereas, 43.7% sample has a good SRD.

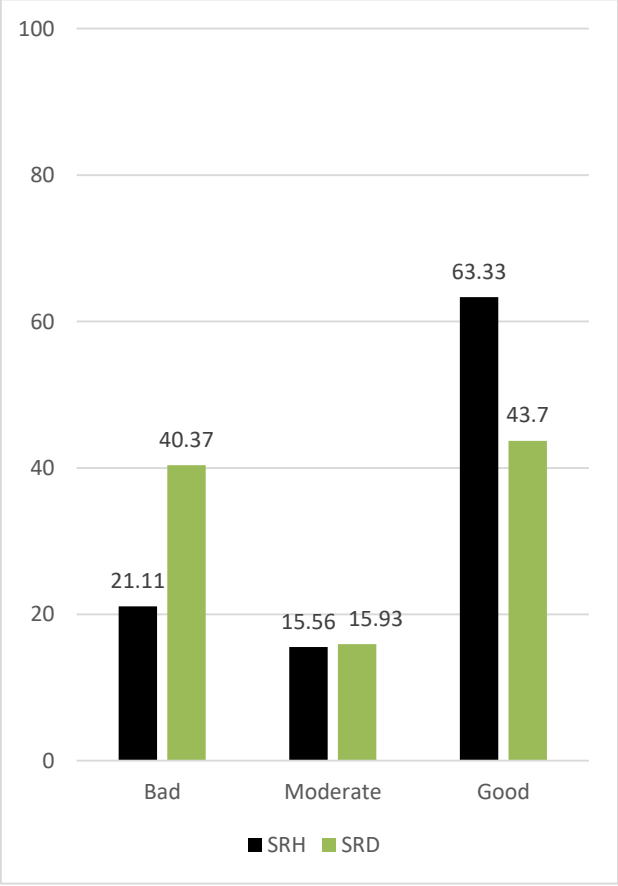

Figure 1: Percentage distribution of SRH and SRD among the lower limb amputees.

Table 1: Descriptive statistics (percentage share) of background demographic, medical and socio-economic characteristics on SRH and SRD among lower limb amputees.

Variables	Self-rated health				Self-rated disability				N
	Bad	Moderate	Good	P<Chi^2	Bad	Moderate	Good	P<Chi^2	
Categorical variables									
Age category (years)									
18-35	14.81	14.81	70.37		35.19	15.74	49.07		108
35-49	15.49	14.08	70.42	0.008	29.58	15.49	54.93	0.004	71
50 and above	32.97	17.58	49.45		54.95	16.48	28.57		91
Sex									
Male	20.42	15.42	64.17	0.685	39.17	16.25	44.58	0.522	240
Female	26.67	16.67	56.67		50	13.33	36.67		30
Marital status									
Currently married	24.49	14.8	60.71	0.086	43.37	14.29	42.35	0.212	196
Others	12.16	17.57	70.27		32.43	20.27	47.3		74
Place of residence									
Rural	17.33	16	66.67	0.233	41.33	15.33	43.33	0.922	150
Urban	25.83	15	59.17		39.17	16.67	44.17		120
Monthly HH expenditure									
Lower	25.45	20	54.55		50	14.55	35.45		110
Middle	17.11	9.21	73.68	0.1	34.21	14.47	51.32	0.09	76
Upper	19.05	15.48	65.48		33.33	19.05	47.62		84
Years of education									
Below 5	25.76	24.24	50		54.55	10.61	34.85		66
5-9	25.26	11.58	63.16	0.027	40	16.84	43.16	0.066	95
10 and above	14.68	13.76	71.56		32.11	18.35	49.54		109
Status of work after amputation									
Never	25	19.23	55.77	0.122	61.54	15.38	23.08	0.001	104
Ever	18.67	13.25	68.07		27.11	16.27	56.63		166
Reasons of amputation									
Accidents/ injuries	12.12	18.18	69.7	0.001	35.76	18.18	46.06	0.127	165
Diseases	35.24	11.43	53.33		47.62	12.38	40		105
Duration of first incidence of symptom to amputation (in months)									
Below 1	15.83	15.11	69.06		34.53	18.71	46.76		139
2-5	23.21	25	51.79	0.22	55.36	8.93	35.71	0.1	56
6 and more	29.33	9.33	61.33		40	16	44		75
Phantom pain									
No	15.72	15.09	69.18	0.024	38.36	14.47	47.17	0.374	159
Yes	28.83	16.22	54.95		43.24	18.02	38.74		111
Residual limb pain									
No	18.18	12.73	69.09	0.047	31.52	16.97	51.52	0.001	165
Yes	25.71	20	54.29		54.29	14.29	31.43		105
Presence of chronic conditions									
No	13.81	15.47	70.72	0.001	36.46	17.68	45.86	0.156	181
Yes	35.96	15.73	48.31		48.31	12.36	39.33		89
Physical exercise									
No	20.92	16.84	62.24	0.637	44.9	15.82	39.29	0.033	196
Yes	21.62	12.16	66.22		28.38	16.22	55.41		74
Perceiving of body shape									
Ugly	29.37	20.63	50		56.35	16.67	26.98		126
Not a matter	17.72	11.39	70.89	0.001	32.91	16.46	50.63	0.001	79
Not an ugly	9.23	10.77	80		18.46	13.85	67.69		65
Scoring of TAPES scale									
Low	34.07	16.48	49.45		72.53	10.99	16.48		91
Medium	21.98	17.58	60.44	0.001	32.97	21.98	45.05	0.001	91
High	6.82	12.5	80.68		14.77	14.77	70.45		88

Continued.

Variables	Self-rated health				Self-rated disability				N
	Bad	Moderate	Good	P<Chi²	Bad	Moderate	Good	P<Chi²	
Fear of falling while walking									
No	11.81	14.58	73.61	0.001	20.83	16.67	62.5	0.001	144
Yes	31.75	16.67	51.59		62.7	15.08	22.22		126
Continuous variables				**Prob>F**				**Prob>F**	**Mean (SD)**
Number of family member require health related expenses				0.001				0.01	0.64 (0.71)
Perceived social support				0.01				0.001	4.77 (1.24)
Social participation				0.11				0.005	39.16 (16.8)
Age at amputation				0.04				0.08	37.04 (15.05)
Total	57	42	171		109	43	118		270
Percentages (%)	21.11	15.56	63.33		40.37	15.93	43.7		

Across the types of amputees, 61.54% BK amputees have good SRH and 41.35% BK amputees have good SRD (Figure 2). Whereas, among AK amputees, 69.35% have a good SRH, and 51.61% have a good SRD.

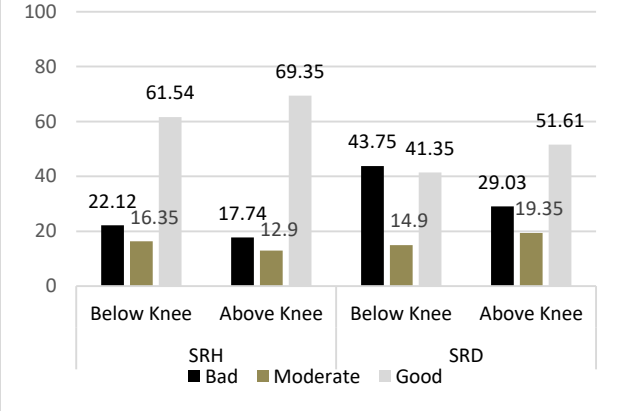

Figure 2: Percentage distributions of SRH and SRD among below knee and above knee lower limb amputees.

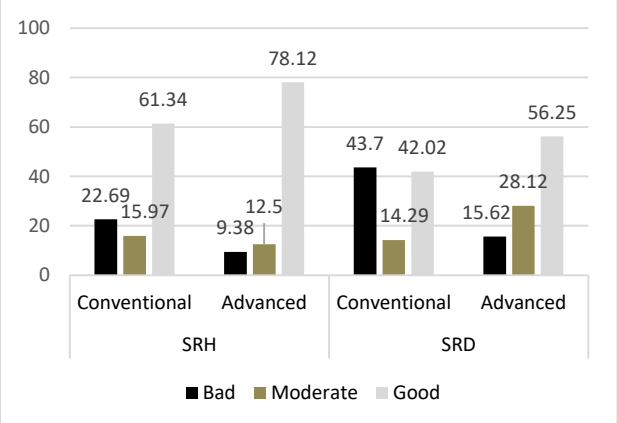

Figure 3: Percentage distributions of SRH and SRD among conventional and advanced prosthesis used by lower limb amputees.

Figure 3 shows that among amputees who use a conventional prosthesis, 61.34% have a good SRH, and 42.02% have a good SRD. Those amputees who are using an advanced prosthesis among them 78.12% have a good SRH and 56.25% have a good SRD. Regarding the prosthesis, one respondent replied, "Health-wise I am good now. But, I can't walk very fast. I can't board a crowded or running vehicle. I feel problems during summer because the socks get wet due to sweat. When I walk in such condition, it gives me a lot of pain, itching, burning sensations and even abrasion of the skin and soft tissues" (35 years, male, separated, trans-tibial amputation, Kolkata).

The correlation of the background characteristics with the SRH and SRD (Table 2) shows that age, education, residual limb pain, body shape, prosthetic satisfaction, fear of falling while walking, number of household members require healthcare expenses, perceived social support and social participation has a significant correlation with SRH and SRD, both. However, residual limb pain, perceiving the body shape, prosthetics satisfaction, and fear of falling while walking has stronger correlation coefficients with SRD. Factors like returning to work, level of household expenditure, and physical exercise have a significant correlation with SRD ($p<0.05$). For SRH, reasons of amputation, phantom pain, chronic diseases, duration of first symptoms to amputation has a significant correlation with the SRH. Feeling of possible in-activities due to the recurrence of morbidities are reflected in the perception related to disability.

A respondent replied on his disability added, "*Currently my health is better and tension for my painful leg is gone. I am much more relaxed. The only thought bothers me is that I have lost my leg. There is so no guratee that tumour won't recur. I am very scared about that. I can't be active like before anymore*" (23 years, male, unmarried, sarcoma, transfemoral amputation, Mumbai).

Table 2: Pairwise correlation of background characteristics with the SRH and SRD among lower limb amputees, (n=270).

Variables	SRH	SRD
Age category (years)	-0.201	-0.181
Sex	-0.053	-0.064
Marital status	-0.07	-0.077
Place of residence	0.097	-0.016
Monthly HH expenditure	0.097	0.139*
Years of education	0.16*	0.157*
Status of work after amputation	0.111	0.361*
Reasons of amputation	-0.236	-0.095
Duration of amputation	-0.132*	-0.64
Age at amputation	-0.221	-0.253
Phantom pain	-0.165	-0.072
Residual limb pain	-0.134	-0.228
Presence of chronic conditions	-0.257	-0.094
Physical exercise	0.018	0.159*
Perceiving of body shape	0.256*	0.354*
TAPES score	0.291*	0.497*
Fear of falling	-0.257	-0.447
Number of family member spend on health care	-0.122	-0.056
Perceived social support	0.151*	0.245*
Social participation	-0.328	-0.435

*is represented by the level of significance $p<0.05$.

DISCUSSION

The study tries to determine the association of background characteristics on the perceived nature of health and disability among individuals with a lower limb amputation-led locomotor disability. It introduces an idea of proximate social and psychological factors shaping the conception of functional well-being among the disabled. We have come across a few salient findings from this study. Firstly, more amputees shows a good SRH than a good SRD. Perceiving a better health status does not ensure perceiving a better disability status. In fact, recovery of health is faster among respondents than recovering from a disability. Secondly, SRH is mostly associated with the physical factors of an individual. Amputation occurred due to disease, having pain, chronic health conditions, and household members having chronic health condition negatively influence the SRH. Thirdly, SRD is majorly associated with the functional capacity of individuals. The SRD shows an association with ever return to work, physical exercise, perceiving oneself not an ugly, better TAPES score, fear of falling while walking with a prosthesis ($p<0.05$). Social participation and perceived social support provide much stronger support to SRD than SRH. Lastly, having a better adjustment with the prosthesis shows a higher chance of acquiring better SRD than SRH.

Our study shows that lower limb amputees are likely to be adjusted in terms of health than functional restrictions. This study has found a stronger and a negative association of type of etiology for SRH among respondents. The presence of a higher share of respondents having amputation due to injuries or road traffic accidents led to early recovery in health than their counterparts. The somatic association of an individual is considerable enough for understanding the SRH. Amputation due to vascular diseases represents a long-term suffering ever after surgical removing of the limb. Adjustment to prosthesis becomes difficult, especially in the case of diabetes or peripheral vascular diseases which shows a recurrence of symptoms that cause multiple surgeries and a long time to recovery. As this condition occurs at the later ages; hence, coping capacity declines the perception towards disability. It has been supported by the fact that multi-morbid conditions have a negative influence on the perceived health status of the elderly.[32] Though there persists serious stigmatization in Indian society regarding disability, use of assistive devices can be suggested to increase efficiency in performing vital activities like engagement in employment. Hence, the perceived severity of the illness can be modified with a better fitment of the prosthesis and vocational rehabilitation for the lower limb amputees. A study performed on the Indian population by Cullati et al on SRH has found that functional limitations than physical health largely explain SRH.[32] However, our study contradicts that in a given condition for a disability, SRH is correlated with physical health conditions like multi-morbidity, residual limb pain, phantom limb pain or reasons for amputation. The functional health conditions are more statistically relevant to associate with SRD; it can be suggested to use SRD to understand the perception towards disability.

An incidence of amputation among higher age groups leads to less capacity for coping with health or disability. The strength of association of age and of incidence does not show much difference. The study has already shown a relationship in the early age of onset of the disability and reduced health status.[33] It has been seen that the advanced prosthesis is better in function, light in weight and quality of components are better than conventional prosthesis. As a result, coping is much better and earlier. AK amputation has a better stump shape due to higher muscle mass than the lower limb amputees, which can provide cushion effects to the stump and better adjustment with the amputation. However, the level of amputation in terms of BK and AK needs a rigorous observation to understand the level of functions in daily life.

This study finds out that household members' health outcomes can influence the coping pattern with the change in the health of the amputees. It does not show any significant relationship with the SRD. Perceived social support and increased social participation are the stronger predictors that enhance the perception of disability among individuals compared to the perception of health. It can be understood from the fact that social acceptance of disability is much more supportive in defining wellbeing after a limb loss. The ability to do

social and personal interactions has additional importance for self-perceived disability, as it incorporates a much higher level of functions like communication, cognition, outdoor movement etc.[34] A similar health rating can result into different wellbeing to the individuals. This is explained in terms of satisfaction or value derived from the functional activities. Therefore, the inclusion of SRD while defining the disability status can encompass the values related to health components and obtained functional performance due to health

The study has several limitations that can be addressed through further studies. Mental health components play a significant role in determining the perception towards health and disability as this aspect is out of the scope of the present study. This study was unable to encompass those factors in the current analysis. The sample size of this study is small, which will limit the scope for generalizability. As the study was exploratory and a single type of disability has been considered; hence, large-scale research examining other types of disabling conditions can widen the scope in the future.

CONCLUSIONS

This study is the first attempt to introduce a concept of perception towards disability under a universal term. In our study, SRD has been seen to be lowered than SRH in the case of adult lower limb amputates. Physical components are more associated with the SRH and functional components are more strongly related to the SRD. Hence, it is much more comprehensive to include SRD than SRH as the functional restriction of individual with limb amputation is concerned. The programs and policies must rethink to add a modified tool that can explain the functional status in a specific way. SRD can be better in analyzing the coping with the disability status, and promoting the role of health care and rehabilitation programs. It can be used not only for the population having disability but in a larger population with functional restrictions that can be used to address the health care need.

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