Introduction

Disability is not just a health problem or attribute of individuals, but it reflects the problems individuals experience in their interaction with society and physical movements.[1] Disability term includes impairments, activity limitations and participation restrictions.[2] The term “disability” has many different meanings; the global burden of disease (GBD) however, uses the term disability to refer to loss of health, where health is conceptualized in terms of functioning capacity in a set of health domains such as mobility, cognition, hearing, and vision.[3] For disabled persons and their families situation becomes doubly difficult due to general health problems and unique social stigma attached to various types of disability.[4] Disabled people experience various barriers due to restriction of participation and their lives are affected with poor health outcomes, low education, lack of social and economic participation, higher rates of poverty and increased dependency.[5]

Non-communicable diseases such as diabetes, cardiovascular diseases, mental disorders, cancer, and respiratory illness show increasing trends all over the world. These diseases have profound effects on disability.[6] According to the WHO estimates 15% of world’s population has some form of disability and 2–4% of them experience severe difficulties in functioning. GBD 2004 data analysis showed that 15.3% of the world population (approximately 978 million people) had moderate or severe disability, while around 2.9% population (185 million people) experienced severe disabilities.[7] The Millennium Development Goals (MDGs) represent a hard pressing effort to address global poverty. Yet there is a striking gap in the current MDGs as persons with disabilities

Abstract

Background: Disability is not just a health problem or attribute of individuals, but it reflects the problems individuals experience in their interaction with society and physical movements.[1] Disability term includes impairments, activity limitations and participation restrictions.[2] The term “disability” has many different meanings; the global burden of disease (GBD) however, uses the term disability to refer to loss of health, where health is conceptualized in terms of functioning capacity in a set of health domains such as mobility, cognition, hearing, and vision.[3] For disabled persons and their families situation becomes doubly difficult due to general health problems and unique social stigma attached to various types of disability.[4] Disabled people experience various barriers due to restriction of participation and their lives are affected with poor health outcomes, low education, lack of social and economic participation, higher rates of poverty and increased dependency.[5]

Objectives: The aim was to assess the quality of life (QOL) of physically disabled persons, the impact of physical disability on activities of daily living (ADL) and to study the awareness about laws and facilities available for disabled persons. Materials and Methods: A cross-sectional community based study was conducted among 130 physical disabled persons who were selected using convenience sampling technique. The WHO BREF scale was used to assess QOL, while assessment of ADL was done using Barthel Index. Socio-demographic assessment was done using Udai Pareek scale. SPSS version 15.0 was used to analyze data. Categorical variables were expressed as frequencies and percentages. As per guidelines physical, psychological, social, and environmental domain scores for WHO BREF scale were calculated. Results: Among the study participants, 36.2% had a disability from birth that is, congenital. The second common cause of disability was found to be postpolio residual paralysis as it was found among 26.2% respondents. Other causes found were stroke/paralysis and accidents, in 19.2% and 18.5% respondents, respectively. Activities such as transfer, mobility, and stair climbing showed greater impact of physical disability. It was found that 11.5% respondents required help in one of the ADL. QOL score was found to be low under the psychological domain reflecting on negative feelings, bodily image, appearance, spirituality, and self-esteem of respondents. Conclusion: Physical disability had affected social participation as well as marriage of the respondents. However, it was found that very few of them are aware about facilities provided under persons with disability act.

Keywords: Activities of daily living, physical disability, quality of life

Quality of Life among Persons with Physical Disability in Udupi Taluk: A Cross Sectional Study

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were not considered. The estimated 1 billion people worldwide who live with at least one or more type of disabilities that is, physical, sensory (blindness/deafness), intellectual or mental health impairments, are not mentioned in any of the 8 MDGs or 21 targets or 60 indicators, nor in the Millennium declaration. This absence is of particular concern because a growing consensus and awareness among disability advocates, experts, and researchers find that the most pressing issue faced globally by persons with disabilities is lack of equitable access to resources such as education, health care facilities, employment, social participation activities, and not their specific disability. This results in disproportionally high rates of poverty. The links between disability and poverty are noteworthy and size of the globally distributed disabled population makes these links of particular concern to all working on issues related to poverty.[8]

According to 2001, census data India had 2.1% disabled population and disability in the movement was observed in 27.8% population.[7]

Karnataka has a disabled population of 940,643 out of which 661,139 people live in rural areas, while 279,904 people live in urban areas. The literate disabled population was 473,844, which consisted of 51.40% of the total disabled population. Most of families with disabled persons live below the poverty line.[8]

Rationale

There are many studies available on the prevalence of disabilities in India and mostly focus on the geriatric population. There are very few studies conducted among young adults. Furthermore, there is comparatively less literature available on the quality of life (QOL) among physically disabled persons. This study attempts to understand the QOL and other associated concerns among younger as well as the older population.

Objective

To assess the QOL among physically disabled persons, impact of physical disability on activities of daily living (ADL) and their awareness regarding laws and facilities and utility pattern of available benefits in Udupi taluk, Karnataka.

Materials and Methods

A community-based cross-sectional study was conducted in Udupi taluk from February to July 2013. Sample size was calculated for estimation of scores of QOL. A total of 130 physically disabled persons registered under 16 panchayats in Udupi taluk were interviewed. Convenience sampling technique was adopted for the study. Respondents who were 18 years and above and permanently disabled were included in the study, while mentally challenged and severely ill were excluded. List of disabled persons was obtained from each of 16 panchayats. And physically disabled persons were obtained from each of 16 panchayats. And physically disabled persons were selected with the help of multipurpose rehabilitative workers (MRW) and village rehabilitative workers.

Operational definition for physical disability

(a) Persons having locomotor disability (b) loss or absence or inactivity of whole or part of hand or leg or both due to amputation, paralysis, deformity or dysfunction of joints which affected his/her “normal ability to move self or objects” (c) those with physical deformities in the body other than limbs such as, hunch back, deformed spine. Dwarfs and persons with stiff neck of permanent nature who generally did not have difficulty in the normal movement of body and limbs were also treated as disabled.[9]

The interview schedule was divided into three parts. A structured questionnaire adapted from Udai Pareek scale was used to assess socioeconomic status of study participants. WHO BREF scale[10] was used to assess QOL of the study participants. For assessment of ADL, Barthel Index[11] was used. The interview schedule was translated to the local language for better understanding by the participants. Ethical permission to conduct this study was obtained from Institutional Ethics Committee (IEC No. 134/2013). Written informed consent was obtained from each respondent prior to the interview.

WHO BREF scale had 26 questions, which were divided under four main domains namely: Physical, psychological, social and environmental. Barthel Index has 10 main ADL which included bowel habits, bladder habits, grooming, toilet use, feeding, dressing, transfer, mobility, stair climbing and bathing. SPSS version 15.0 (Chicago, IL)’s used to analyze data. Categorical variables were expressed as frequencies and percentages.

Results

Table 1 shows that mean age of the respondents was 43.26 ± 14.6 years. Minimum and maximum age of the respondents was 18 and 76 years respectively. Majority of the respondents belonged to 25–44 years age group. Among the total 130 respondents, 89.2% were Hindus followed by 6.2% Muslims and 4.6% were Christians. Less than half that is, 46.2% of the respondents were single and reported that disability was main reason for remaining single. Majority of the respondents 67.7% were living in nuclear family while remaining 32.3% belonged to joint family. Approximately, one-fourth that is, 24.6% respondents were illiterate, while 46.9% of them were found to have primary education. There was only one female who was a graduate. Regarding occupational status of household of respondents, 62.3% were found to be unemployed. Only 5.4% respondents were skilled workers, while 7.7% were unskilled workers. Out of 130 respondents 70% respondents were living in pucca type houses. Only 18% and 12% respondents were living in mixed and kuthcha type of houses, respectively. Most of the respondents (89.23%) belonged to low socioeconomic status with score of below 40, while 10.76% respondents were in middle socioeconomic status group. There were no respondents in higher socioeconomic...
Among 130 respondents, 17% of the respondents had one or other co-morbidities, hypertension being the most common (9.2%) followed by diabetes (3.8%) and asthma (1.5%).

Table 2 shows that activities such as transfer, mobility, and stair climbing showed greater impact of physical disability. Among 130 physically disabled persons interviewed, 43.8% respondents required minor help and 13.1% respondents required major help or were unable to transfer. Mobility of physically disabled persons was also affected to a certain extent. Around 4% were immobile, while 10.8% needed wheelchair and 36.9% needed help of a person for walking. Only one-fifth that is, 20.8% respondents reported no problem in climbing stairs independently. Maximum respondents (56.2%) required help in the form of verbal, physical or carrying aid to climb stairs. Approximately, one-fourth of the respondents that is, (23.1%) were unable to climb stairs.

In Table 3 overall the QOL of the respondents was assessed in different domains like Physical, Psychological, Social and Environmental by using WHO BREF scale. Highest maximum score that is, 100 was observed in social relationship domain. Minimum score of six was observed in physical, psychological and social domains each. Lowest median score was noted in psychological domain reflecting on negative feelings, bodily image, appearance, spirituality, self-esteem and their thinking. Assessment of QOL score was done with respect to type of disability. Psychological domain score was observed to be low across all types of disabilities.

Discussion

The current study found that 46.2% participants were single. Similar finding was reported in a study conducted in Bangladesh where similar proportion (47.5%) of respondents were single.\textsuperscript{[13]} When proportions of respondents living in joint family were compared, study done in rural part of an adjacent district\textsuperscript{[13]} had reported higher proportion (78.2%) of respondents living in joint family, whereas in the present study it was observed that 32.3% were living in joint family.
Table 2: Distribution of respondents according to ADL (n=130)

| Type of ADL | Activity                        | Number (%)       |
|------------|--------------------------------|------------------|
| Bowel      | Occasional accident            | 3 (2.3)          |
|            | Continent                      | 127 (97.7)       |
| Bladder    | Occasional accident            | 11 (8.5)         |
|            | Continent                      | 119 (91.5)       |
| Grooming   | Needs help                     | 15 (11.5)        |
|            | Independent face/teeth wash etc| 115 (88.5)       |
| Toilet use | Dependent                      | 4 (3.1)          |
|            | Needs help (can do some things alone) | 43 (33.1) |
|            | Independent                    | 83 (63.8)        |
| Feeding    | Needs help                     | 16 (12.3)        |
|            | Independent                    | 114 (87.7)       |
| Transfer   | Unable                         | 7 (5.4)          |
|            | Major help                     | 17 (13.1)        |
|            | Minor help                     | 57 (43.8)        |
|            | Independent                    | 49 (37.7)        |
| Mobility   | Immobile                       | 5 (3.8)          |
| dressing   | Wheelchair independent         | 14 (10.8)        |
|            | Walks with help of one person  | 48 (36.9)        |
|            | Independent                    | 63 (48.5)        |
|            | Dependent                      | 1 (0.8)          |
|            | Needs help                     | 28 (21.5)        |
|            | Independent                    | 101 (77.7)       |
| Stairs     | Unable                         | 30 (23.1)        |
|            | Needs help (verbal or physical, carrying aid) | 73 (56.2) |
|            | Independent                    | 27 (20.8)        |
| Bathing    | Dependent                      | 23 (17.7)        |
|            | Independent                    | 107 (82.3)       |

ADL: Activities of daily living

Table 3: QOL domain scores of respondents (n=130)

| Domain             | Minimum | Q1    | Median | Q3    | Maximum |
|--------------------|---------|-------|--------|-------|---------|
| Physical           | 6       | 42.50 | 50     | 63    | 88      |
| Psychological      | 6       | 31    | 44     | 56    | 75      |
| Social             | 6       | 25    | 50     | 56    | 100     |
| Environmental      | 19      | 38    | 50     | 56    | 88      |

QOL: Quality of life

The present study revealed that 24% of respondents did not have any formal education. In a similar study done in Malaysia reported approximately similar percentage 26.8% of respondents with no formal education.[14] In another study conducted in Nigeria on health related QOL in PPRP survivors reported 20.4% respondents never attended school.[15]

Employment status of the respondents can be compared with the study conducted in Nigeria. Both studies had reported >60% of the respondents being unemployed.[15,16]

Socioeconomic status of the respondents in the study was compared with studies conducted in rural community of Karnataka where 51% respondents belonged to middle socioeconomic class[13] and 61% of them were from low socioeconomic class.[17]

The study showed that 36.2% had disability from birth that is, congenital. The second cause of disability was found to be PPRP as it was found among 26.2% respondents. Other causes found were stroke/paralysis and accidents, in 19.2% and 18.5% respondents, respectively.

The study conducted in Uttar Pradesh showed 9.09% of physical disability occurring due to accidents and reported 4.9% to have PPRP as cause of physical disability, while 17.07% had Physical disability attributed to stroke.[19]

Co-morbidities observed in this study when compared to a study conducted in Uttar Pradesh reported higher prevalence of hypertension (49%), followed by asthma (15%), and heart problems (5%).[18]

This study showed that 11.5% respondents required help in one of the ADL domain, which is less compared with a study conducted in Nigeria which reported 28.3% respondents required help in one domain. The reason could be majority being the geriatric population in Nigerian study.[16]

In the present study, assessment of QOL score was done with respect to type of disability. And QOL score was found to be low in psychological domain reflecting on negative feelings, bodily image, appearance, spirituality, self-esteem and their thinking. Psychological domain score was observed to be low across all types of disabilities. In a similar study carried out in Nigeria among physical disabled persons showed high QOL scores under all four domains namely physical health, psychological health, social health, and environmental domains.[13]

In a study conducted in two provinces namely-Chiang Mai and Nakhon Ratchasima of Thailand QOL was reported to be at moderate level (79.3%).[17]

Conclusion

M Persons had physical disability due to congenital followed by PPRP. Activities like transfer, mobility, and stair climbing showed greater impact of physical disability. It was also observed that majority of them are not dependent on others for their daily activities. Co-morbidities like hypertension and diabetes was also noted among respondents. The QOL was found poor among respondents in the psychological domain as compared to other domains. This could be mainly because of their physical appearance, which refrain from the participation in social gatherings and family functions. Regarding linking them to social protection schemes, the district authorities have made attempts to link them monthly financial assistance, however efforts need to be directed toward empowering them with knowledge on various social protection schemes and play a facilitative role so that it can be accessed easily without much difficulties.
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References

1. Fellinghauer B, Reinhardt JD, Stucki G, Bickenbach J. Explaining the disability paradox: A cross-sectional analysis of the Swiss general population. BMC Public Health 2012;12:655.

2. World Bank Report. World Report on Disability. Report no: ISBN 978 92 4 068521 5 (PDF). Geneva: WHO Publishing Committee, WHO, The World Bank; 2011.

3. Fact Sheet Disability and Health. Available from: http://www.who.int/publications/2011/9789240685215_eng.pdf. [Last cited on 2013 Feb 13].

4. Ghosh S. Disability Scenario in India with Reference to Livelihood of PWDS-Country Status. Pune: Shodhana Consultancy; 2007. p. 12.

5. Dimension disability. Ch. 4. Available from: http://www.mospi.nic.in/Mospi_News/upload/disability_india_statistical_data_11_mar2011/Chapter%204-Dimension_ Disability.pdf. [Last cited on 2013 Feb 09].

6. United Nations. Disability and Millennium Development Goals: A Review of MDG Process and Strategies for inclusion of Disability Issues in Millennium Development Goal Efforts. New York: United Nations; 2011. Report No: ISBN-13: 978-92-1-130318-6.

7. Disabled population. Available from: http://www.censusindia.gov.in/Census_And_You/disabled_population.aspx. [Last cited on 2013 Jun 12].

8. Disability act. Available from: http://www.karnataka.gov.in/welfareofdisabled/pages/disability_act.aspx. [Last cited on 2013 Feb 09].

9. Government of India. Manual on Disability Statistics. New Delhi: Ministry of Statistics and Program Implementation; 2011.

10. WHOQOL–BREF. Introduction Administration Scoring and Generic Version of Assessment, Field Trial Version. Geneva: World Health Organisation; 1996. p. 18.

11. Barthel Index. Available from: http://www.healthcare.uiowa.edu/igecc/tools/function/barthelADLs.pdf. [Last cited on 2013 Feb 20].

12. Hosain GM, Atkinson D, Underwood P. Impact of disability on quality of life of rural disabled people in Bangladesh. J Health Popul Nutr 2002;20:297-305.

13. Ganesh KS, Das A, Shashi JS. Epidemiology of disability in a rural community of Karnataka. Indian J Public Health 2008;52:125-9.

14. Hairi NN, Bulgiba A, Cumming RG, Naganathan V, Mudla L. Prevalence and correlates of physical disability and functional limitation among community dwelling older people in rural Malaysia, a middle income country. BMC Public Health 2010;10:492.

15. Kaka B, Ogwumike O, Adeniyi F. Factors associated with health related quality of life among post paralytic polio survivors in Nigeria. Afr J Physiother Rehabil Sci 2011;3:17-22.

16. Abdulraheem IS, Oladipo AR, Amodu MO. Prevalence and correlates of physical disability and functional limitation among elderly rural population in Nigeria. J Aging Res 2011;2011:369894.

17. Pati RR. Prevalence and pattern of disability in rural community in Karnataka. Indian J Community Med 2004;29:186-7.

18. Srivastava DK, Pandey S, Pandey R, Shah H. Prevalence of physical disability in rural population of District Mau of Uttar Pradesh, India during May 2007. Glob J Med Public Health 2012;1:1-9.

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