

## among adult participants in Delhi: Findings from Model Disability Survey in Delhi, India

Souvik Manna<sup>1</sup>, Suraj S Senjam<sup>2</sup>, Praveen Vashist<sup>3</sup>  
<sup>1</sup>All India Institute of Medical Sciences, New Delhi, India

A total of 2200 participants were enumerated randomly in Delhi and WHOMDS tool was used to generate disability scores. Scores were generated for 2015 (91.6%) participants based on the functioning (EF1-12) questions and 2024 (92.0%) participants completed all the clinical examination protocols (eye, ear & musculo-skeletal). The mean disability score was 30.38 ( $\pm 17.63$ ) & the standardized disability prevalence for mild, moderate, and severe disability in Delhi state was 7.18 (95% CI: 6.13-8.23), 7.71 (95% CI: 6.68-8.73) and 4.51 (95% CI: 3.71-5.31). The disability scores were also disaggregated based on the six socio-demographic variables of gender, age, education, occupation, marital status, and socio-economic status (SES). Gender ( $t = -2.068$ ,  $p = 0.039$ ), age ( $t = 7.072$ ,  $p = 0.000$ ) and lower SES ( $t = -2.174$ ,  $p = 0.030$ ) were significant predictors of disability. Sensitivity of the WHOMDS tool in detecting visual, hearing and musculoskeletal disability was found to be 83.3%, 74.5% and 57.7%. The quality-of-life assessment was done using EuroQoL 5D5L tool, for which mean was 0.899 ( $\pm 0.25$ ). Lower disability scores ( $t = -21.237$ ,  $p = 0.000$ ), secondary education ( $t = -2.028$ ,  $p = 0.043$ ) and lower middle SES ( $t = 2.102$ ,  $p = 0.036$ ) were significant predictors of HRQoL.

### BACKGROUND

The study addresses the following research questions:

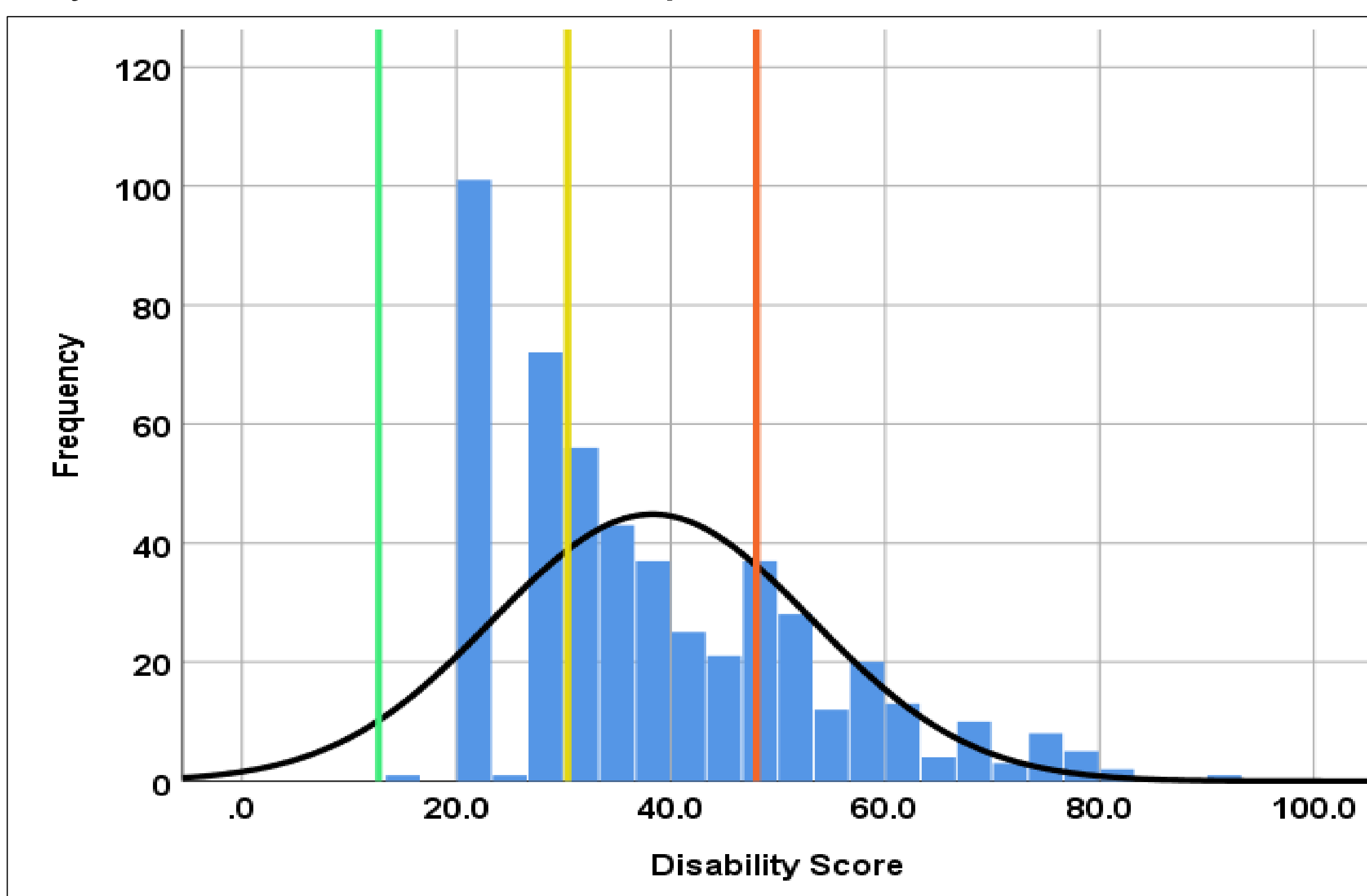
- 1) What is the prevalence of disability among adult population of Delhi based on WHO-ICF, disaggregated by gender, age and other socio-economic variables?
- 2) Is self-reported functional ability and capacity limitation sensitive and specific enough in predicting disability status compared to objective clinical testing (gold standard)?
- 3) Is the Quality of Life among the PwDs significantly different than persons without disability?
- 4) What are the socio-demographic determinants of disability status, capacity limitation and quality of life?
- 5) What challenges and barriers do PwDs face to accessing rehabilitation services/APs?

### METHODS

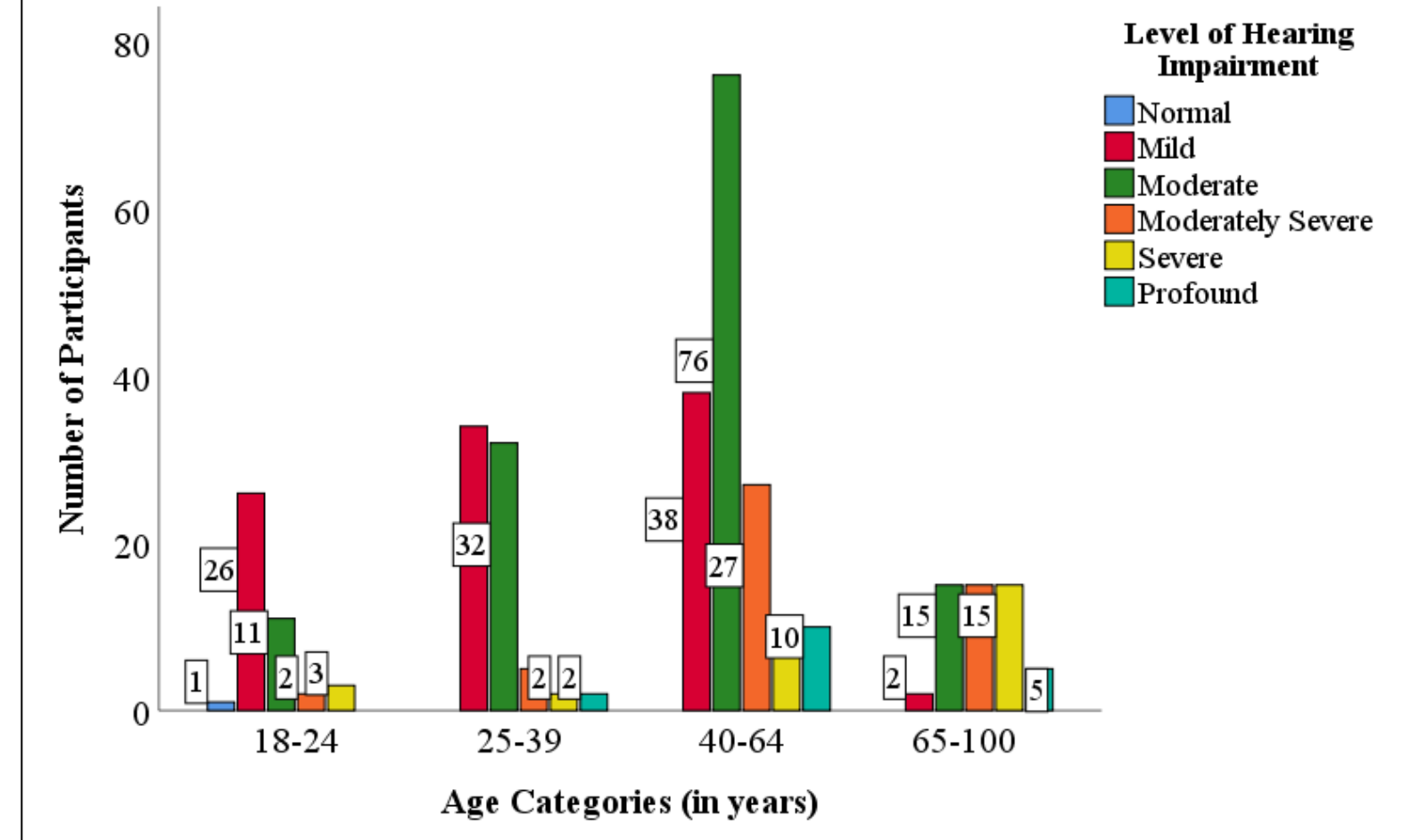
- The study was conducted in one of the 11 districts in Delhi. Sampling technique was multi-phase cluster sampling in which one district and 40 clusters within it were selected randomly from census data. Maximum 55 respondents were selected per cluster, to reach a sample size of 2200 respondents. Within clusters, participants were selected using compact segment sampling.
- After informed consent, enumerators collected socio-demographic information and brief MDS tool was administered by the investigator comprising of 33 questions. Each question on the WHOMDS tool had five types of response, designed to capture the full spectrum of functioning, environment, health care utilization & QoL from mild to severe. Clinical teams were trained to conduct examination on the participants to screen for the presence of ocular, auditory & Musculo-skeletal impairments.

### RESULTS:

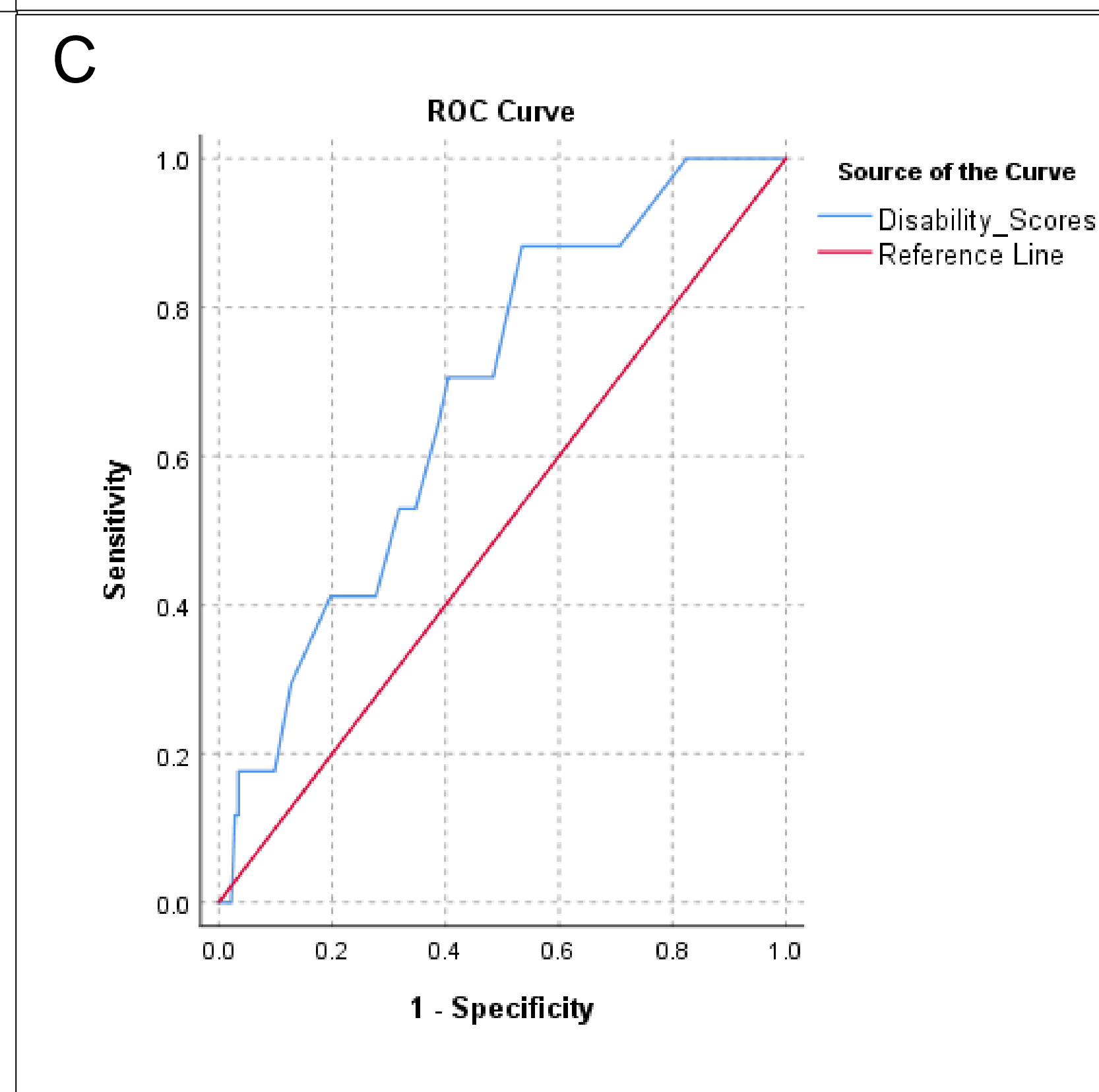
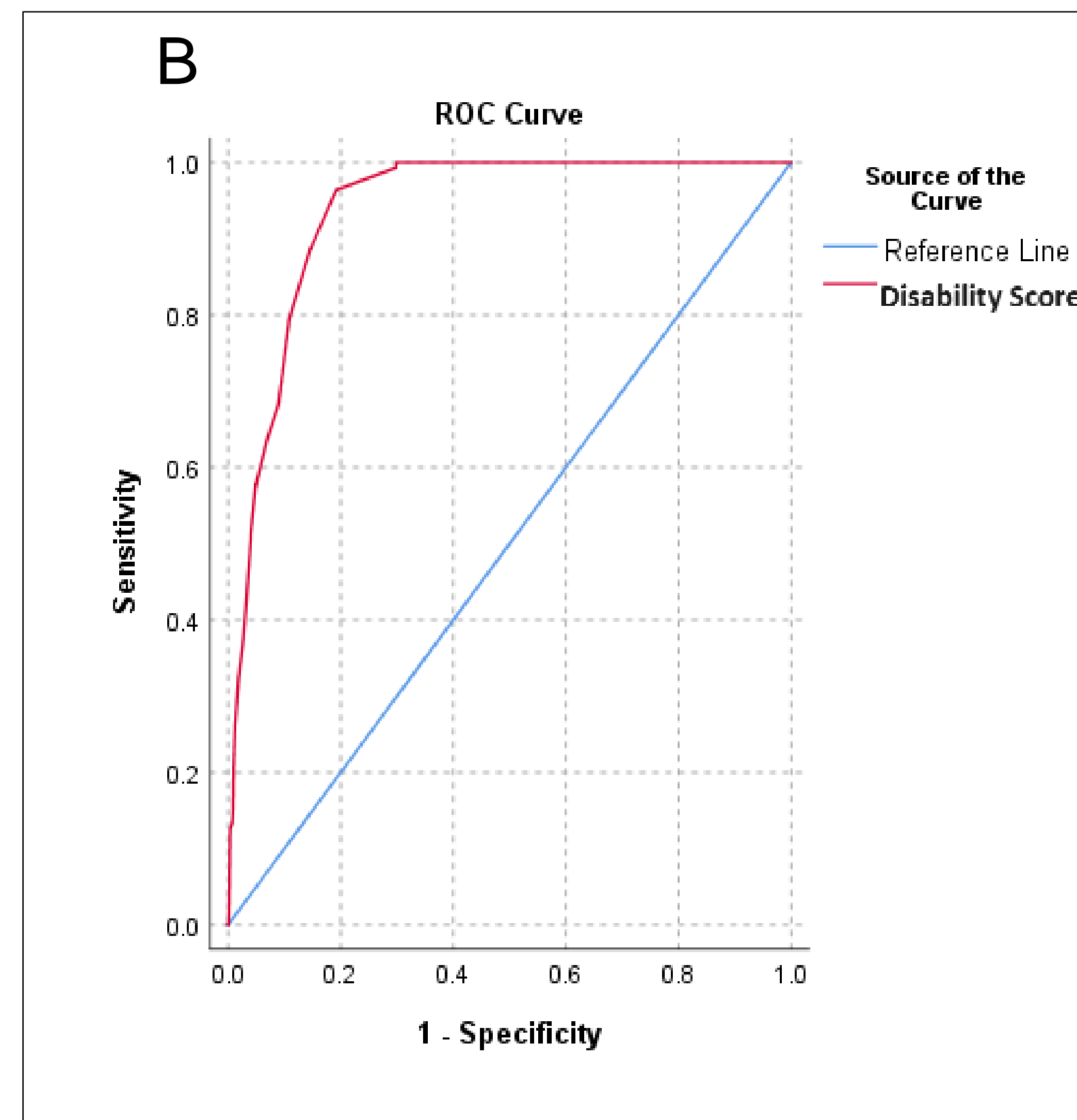
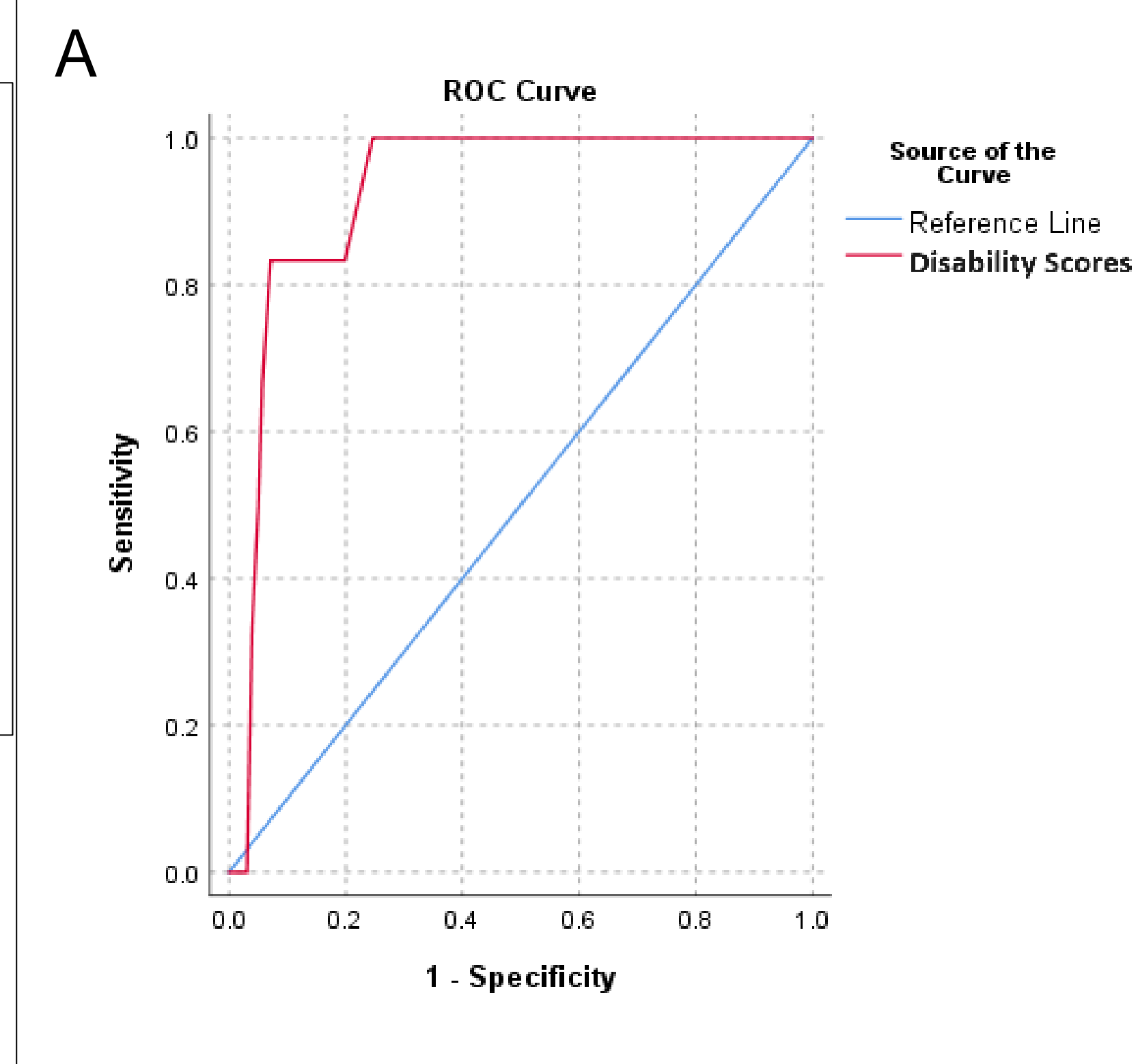
Disability Distribution and prevalence in Delhi (N=2015)



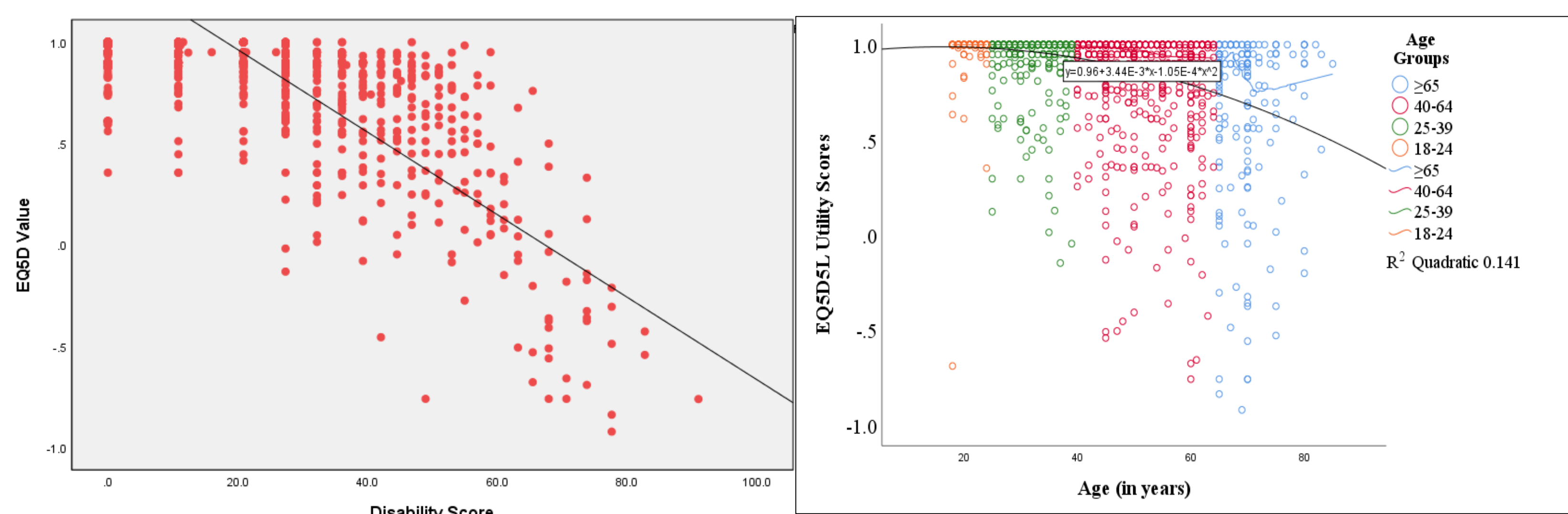
### RESULTS CONTINUED:



Level of hearing impairment & ROC curves showing sensitivity of MDS at cutoffs of:  
 A) Best Corrected Visual Acuity <6/60  
 B) Musculo-Skeletal Impairment toll  
 C) 80 to <95 dB hearing impairment in better ear



### Relationship of HRQoL with age and disability scores (N=2015)



### CONCLUSIONS

- The prevalence of mild, moderate and severe disability in East Delhi based on WHOMDS was 7.35%, 7.97% & 4.7% respectively.
- The prevalence varied significantly with age, education and employment status; the effect of gender and marital status was not significant.
- The MDS tool exhibited a sensitivity of 83.3%, 82.6% and 57.7% for detecting visual, hearing and Musculo-skeletal disability.
- The QoL of persons with severe disability was worse than that of others.
- The usage of assistive products (APs) was reported by 35.8% of the PwDs, with 20.2% of them having unmet needs. The rehabilitation and health-care needs were more in persons with severe disability than other categories. The principal barriers and challenges were lack of time and money for availing services.

Target level	Cut-off criteria	Functioning	Capacity
No disability	Score = 0 < Mean - 1SD	1515 (75.2)	1281 (63.6)
Mild disability	Mean-1SD < Score < Mean	175 (8.6)	284 (14.1)
Moderate disability	Mean < Score < Mean + 1SD	204 (9.9)	263 (13.1)
Severe disability	Score $\geq$ Mean + 1SD	121 (5.9)	187 (9.3)

Author email ID: [souvikmanna311@yahoo.com](mailto:souvikmanna311@yahoo.com)