

Healthy Physical Aging: Normative Data for the de Morton Mobility Index

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Study Overview: Mobility is a key domain in healthy aging. The de Morton Mobility Index (DEMMI) is a valid and reliable instrument that measures the mobility of older adults across clinical settings. The DEMMI consists of 15 hierarchical items with scoring from 0-100 where 100 denotes the highest mobility level. Establishing normative data is vital in health instrument development and provides a reference when measuring mobility and in directing therapeutic interventions. Therefore, our aim was to obtain age- and gender-stratified normative data for the DEMMI for healthy community dwelling older adults.

Objectives: The primary objective of the study is to provide descriptive data of DEMMI scores by sex and age categories: 60-69, 70-79, 80-89 and 90+ years.

Methods: We visited 8 sites throughout Metro Vancouver (senior centres and independent living facilities), advertising prior to the event and pre-registering eligible participants where possible. We obtained DEMMI scores on 103 community-dwelling participants aged 60+ with no known conditions affecting their mobility, as well as measures of comorbidity (Charlson index), falls risk (FROP-Com: falls risk for older people-community; FES-I: falls efficacy scale-international), quality of life (SF-36), self-reported function (Barthel ADL index; Instrumental ADL scale; friendship scale; LEFS: lower extremity functional scale), and disability (LLDI: late life disability index). All of these measures were obtained with questionnaires that are generally self-administered, though assistance was provided by a research assistant where requested. The result on each questionnaire is summarized as a total score.

Note: ADL = activities of daily living.

DEMMI scores will be presented as mean (SD) by sex and age categories. Minimal clinically important differences will be calculated. Scores will be compared with the other measures (e.g. SF-36, LEFS, etc) using regression analysis to explore convergent, divergent and known groups validity.

Hypotheses:

- **Primary:** DEMMI score will decrease with increasing age.
- **Secondary:** DEMMI score will decrease with decreased self-reported function, decreased quality of life, increased number of comorbidities, increased falls risk, and increased disability.

Questions:

1. Do I actually need a “hypothesis” if I am simply looking to report referent intervals? I believe statistical significance may not be important if my goal is to demonstrate natural physiological changes with age.
2. Means and standard deviations are not appropriate for establishing referent intervals (assumption of normal distribution, which these data clearly are not). What is the best way to present these data if I’d like to show physiological change with healthy aging? Ideally this will be a table a doctor or clinician can refer to in order to determine whether their patient is in need of more in-depth assessment or treatment/intervention.
3. Our long-term goal is to develop a normative database for the DEMMI, which I understand should be called “referent intervals”. Apparently this can be done using regression or “centile curves”. Which method is best for my data set and why?