

Feasibility and validation of the Japanese version of the EQ-HWB

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BACKGROUND:

The EQ-HWB is being developed as a separate instrument to assess various impacts on the health and wellbeing of care recipients and caregivers. EQ-HWB has been designed as a standardized measure of aspects of health and wellbeing and currently has 25 items. A short version has also been designed, called EQ-HWB-S (EQ Health and Wellbeing Short version), which currently has 9 items. It is currently being translated into multiple languages, each validated for validity and reliability.

OBJECTIVE:

This study aimed to verify the feasibility and validity of the Japanese version of the EQ-HWB.

METHODS:

We simultaneously measured the EQ-5D-5L and EQ-HWB in patients with cerebrovascular disease, Parkinson's disease, cardiac disease, cancer, orthopedic disease, and collagen disease in three hospitals in Japan. Demographic characteristics and ADL data were also included in the study. Exclusion criteria were impaired consciousness, aphasia, and severe cognitive dysfunction.

After examining the data distribution, and validity was examined in terms of correlations and response patterns in each domain.

OUTCOME MEASURES:

EQ-5D-5L

The EQ-5D-5L was introduced by the EuroQol Group in 2009 to improve the instrument's sensitivity and to reduce ceiling effects. The descriptive system comprises five dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 5 levels: no problems, slight problems, moderate problems, severe problems and extreme problems. The patient is asked to indicate his/her health state by ticking the box next to the most appropriate statement in each of the five dimensions. This decision results in a 1-digit number that expresses the level selected for that dimension. The digits for the five dimensions can be combined into a 5-digit number that describes the patient's health state. The Japanese scoring algorithm was used to convert the EQ-5D-5L scores.

EQ-HWB

The EQ-HWB is a standardised measure of aspects of health and wellbeing developed by researchers from the University of Sheffield and the EuroQol Group. The EQ-HWB (currently) has 25 items. The EQ-HWB instrument is currently designated as an Experimental Version.

Table1. EQ-HWB 25 items (items in bold are EQ-HWB-S)

These questions are trying to measure how <u>your</u> life has been <u>over the last 7 days</u> . Please answer all questions. There are no wrong or right answers.	
Difficulty (no, slight, some, a lot and unable)	
1. How difficult was it for you to see? (<i>using, for example, glasses or contact lenses if you usually use them</i>)	
2. How difficult was it for you to hear? (<i>using, for example, hearing aids if you usually use them</i>)	
3. How difficult was it for you to get around inside and outside? (<i>using, for example, walking stick, frame or wheelchair, if you usually use them</i>)	
4. How difficult was it for you to do day-to-day activities? (<i>for example, working, shopping, housework</i>)	
5. How difficult was it for you to wash, toilet, get dressed, eat or care for your appearance?	
Frequency (none of the time, only occasionally, sometimes, often, most or all the time)	
6. I had problems with my sleep	
7. I felt exhausted	
8. I felt lonely	
9. I felt unsupported by people	
10. I had trouble remembering	
11. I had trouble concentrating/thinking clearly	
12. I felt anxious	
13. I felt unsafe (<i>fear of falling, abuse or other physical harm</i>)	
14. I felt frustrated	
15. I felt sad or depressed	
16. I felt I had nothing to look forward to	
17. I felt I had no control over my day-to-day life (<i>had the choice or do things or have things done for you as you liked and when you wanted</i>)	
18. I felt unable to cope with my day-to-day life	
19. I felt accepted by others (<i>felt like you were able to be yourself and that you belonged</i>)	
20. I felt good about myself	
21. I could do the things I wanted to do	
22. I had physical pain	
23. I had physical discomfort (<i>for example, feeling sick, breathless, itching (not including pain)</i>)	
Severity (no, mild, moderate, severe, very severe)	
24. I had physical pain	
25. I had physical discomfort	
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Note. Questions in bold are EQ-HWB-S.	
EQ-HWB-S indicates short version of EQ Health and Wellbeing.	

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Ethical Procedures and Consent Formation:

This study was conducted with the approval of the Ethical Review Committee of Niigata University of Health and Welfare (18922-221101) and conducted by the Declaration of Helsinki. Participant consent was obtained at each hospital by the therapist in charge of the patient, who explained the purpose and methods of the study and asked for written consent.

Statistical Analysis:

After examining the distribution of the data, the percentages of ceiling and floor effects were determined. Furthermore, validity was verified based on the correlation between EQ-5D-5L and EQ-HWB and the correlation between each region of EQ-HWB.

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RESULTS:

A total of 274 patients were enrolled in this study. Of these, 42 had stroke, 61 had orthopedic disease, 54 had cardiac disease, 52 had Parkinson's disease, and 45 had connective tissue diseases. Overall, the ceiling effect was identified for vision, hearing, loneliness, and support. On the other hand, the floor effect was identified in meaningful activities [19%], belonging [28%], stigma [20%], satisfaction [13%], and body pain [13%]. Moderate to strong correlations were found between conceptually overlapping dimensions of the EQ-5D-5L and EQ-HWB (e.g., mobility [r=0.612], self-care [r=0.592]). Conversely, no correlations were found between conceptually distinct dimensions (e.g., vision, sleep, frustration, approval, satisfaction).

Table2. Demographic factors of the study participants

	Mean±SD, N
Age	70±13
Gender (M/F)	105/169
Diagnosis	CVA 42, orthopedic disease 61, cardiac disease 54, Cancer 52, Parkinson's disease 65
FIM	107±13
EQ-Score	0.690±0.220
EQ-VAS	64±20

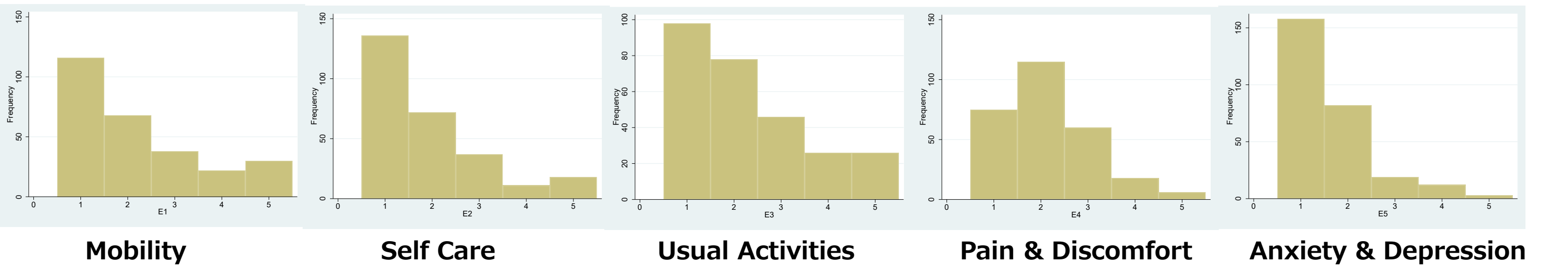


Fig 1. Distribution of EQ-5D-5L Responses

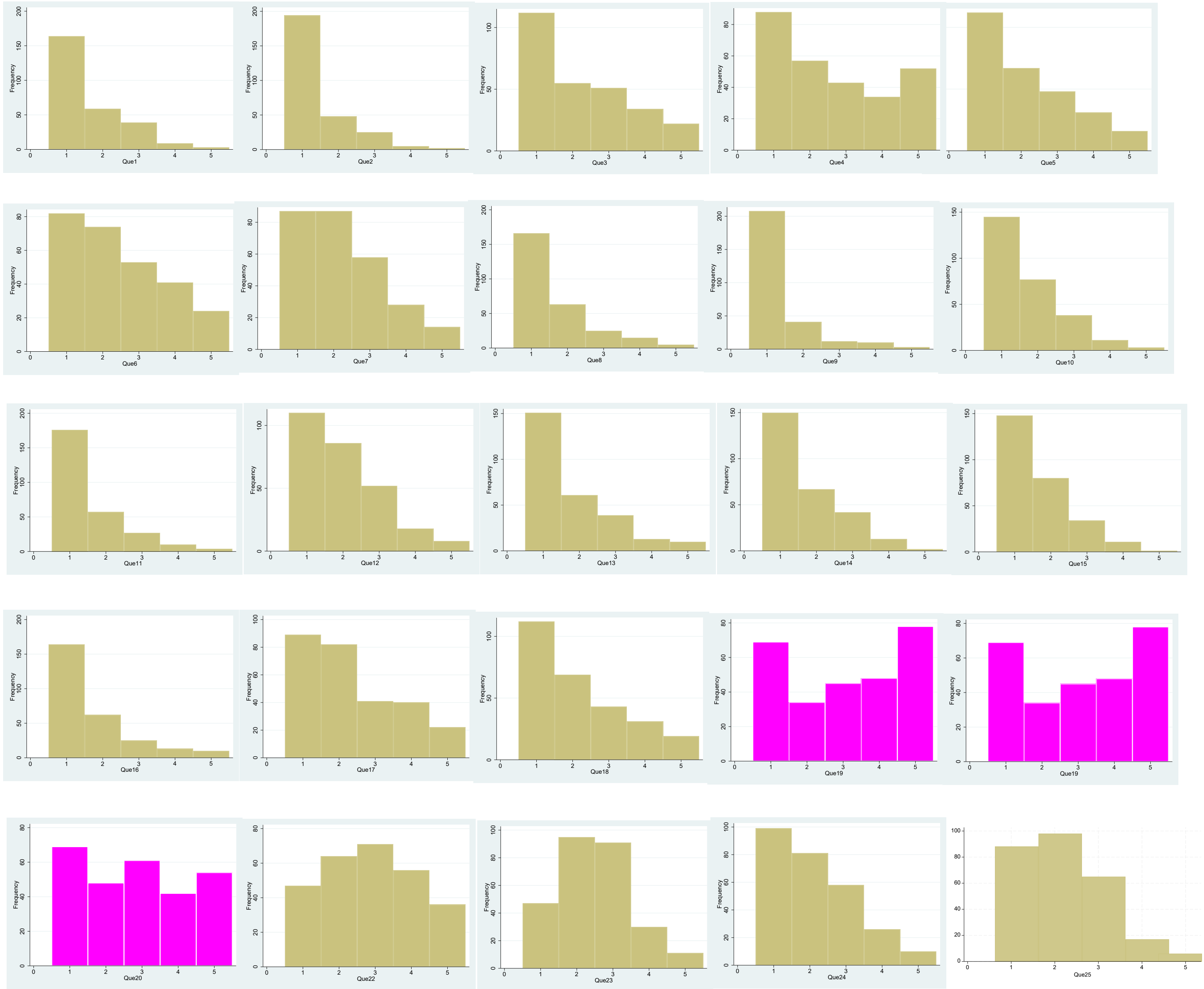


Fig 2. Distribution of EQ-HWB Responses

Table 3. Correlation between EQ-5D-5L and each of the EQ-HWB items

	EQ-HWB	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13
EQ-5D	Mobility	.167	.148	.612	.537	.448	.112	.210	.123	.158	.127	.192	.234	.291
	Self Care	.077	.170	.384	.464	.593	.114	.234	.203	.227	.144	.157	.224	.231
	Usual Activities	.110	.087	.506	.623	.532	.182	.206	.113	.201	.103	.133	.284	.203
	Pain/Discomfort	.226	.095	.245	.230	.236	.185	.354	.200	.238	.118	.168	.296	.262
	Anxiety/Depression	.118	.236	.234	.297	.281	.214	.309	.361	.386	.197	.244	.377	.309
	Score	-.183	-.192	-.561	-.594	-.563	-.199	-.324	-.243	-.302	-.169	-.225	-.367	-.338
	EQ-HWB	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	
EQ-5D	Mobility	.131	.160	.230	.330	.297	-.142	-.144	-.185	-.178	.161	.156	.176	
	Self Care	.132	.199	.242	.327	.310	-.071	-.097	-.194	.145	.135	.137	.051	
	Usual Activities	.176	.209	.268	.412	.439	-.074	-.118	-.225	.160	.189	.159	.149	
	Pain/Discomfort	.245	.216	.239	.274	.211	.057	-.044	-.075	.465	.433	.300	.292	
	Anxiety/Depression	.304	.468	.330	.284	.378	-.068	-.120	-.208	.216	.186	.189	.239	
	Score	-.241	-.319	-.337	-.438	-.434	.084	.147	.233	-.289	-.271	-.236	-.238	

DISCUSSIONS:

Among the EQ-HWB items, Q3, Q4, Q5, Q17 and Q18 showed strong correlations with EQ-5D-5L scores, which were related to mobility, self-care, and usual activities. Other correlations were weak, indicating that the EQ-HWB and EQ-5D-5L measure different concepts.

CONCLUSIONS:

The results of this study showed that the EQ-HWB has high validity even in patients with various diseases, especially in the areas not included in the EQ-5D-5L, i.e., stigma and control items, as previously reported by Monteiro et al. (2022), with discriminant validity. Views expressed by the authors in the publication do not necessarily reflect the views of EuroQol.