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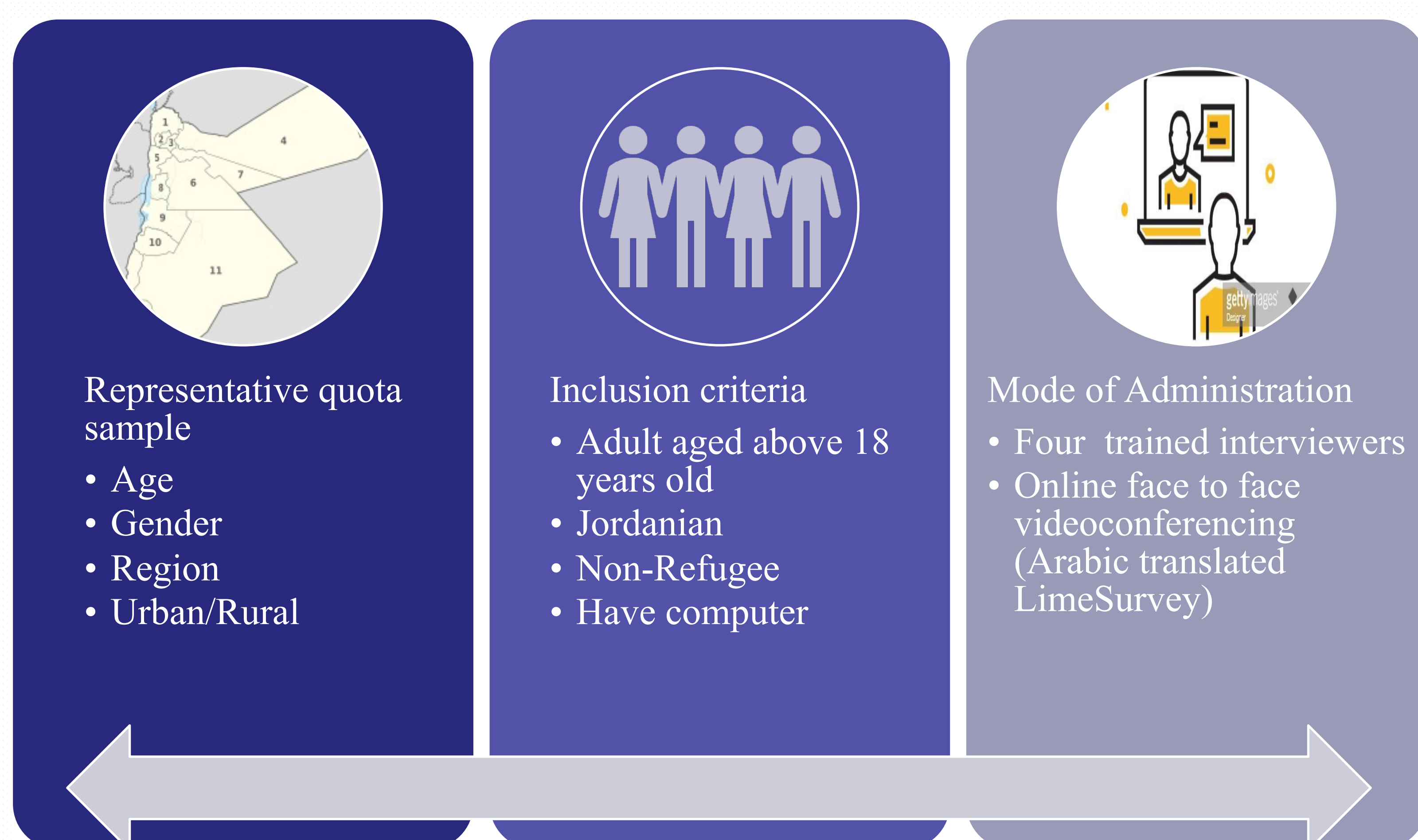
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Background

- Cost-utility analysis is an important tool for health technology assessment and decision-making about health technologies.
- In Jordan, no national value set is available for any preference-accompanied health utility measure.
- This study aimed to develop a value set for EQ-5D-3L based on the preferences of the Jordanian population.

Methods

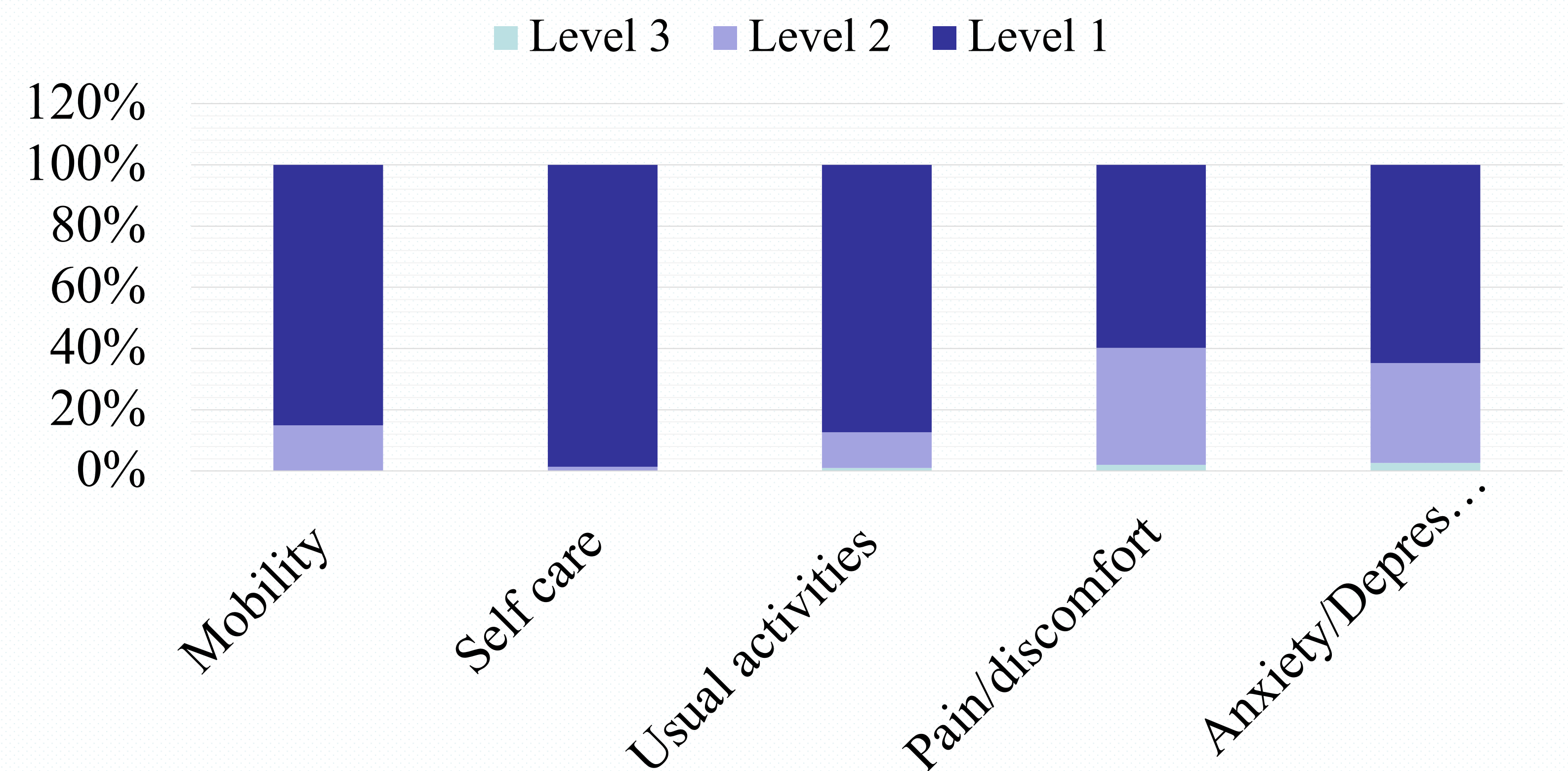
- The study followed the EQ-VT.v2 protocol
- Twenty-eight health states selected (10 health states per block with 33333 in each block)
- Participants were recruited by a global marketing research company
- The data were closely monitored through cyclic quality control procedure
- Participants completed 10 composite time trade-off (cTTO),10 discrete choice experiments (DCE) tasks and feedback module.
- Values for the EQ-5D-3L (DCE and cTTO data) were estimated using linear, logistic and hybrid regression modelling



Results

- A total of 301 participants with complete data were included in the analysis. Only one interview was flagged.
- The mean VAS value was $81.24 \pm (13.9)$. The Lowest mean value was for the pit state (33333) -0.540 and the highest mean value was 0.889.
- 69% were married, 50% had high education, 51% were employed, 51% had a monthly income less than \$US 564.
- 76.74 % were insured ,27.57 % had chronic diseases ,40.20 % were smokers
- 56.81 % do exercise ,40.2% was infected with COVID-19 previously and 92.03% were vaccinated.

Distribution of EQ-5D-3L levels among Respondents



Generalized Least Squares (GLS), Tobit model, linear model corrected for heteroskedasticity, Tobit correct for heteroskedasticity and the hybrid models (hybrid, hybrid Tobit, hybrid corrected heteroskedasticity, and hybrid Tobit corrected for heteroskedasticity) showed both logical consistency and significance with respect to the parameter estimates. The hybrid model corrected for heteroskedasticity was selected to construct the Jordanian EQ-5D-3L value set as it showed the best fit and lowest Mean Absolute Error (MAE). (Table1) Utility decrements due to mobility had the highest weight followed by anxiety and depression. The lowest weight was assigned to usual activities.

Table1. Hybrid model results

EQ-5D Level	HYBRID (Model I) β (SE)	HYBRID TOBIT (Model II) β (SE)	HYBRID HET (Model III) β (SE)	HYBRID TOBIT HET (Model IV) β (SE)
_mo2	0.126 (0.014)	0.127 (0.015)	0.119 (0.011)	0.117 (0.011)
_mo3	0.502 (0.014)	0.534 (0.015)	0.503 (0.014)	0.545 (0.016)
_sc2	0.170 (0.012)	0.176 (0.013)	0.174(0.011)	0.183 (0.012)
_sc3	0.288 (0.013)	0.306 (0.014)	0.289(0.013)	0.313(0.015)
_ua2	0.093 (0.014)	0.098 (0.015)	0.089(0.011)	0.090(0.011)
_ua3	0.133 (0.013)	0.141 (0.015)	0.135(0.013)	0.143(0.014)
_pd2	0.088 (0.013)	0.086(0.014)	0.084(0.011)	0.082(0.011)
_pd3	0.293 (0.013)	0.310 (0.014)	0.294(0.013)	0.316(0.014)
_ad2	0.102(0.014)	0.103 (0.015)	0.101(0.011)	0.101(0.012)
_ad3	0.337 (0.012)	0.357 (0.014)	0.339 (0.013)	0.365 (0.014)
AIC	7594.924	8434.783	7070.216	7565.229
BIC	7674.862	8514.72	7216.768	7710.781
MAE (TTO)	0.388	0.390	0.387	0.392

mo:mobility, sc:self-care, ua: usual activities, pd: pain/discomfort,ad:anxiety/depression

Regression equation for predicting Jordanian EQ-5D-3L valueset

$$U=1-0.119XMO2-0.503XMO3-0.174XSC2-0.289XSC3-0.089XUA2-0.135XUA3-0.084XPD2-0.294XPD3-0.101XAD2-0.339XAD3$$

Conclusion

This study provides values for EQ-5D-3L health states for the Jordanian population. This value set can be used in health technology assessments for health policy planning by the Jordanian health sector's decision makers.

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