

Health Utility Decrement of Injection Treatment-Related Attributes Using Time Trade-Off among Type 2 Diabetes Patients: A Vignette-based Study

Xinran Liu ^{1,2}, Chang Luo ^{1,2}, Shitong Xie, PhD ^{1,2,*}, Jing Wu, PhD ^{1,2,*}

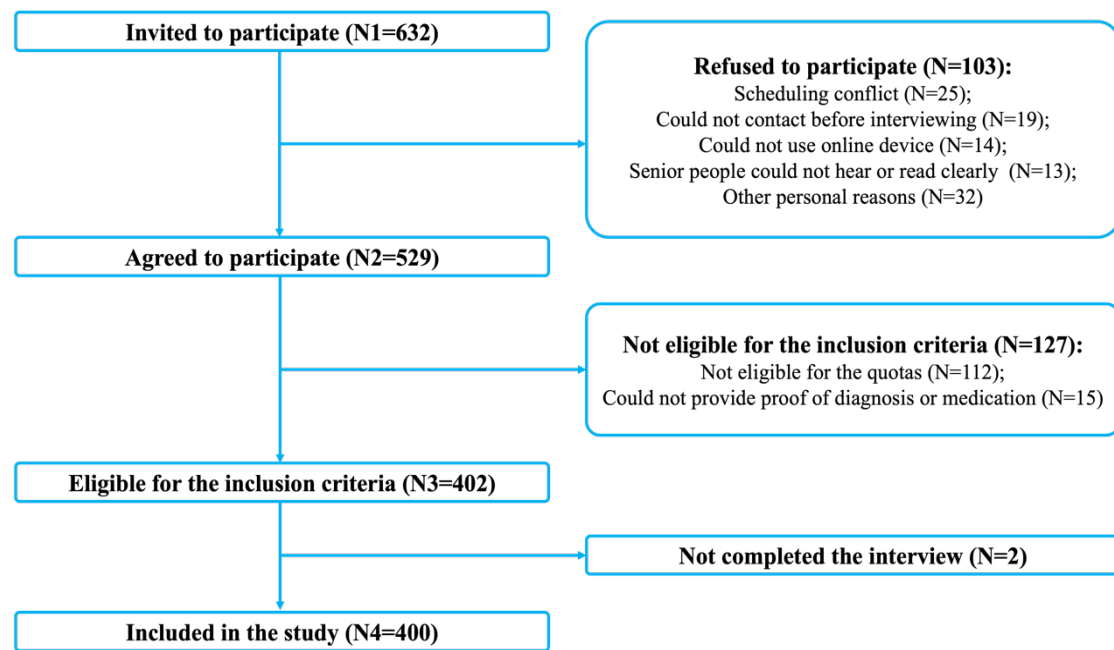
¹ School of Pharmaceutical Science and Technology, Faculty of Medicine, Tianjin University, Tianjin, China

² Center for Social Science Survey and Data, Tianjin University, Tianjin, China

*** Correspondence authors:**

Shitong Xie, PhD, Associate professor, E-mail: xiest@tju.edu.cn

Jing Wu, PhD, Professor, E-mail: jingwu@tju.edu.cn



Appendix Fig.1 Respondents included in the study

Appendix Table 1 STROBE guidelines

Section/topic	Item number	Yes
Title and abstract	1	✓
Introduction		
Background/rationale	2	✓
Objectives	3	✓
Methods		
Study design	4	✓
Setting	5	✓
Participants	6	✓
Variables	7	✓
Data sources/measurement	8	✓
Bias	9	✓
Study size	10	✓
Qualitative variables	11	✓
Statistical methods	12	✓
Results		
Participants	13	✓
Descriptive data	14	✓
Outcome data	15	✓
Main results	16	✓
Other analyses	17	✓
Discussion		
Key results	18	✓
Limitations	19	✓
Interpretation	20	✓
Generalizability	21	✓
Other information		
Funding	22	✓

Appendix Table 2 CREATE guidelines

Item no.	Section/item	Yes
Descriptive system		
1	The attributes of the instrument are described	✓
2	The number of levels in each attribute of the instrument is described	✓
Health states valued		
3	The approach to selecting health states to be valued directly is explained	✓
4	The number of health states valued per respondent is stated	✓
5	Method(s) of assigning the health states to respondents are stated	✓
Sampling		
6	Sample size/power calculations are stated and rationalized	✓
7	Target population is described	✓
8	Sampling method is stated and rationalized	✓
9	Recruitment strategies are described	✓
10	Response rate is reported	✓
Preference data collection		
11	Mode of data collection is stated	✓
12	Preference elicitation technique(s) are described	✓
Study sample		
13	Reasons for excluding any respondents or observations are provided	✓
14	Characteristics of respondents included in the analysis are described	✓
Modeling		
15	The dependent variable for each model is stated	✓
16	Independent variables for each model are explained	✓
17	Model specifications are provided	✓
18	Model estimators are described	✓
19	Goodness-of-fit statistics for each model are reported	✓
Scoring algorithm		
20	Criteria for selecting the preferred model are stated	✓
21	The scoring algorithm is presented	✓

Appendix Table 3 Estimated coefficients (SEs) of the fitted models on TTO data

	M1: OLS model			M2: RE model			M3: FE model		
	Coef.	SE	P value	Coef.	SE	P value	Coef.	SE	P value
Intercept	-0.212	0.009	<0.001	-0.208	0.008	<0.001	-0.208	0.003	<0.001
Hypoglycemia (Ref: Non-severe)									
Severe	-0.008	0.007	0.276	-0.023	0.004	<0.001	-0.024	0.004	<0.001
Injection site reaction (Ref: Without)									
With	-0.016	0.006	0.009	-0.013	0.003	<0.001	-0.013	0.003	<0.001
Dose frequency and flexibility (Ref: Once weekly and not need to be carried for short trips)									
Three times daily and need to be carried for short trips	-0.031	0.007	<0.001	-0.023	0.005	<0.001	-0.023	0.005	<0.001
Twice daily and need to be carried for short trips	-0.018	0.009	0.051	-0.018	0.004	<0.001	-0.018	0.004	<0.001
Once daily and need to be carried for short trips	-0.011	0.010	0.254	-0.011	0.005	0.022	-0.011	0.005	0.023
Breusch Pagan LM test	<0.001 (RE model were preferred)								
Hausman test	0.2153 (RE model were preferred)								
Log likelihood	866.9075						3372.607		
AIC	-1721.815						-6735.213		
BIC	-1686.191						-6705.526		
MAE	0.008086			0.0104328			0.0105801		
MSE	0.0001296			0.0001571			0.0001611		
ICC	0.7982			0.7577			0.7523		

Abbr: OLS, ordinary least square; FE, fixed-effects; RE, random-effects; AIC, akaike information criterion; BIC, bayesian information criterion; MAE, mean absolute error; MSE, mean squared error; ICC, intraclass correlation coefficient.