A Comparison of the ICECAP-O and EQ-5D in a Falls Prevention Clinical Setting: Are they complements or substitutes?

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Abstract

Purpose—Our research explored whether two preference-based outcome measures (EuroQol EQ-5D and ICECAP-O) are complements or substitutes in the context of the Vancouver Falls Prevention Clinic for seniors.

Methods—The EQ-5D and ICECAP-O were administered once at 12 months post first clinic attendance. We report descriptive statistics for all baseline characteristics collected at first clinic visit and primary outcomes of interest. We ascertain feasibility by reporting item completion rates for the EQ-5D and ICECAP-O. Contingency tables for a priori assertions between the ICECAP-O and EQ-5D were used to demonstrate whether unique or similar aspects of benefit were captured. We used exploratory factor analysis, to ascertain the number of unique underlying latent factors associated with the attributes assessed by the EQ-5D and ICECAP-O.

Results—We report data on 215 seniors who attended the Vancouver Falls Prevention Clinic who had a mean age of 79.3 (6.2) years. The item completion rate was 99% for the EQ-5D and 92% for the ICECAP-O. The two contingency tables detailed few discrepancies. The results of the exploratory factor analysis indicate that the two instruments are tapping into distinct factors that are complementary.

Conclusion—Our study suggests that the EQ-5D and ICECAP-O provide complementary information.

Keywords

ICECAP-O; EQ-5D; economic evaluation; older adults; falls

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Introduction

The ICECAP is a relatively new preference-based outcome measure developed to provide a broader assessment of benefits to quality of life or wellbeing in economic evaluations [1; 2]. It is described by its developers as a measure of wellbeing and capability, conceptually linked to Sen's capability approach which defines wellbeing in terms of 'an individual's ability to 'do' and 'be' the things that are important in life' [1–4]. Because the ICECAP assesses a very broad range of outcomes, it may be particularly useful in economic evaluations of health or social care interventions among older adults [1; 5]. There are two instruments in the ICECAP family, one designed specifically for older patients (ICECAP-O) and the other for use in a general adult population (ICECAP-A) [6]. The focus for this paper is the ICECAP-O.

The ICECAP-O measure covers attributes of capability found to be important determinants of quality of life among older adults in the UK [1; 2] – its descriptive system results from an extensive qualitative investigation [2]. The measure comprises five attributes:

- Attachment (love and friendship)

- Security (thinking about the future without concern)

- Role (doing things that make you feel valued)

- Enjoyment (enjoyment and pleasure)

- Control (independence).

The value system for the 1024 states defined by the instrument was derived from a survey of older people in England, using a best-worst scaling valuation method [1]. The value system provides a single summary score, anchored at zero ('no capability') and 1.0 ('full capability'), for each state described in terms of the five attributes. The ICECAP-O can also be converted to a utility scale to provide further comparability with other generic preference based instruments [5].

The most widely used utility-based measure of health-related quality of life (HRQL) is the EuroQol EQ-5D [7–9]. The EQ-5D can describe 243 unique health states [9] and assesses an individual's HRQL according to the following attributes: mobility, self-care, usual activities, pain, anxiety and depression. The most commonly applied value set for the EQ-5D is that derived from interviews with a large UK population sample using the time trade-off technique [9]. Thus, the EQ-5D yields a single summary score on a common scale to facilitate comparison across different health conditions and patient populations [8]. The single summary score, defined as a health state utility value, is anchored at zero (equivalent to death) and 1.0 ('full health'). Values of less than zero define health states worse than death.

The developers of the ICECAP-O suggest it may be more useful than other measures focussed solely on health, such as EQ-5D, because it has the potential to capture a broader spectrum of benefit or loss, not specifically related to health alone. Examples of such factors that influence quality of life include surroundings, usual activities of daily living,

relationships, health and wealth [10]. Specifically, Grewal and colleagues have demonstrated that individual's quality of life was limited by individual's loss of ability to pursue attributes such as attachment, role, enjoyment, security and control. Thus, it is possible that hierarchical relationship may exist between the EQ-5D and the ICECAP-O [10; 11]. The focus of the EQ-5D is on health-related quality of life rather than global quality of life. The ICECAP-O is, therefore, positioned as a potential substitute. Hence, a subsequent direction for researchers now is to explore using the ICECAP-O to provide the utility values required to perform economic evaluation. However, this presupposes that the information provided by ICECAP-O is not complementary to EQ-5D – the assumption that ICECAP-O captures the domains measured in the EQ-5D in addition to broader quality of life attributes. As a substitute, ICECAP-O would be a replacement for a health measure (e.g., EQ-5D) because it captures the measured health benefits thus rendering the health measure (eg., EQ-5D) redundant. Specifically, if the ICECAP-O is deemed a substitute, this would indicate the ICECAP-O captures at least as much information (i.e., the same information as the alternative) on health status as a generic health measure (eg., EQ-5D). As a complement, the health measure would be used alongside ICECAP-O because different components of benefit are being captured by the wellbeing and health measures.

Evidence used to inform the decision of whether to use a health or wellbeing measure or both should be based on both normative and empirical evidence. Our research explores the empirical side of this equation. Specifically, we ascertained the extent that information provided by these two preference-based measures (i.e., ICECAP-O and EQ-5D) is complementary when used in the Vancouver Falls Prevention Clinic setting. To test our primary research question of whether the ICECAP-O and EQ-5D are complements or substitutes, we examined the dimensionality of the attributes measured by these two preference based measures using exploratory factor analyses.

Methods

Study design

We conducted a cross-sectional analysis of participants visiting the Vancouver Falls Prevention Clinic from January 2009 through May 2011. The data presented in this paper include baseline characteristics collected at participants' first clinic assessment. Our primary outcome variables of interest, the ICECAP-O and EQ-5D, were collected once at 12 months post first clinic assessment.

Participants

The sample consisted of women and men referred by their general practitioner or emergency department physician to the Vancouver Falls Prevention Clinic. From January 2009 through January 2011, all patients presenting to the Vancouver Falls Prevention Clinic were invited to participate. Community dwelling women and men who lived in the lower mainland region of British Columbia were eligible for study entry if they:

- were adults 70 years of age referred by a medical professional to the Falls Prevention Clinic as a result of seeking medical attention for a non-syncopal fall in the previous 12 months;

- understood, spoke, and read English proficiently;

- had a Mini Mental State Examination (MMSE) [12] score   24/30;

- had a Physiological Profile Assessment (PPA) [13] score of at least 1.0 SD above age-normative value or Timed Up and Go Test (TUG) [14] performance of greater than 15 seconds or one additional non-syncopal fall in the previous 12 months;

- were expected to live greater than 12 months (based on the geriatricians' expert opinion);

- were able to walk 3 metres with or without an assistive device; and

- were able to provide written informed consent.

We excluded those with a neurodegenerative disease (e.g., Parkinson's disease) or dementia, patients who recently had a stroke, those with clinically significant peripheral neuropathy or severe musculoskeletal or joint disease, and anyone with a history indicative of carotid sinus sensitivity (i.e., syncopal falls). We highlight that exclusions for this study were based on clinical grounds. The Falls Prevention Clinic is targeting to treat older adults at risk of functional decline specifically. Thus individual's with neurodegenerative disease or dementia are referred to alternate clinics.

Ethical approval was obtained from the Vancouver Coastal Health Research Institute and the University of British Columbia's Clinical Research Ethics Board (H09-02370). All participants provided written informed consent.

Outcome Measures

For this cross-sectional analysis, our primary outcome variables of interest were the EQ-5D and ICECAP-O. Patients completed the EQ-5D and the ICECAP-O using paper versions that were given to them upon presentation to the Falls Prevention Clinic. No cards were used to aid interpretation.

EQ-5D

We assessed HRQL using the EQ-5D. The EQ-5D is a short five item multiple choice questionnaire that measures an individual's HRQL and health status according to the following five domains: mobility, self-care, usual activities, pain and anxiety/depression [9]. Each domain has three possible options that either indicates no problems, some problems or severe problems. The EQ-5D health state utility values (HSUVs) at each time point are bounded from –0.54 to 1.00 where a score of less than zero is indicative of a health state worse than death. The HSUVs represent values that individuals within society assign -- values for specific health states such as having rheumatoid arthritis relative to perfect health -- these are UK societal values for given health states.

ICECAP-O

We assessed quality of life and wellbeing using the ICECAP-O [1; 2; 15]. The ICECAP-O is a short five item multiple choice questionnaire that measures an individual's overall quality

of life and wellbeing according to the following five attributes: attachment (love and friendship), security (thinking about the future without concern), role (doing things that make you feel valued), enjoyment (enjoyment and pleasure) and control (independence). Each domain has four possible options. The ICECAP-O can be used to calculate a global score on a zero to one scale where zero represents no capability and one represents full capability.

Measures at Baseline

As part of the visit to the Falls Prevention Clinic, a comprehensive set of additional measurements were collected at baseline that included global cognitive function (MMSE [12]), MocA [16], PPA [13]), and mood (15-item Geriatric Depression Scale (GDS) [17; 18]).

Briefly, global cognitive function was assessed using both the MMSE [12] and MoCA [16]. The MoCA is a brief 30-point screening tool for mild cognitive impairment [16]. Specifically, it is more sensitive than the MMSE in detecting mild cognitive impairment [16].

The PPA is a valid and reliable tool for falls risk assessment. Based on the performance of five physiological domains (postural sway, hand reaction time, quadriceps strength, proprioception, and edge contrast sensitivity), the PPA computes a falls risk score for each individual [13]. A PPA z-score of 0–1 indicates mild risk, 1–2 indicates moderate risk, 2–3 indicates high risk, and 3 and above indicates marked risk [19].

We used the 15-item Geriatric Depression Scale (GDS) [17; 18] to screen for depression where a score of 5 and greater indicates depression [18].

Statistical Analysis

Given the focus for this paper on the comparison of ICECAP-O and EQ-5D, for the base case analysis, we include ICECAP-O and EQ-5D scores from the 12 month time point only as a cross-sectional analysis. Descriptive statistics were then calculated for all variables.

To assess differential feasibility, our analyses focused on descriptively reporting the levels of missing and incomplete data observed for the EQ-5D and ICECAP-O.

In order to consider the complement–substitute question, our primary analysis to determine complementarity of the instruments was ascertained through exploratory factor analysis – examining whether different dimensions of benefit are being captured by the two instruments. Our secondary analyses included examining levels of association and agreement.

Exploratory factor analysis—Exploratory factor analysis (EFA) was used to examine the dimensionality of the items (in this case the individual domains of EQ-5D and ICECAP-O) and determine if the five domains from each measure were associated with the same common factor or separate unique factors [20].

To accommodate the ordinal nature of the data and potential for correlated factors, a robust EFA (mean and variance adjusted weighted least squares estimation) with a Geomin rotation was used to produce solutions composed of one, two, and three factors using the software Mplus version 6.11 [21]. To evaluate the appropriateness of these one, two, and three factor solutions we examined the interpretability of the factor solutions, scree plot, number of eigen values greater than 1.0 and the root mean square error of approximation (RMSEA) values.

Association analyses—To test whether the ICECAP-O and EQ-5D are associated, scatter plots of the utility scores from the two instruments were derived and Spearman's rank correlation coefficients, again using the utility scores, were calculated.

Agreement analyses—The level of agreement was assessed using Bland-Altman plots of the utility scores of EQ-5D and ICECAP-O. The anchors for the two utility scales are different ('full health' and 'death' for EQ-5D, and 'full capability' and 'no capability' for ICECAP-O) and so caution needs to be exercised when interpreting the Bland-Altman plots. Given the scale differences, the plots cannot give a definitive indication of agreement but can provide evidence of trends.

Components of benefit captured by the instruments—This was assessed in part using contingency tables. Paired Wilcoxon sign-rank tests were conducted to determine if statistically significant differences existed between attributes/domains of the ICECAP-O and EQ-5D, hypothesized *apriori*. Our two a priori assertions were: 1) usual activities from the EQ-5D would demonstrate agreement with role from the ICECAP-O and 2) self-care from the EQ-5D would demonstrate agreement with control from the ICECAP-O. Role identifies an individual's perception of their capability to do things that make them feel valued, thus we expected agreement with an individual's ability to do usual activities. Control identifies an individual's perception of their capability to be independent, thus we expected agreement with an individual's ability for their self-care.

Results

Participants

The mean (SD) age of the cohort was 79.3 (6.2) years (n=215). Descriptive statistics for all baseline clinical variables and primary outcomes are reported in Table 1. Most individuals were at moderate risk for falling as indicated by a PPA score of 1.7 (±1.2). Few participants in this cohort were clinically depressed given a mean GDS of 3.2 (±2.9). The mean MMSE was 26.9 (±3.4) indicating individuals were cognitively intact while the mean MoCA was 21.5 (±6.1) indicating the majority of individual's were classified as having mild cognitive impairment. The mean EQ-5D global score was lower than the mean ICECAP-O score. The baseline distribution for the EQ-5D and the ICECAP-O are shown in Figures 1 & 2.

Feasibility

The item completion rate from participants who agreed to followup at 12-months for the EQ-5D was 99.1%, 92.1% for the ICECAP-O and 97.7% for the EQ-VAS (Table 2).

Association

Figure 3 shows a scatterplot of the EQ-5D and the ICECAP-O. There is a tight cluster of patients near 1.0 and few data points at the lower end of each of these scales indicating few participants were scoring the poorest health states or capabilities. The Spearman correlation to determine if the ICECAP-O and EQ-5D were independent was 0.47 (p<0.05).

Agreement

Figure 4 details a Bland Altman plot assessing agreement between the EQ-5D and the ICECAP-O. The convergence of the Bland Altman plot on the right side and the diamond shape is typical of utility estimates as they are bounded to 1. However, we do not observe this same trend on the left as there are too few observations with low utilities. Further, around the 'average' utilities, there is a cloud of points on top of the graph which is not mirrored on the bottom indicating sizeable differences between the two methods for midpoint utilities. This indicates that the EQ-5D values in this average range are consistently lower than the ICECAP-O values.

Assessment of whether the same underlying aspects of benefit are captured

A priori, we hypothesized that the ICECAP-O 'role' attribute and the EQ-5D 'usual activities' dimension (Table 3), and the ICECAP-O 'control' and EQ-5D 'self care' attributes (Table 4), would be most highly associated. The 4x3 contingency table (Table 3) details a few discrepancies. For example, one individual reports 'no problems' performing usual activities and also reports being "unable to do any of the things that make me feel valued". Further, three individuals report being 'unable' to perform usual activities and yet also report being "able to do all of the things that make me feel valued". The Wilcoxon test for Role (ICECAP-O) and Usual Activities (EQ-5D) indicated significant differences between the responses on these two attributes (p<0.05). Table 4 also shows some important discrepancies. At the extreme, one individual reports having no problems with self-care and also report being "unable to be at all independent". The Wilcoxon test for Control (ICECAP-O) and Self Care (EQ-5D) resulted in again rejecting the null hypothesis (p<0.05) indicative of differences in responses across the two dimensions.

Exploratory factor analysis

The results of the exploratory factor analyses for the 2-factor solution is reported in Table 5. Both the scree plot and number of eigen values greater than 1.0 supported the two factor solution (e.g., eigen value was 5.1). The Root Mean Square Error of Approximation (RMSEA) indicated a poor fit (i.e., RMSEA >.06) for the one factor model and good fit for the two factor solution (i.e., RMSEA = 0.05) [22]. Although the RMSEA for the three factor model was lower than RMSEA for the two factor model, the 90% confidence intervals did overlap. The interpretability of the two-factor model was deemed to be superior to that of the three factor model because the two factor model had fewer items with meaningful loadings on more than one factor. Based on the aforementioned findings, the two factor model was selected as the optimal solution. Overall, most of the attributes of the EQ-5D loaded primarily on factor one (mobility, self-care, usual activities and pain) while most of the

attributes of the ICECAP-O (attachment, security, role and enjoyment) loaded primarily on factor two.

Discussion

Principal findings

Our data suggest that the EQ-5D and ICECAP-O provide largely unique and complementary information and so are not substitutes. Although the correlation between the EQ-5D and ICECAP-O was moderate, there were several distinct differences between them. The two factor solution for the exploratory factor analyses indicated that the pool of attributes assessed by these two instruments represents two separate but correlated factors, supporting the conclusion that these instruments provide complementary information. Three of the five domains of the EQ-5D (mobility, self-care and usual activities all strongly load on Factor one. Four of the five attributes of the ICECAP-O (attachment, security, role and enjoyment) and one domain (anxiety/depression) of the EQ-5D strongly load on factor two. The loading of pain (EQ-5D) and control (ICECAP-O) is more evenly split between the two factors. Thus, The EQ-5D attributes *(i.e., mobility, self-care, usual activities and pain)* appear to represent a single factor that could be characterized as 'physical functioning'. The ICECAP-O attributes *(i.e., attachment, security, role and enjoyment)* represent a separate but correlated factor that could be interpreted as an overall reflection of participants' perceived capacity for quality of life and well-being – 'psychosocial wellbeing' [10]. In summary, using the ICECAP alone would largely capture Factor two with the exception of the control item that loads moderately on Factor one. Using the EQ-5D captures Factor one and Factor two; however factor two is only captures through one strongly loaded item (i.e., anxiety/depression). Although the two factors were correlated, they only had 22% of their variance in common which suggests that the factors are assessing complementary aspects of health.

Strengths and weaknesses of this study

A key strength of this study is that it is the first to compare this issue of complementarity and substitution of the ICECAP-O with one of the most widely used HRQL instruments – the EQ-5D, for use in economic evaluation. Given that the ICECAP-O is a relatively new instrument, this study provides a benchmark from which future studies can compare the level of agreement of these two instruments.

However, we note the following limitations to this study. In ascertaining the feasibility of the ICECAP-O in comparison with the EQ-5D, we highlight that the EQ-5D was administered first for all participants. Thus, the increase in missing data observed for the ICECAP-O may be the result of participant burden toward the end of the assessment. However, we did not observe similar missingness with assessments that followed the ICECAP-O indicating that there may an issue of feasibility worth investing in the ICECAP-O. We also note that more research rather than looking solely at missingness would need to be done to adequately ascertain feasibility. This was a cross-sectional study and thus we were unable to ascertain any effect of time in our comparison of the ICECAP-O and EQ-5D. The ICECAP-O instrument was developed in the UK and so its language and broader cultural acceptability in Canada, and in other countries, has not been established. Responses in this study were in a

controlled environment (i.e., missing items were due to refusal); therefore, feasibility differences between these two instruments may be under-represented in this sample. Lastly, the scoring algorithms used for the EQ-5D [9] and the ICECAP-O [1] were valued from a UK population for the Canadian sample used in this study. However, there are currently no published Canadian valuations for the EQ-5D and the ICECAP-O, thus we chose to use UK valuations for both instruments to provide a basis for comparison.

Comparison with other research

To our knowledge, no previous research has compared the ICECAP-O with other preference based measures that assess HRQL. One study has assessed the validity of the ICECAP-O among psycho-geriatric elderly in a nursing home setting [23]. Specifically, this study compared the capability scores of restrained and unrestrained clients using nursing staff and family were used as proxies for assessing clients' capabilities. The authors concluded that the ICECAP-O demonstrated convergent validity with measures of health related quality of life in this population and that nursing staff rather than family should be used as proxies. One descriptive study has reported UK population norms in older adults for the ICECAP-O and EQ-5D [2]. This study demonstrated strong evidence of association of general health as assessed by the EQ-5D with all capability attributes of the ICECAP-O except attachment. These findings are consistent with the statistically significant association we found between the EQ-5D and the ICECAP-O. Another descriptive study assessed the construct validity of the ICECAP-O global scores and investigated associations with various factors using multiple regression models to determine factors associated with good and poor quality of life among British adults [24]. To date, research has focused on the development and validation of the ICECAP-O [1; 2] and the development of a valuation system to generate QALYs from the ICECAP-O [5]. Thus, the comparability of the ICECAP-O with other health measures is not well established. Establishing the role of the ICECAP-O, by first answering the question of complement or substitute, is an essential starting platform to determining the subsequent role of the ICECAP-O in economic evaluation.

Implications for policy and practice

Given that a primary goal of the health care system is to maximize health benefit given finite resources, health policy and practice decisions cannot be avoided. To guide health policy decisions, economic evaluations are increasingly prevalent [25; 26]. A widely accepted strength of cost-utility analyses is that they provide a common metric (i.e. the QALY) with which to compare existing and new health care interventions. For QALYs to permit comparison across conditions and populations, it is necessary that the differences in methodology and valuations used to estimate QALYs are insignificant [27; 28]. In practice, researchers conducting cost-utility analyses should be cautious in the claims they make because we cannot assume that QALYs calculated using the ICECAP-O are comparable with those derived from data on EQ-5D. Hence, prior to estimating QALYs with the ICECAP-O, an essential starting place is to first determine whether the EQ-5D and the ICECAP-O are measuring unique or similar information.

Unanswered questions and future research

The goal of the ICECAP-O is to capture a broader range of benefit, not isolated to health alone. As such, future research should also explore comparison of the ICECAP-O with other preference based measures of HRQL such as the Short Form −6D [29] or the Health Utilities Index Mark 3 [30] to further address the issue of complementarity versus substitution. In considering the question of complements or substitutes, future work will need to ascertain whether the two instruments should be used in tandem. If not, how do we determine the appropriate choice of instrument. This may differ within clinical population depending on the construct validity of each instrument in a given population [8; 31; 32]. Further research is required to confirm our findings in other clinical settings and populations.

If a preference based health measure is used alongside the ICECAP-O, the question remains: how do we obtain a single utility score? One option is through the development of a new instrument that captures health and broader aspects of quality of life. Such options will need to be evaluated moving forward given that the choice of instrument may have a direct impact on health policy decision making.

Conclusion

In the clinical context of falls prevention for seniors, our data suggest that EQ-5D and ICECAP-O appear to provide complementary information and so cannot be viewed as substitutes.

Acknowledgments

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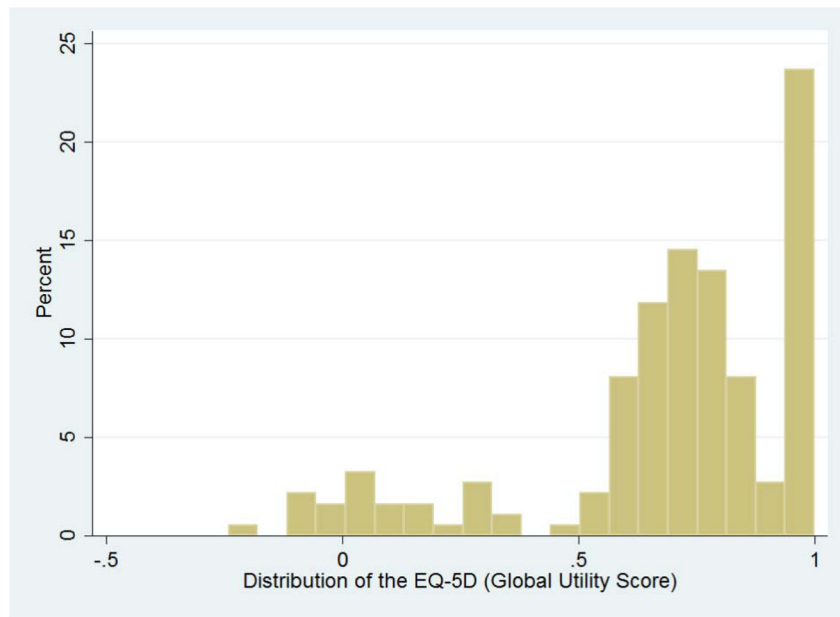
Fig. 1.
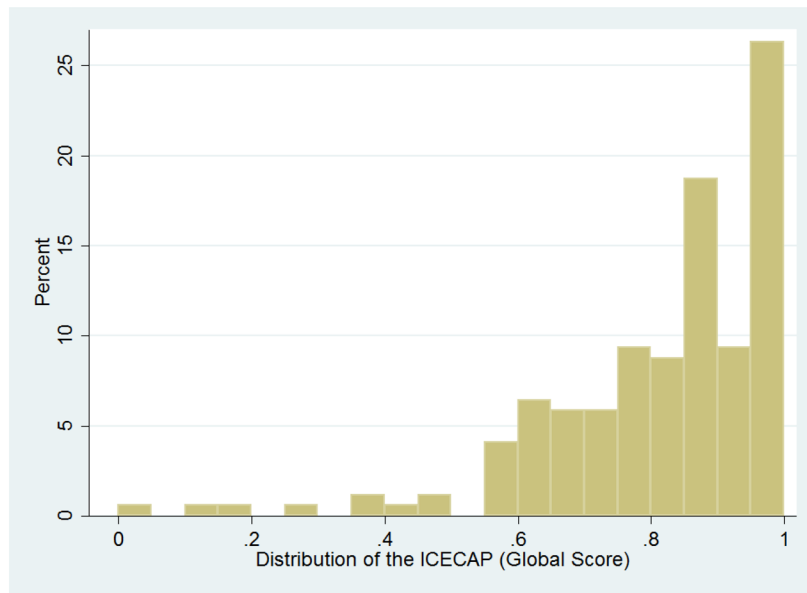Histogram of the EuroQol-5D Global Utility Score

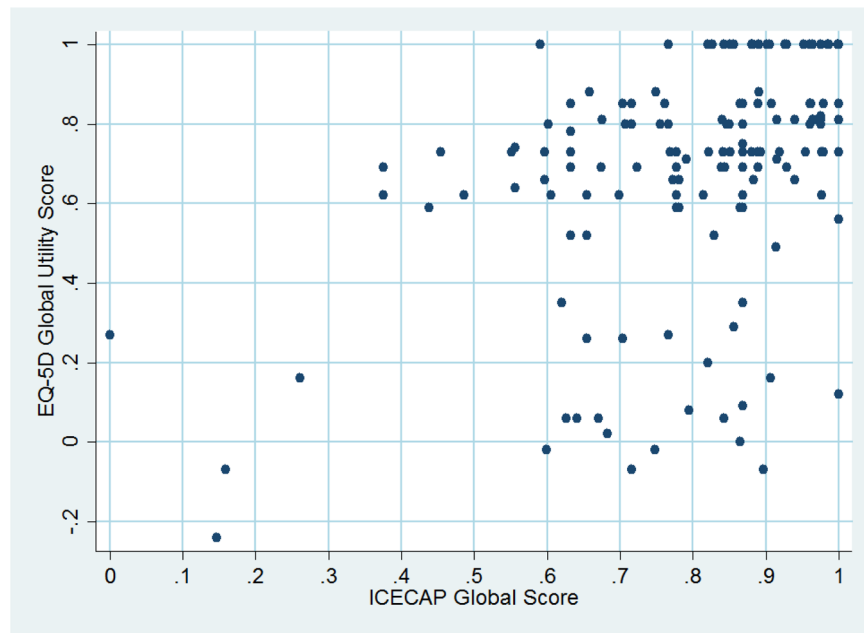**Fig. 2.**
Histogram of the ICECAP-O Global Score

Fig. 3.
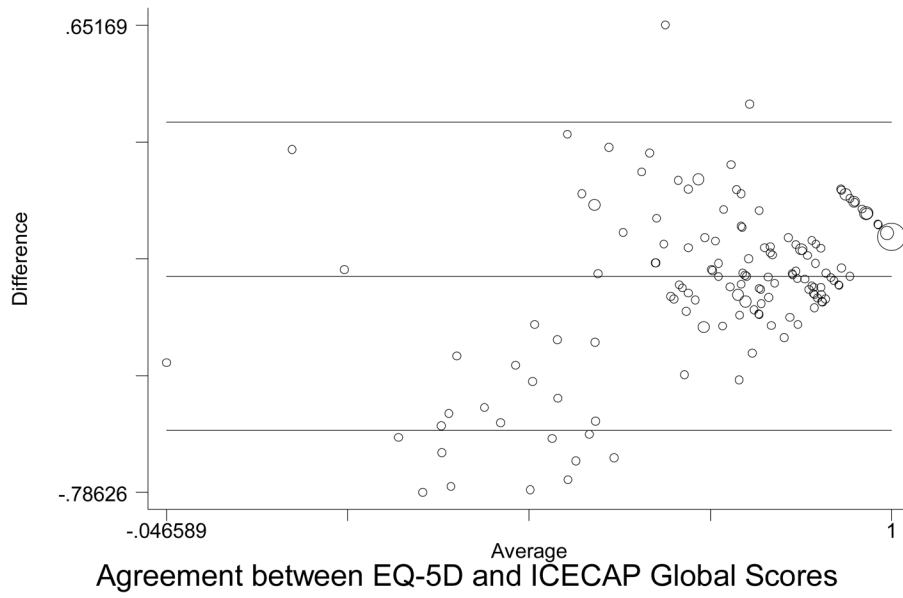Scatter plot of the EQ-5D Global Utility Score and the ICECAP-O Global Score

Fig. 4.
Bland Altman plot assessing agreement between the EQ-5D and ICECAP-O Global Scores

Table 1

Characteristics of the Falls Prevention Clinic cohort (N=215)

Variable	Mean (SD) or Median (IQR)
Age (years)	79.3 (6.2)
Height (cm)	160.1 (10.0)
Weight (kg)	69.7 (18,5)
Physiological Profile Assessment	1.7 (1.2)
Average reaction time (msec)	275.7 (85.7)
Average proprioception	4.2 (25.6)
Mean quad strength	20.8 (8.8)
Geriatric Depression Scale (max 10)	3.2 (2.9)
Activities of Daily Living (max 10)	7.0 (1.6)
Mini Mental State Examination (max 30 points)	26.9 (3.4)
Montreal Cognitive Assessment (max 30 points)	21.5 (6.1)
EQ-5D Global Score (0–1 scale)	0.701 (0.291)
ICECAP-O Global Score (0–1 scale)	0.815 (0.177)
Visual Analogue Scale (max 100)	72.3 (17.6)
EQ-5D Global Score if ICECAP-O = 1.0	0.854 (0.222), 1 (0.27)
ICECAP-O Global Score if EQ-5D = 1.0	0.932 (0.084), 0.962 (0.113)

Table 2

Item completion rates (N=215)

Item	Number (%) Missing
EQ-5D	
EQ-5D Global Score	2 (0.9)
Mobility	0 (0.0)
Self Care	0 (0.0)
Usual Activities	1 (0.5)
Pain	0 (0.0)
Anxiety/Depression	1 (0.5)
Visual Analogue Scale	5 (2.3)
ICECAP-O	
ICECAP-O Global Score	17 (7.9)
Attachment	20 (9.3)
Security	19 (8.8)
Role	18 (8.4)
Enjoyment	17 (7.9)
Control	17 (7.9)

Table 3

EQ-5D 'Usual activities' by ICECAP-O'Role'

ICECAP-O Role	EQ-5D Usual activities			
	I have no problems with performing my usual activities	I have some problems with performing my usual activities	I am unable to perform my usual activities	Total
I am able to do all of the things that make me feel valued	40	6	3	49
I am able to do many of the things that make me feel valued	40	26	5	71
I am able to do a few of the things that make me feel valued	21	23	1	45
I am unable to do any of the things that make me feel valued	0	3	3	6
Total	101	58	12	171

Table 4

EQ-5D 'Self care' by ICECAP-O Control

	EQ-5D Self care			
ICECAP-O Control	**I have no problems with self-care**	**I have some problems washing or dressing myself**	**I am unable to wash or dress myself**	**Total**
I am able to be completely independent	63	3	0	66
I am able to be independent in many things	56	15	0	71
I am able to be independent in a few things	17	13	2	32
I am unable to be at all independent	1	2	1	4
Total	137	33	3	173

Table 5

Exploratory factor analysis comparing the EQ-5D and ICECAP-O (n=173)

| | Rotated Item Loadings | |
| | 2-Factor Model | |
	F1	F2
EQ-5D		
Mobility	**0.64**	0.30
Self-care	**0.75**	0.02
Usual activities	**0.90**	−0.05
Pain	**0.33**	0.25
Anxiety/Depression	−0.03	**0.63**
ICECAP-O		
Attachment	−0.21	**0.91**
Security	0.02	**0.73**
Role	0.30	**0.67**
Enjoyment	0.23	**0.73**
Control	**0.44**	**0.39**
Factor Correlation(s)	0.47	
RMSEA (90% C.I.)	0.05 (0.00 0.09)	

Note: Loadings greater than 0.316 (i.e., 10% variance explained) are bolded.