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An Investigation of the Feasibility and Cultural Appropriateness of Stated Preference Methods to Generate Health State Values in the United Arab Emirates

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ABSTRACT

Background: No five-level EuroQol five-dimensional questionnaire (EQ-5D-5L) value sets are currently available in the Middle East to inform decision making in the region's health care systems. **Objectives:** To test the feasibility of eliciting EQ-5D-5L values from a general public sample in the United Arab Emirates (UAE) using the EuroQol Group's standardized valuation protocol. **Methods:** Values were elicited in face-to-face computer-assisted personal interviews. Adult Emiratis were recruited in public places. Respondents completed 10 time trade-off tasks and 7 discrete choice experiment tasks, followed by debriefing questions about their experience of completing the valuation tasks. Descriptive analyses were used to assess the face validity of the data. **Results:** Two hundred respondents were interviewed in December 2013. The face validity of the data appears to be reasonably high. Mean time trade-off values ranged from 0.81 for the mildest health state (21111) to 0.19 for the worst health state in the EQ-5D-5L descriptive system (55555). Health states were rarely valued as being worse than dead (6.2% of all observations; 10% of all valuations of 55555). In a rationality check discrete choice experiment task whereby a health state (55554) was compared with another that logically dominated it (55211), 99.5% of the respondents chose the dominant option. Most of the respondents stated that their religious beliefs influenced their responses to the valuation tasks. **Conclusions:** Our results suggest that it is feasible to generate meaningful health-state values in the UAE, though some adaptation of the methods may be required to improve their acceptability in the UAE (and other countries with predominantly Arab and/or Muslim populations).

Keywords: EQ-5D-5L, quality of life, religion, stated preference, TTO, United Arab Emirates, utilities.

Introduction

When making recommendations about the pricing and reimbursement of health technologies, many health technology assessment (HTA) agencies now routinely request evidence on the health-related quality of life (HRQOL) of patients. This type of information is increasingly being requested by payers in the United Arab Emirates (UAE) [1], and the field of HRQOL measurement is growing slowly in the Arab world [2] Fig. 1.

To make comparisons across different disease areas and to avoid having to rely on clinical end points alone, HRQOL can be described and assessed using generic preference-based measures, such as the health utilities index [3], the six-dimensional health state short form (derived from the 36-item short-form health survey) [4], or the EuroQol five-dimensional questionnaire (EQ-5D) [5]. Many such measures were initially developed for English-speaking populations but have since been translated for use in countries where other languages are predominant. More than 100 EQ-5D language versions currently exist, all of which were produced using a standardized translation protocol [6].

The use of the EQ-5D, a short questionnaire developed by the EuroQol Group, is recommended by a number of HTA agencies, including United Kingdom's National Institute for Health and Care Excellence [7]. It describes health in terms of five dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. There are two versions of the instrument: the three-level EQ-5D (EQ-5D-3L) and the five-level EQ-5D (EQ-5D-5L). The EQ-5D-3L has three levels of severity for each dimension, defining 243 unique health states. The newer EQ-5D-5L has five levels, defining 3125 health states [8]. To be used in estimating quality-adjusted life-years, the EQ-5D must be accompanied by "value sets," which summarize how good or bad each health state is on a scale anchored at 1 (full health) and 0 (dead). The EuroQol Group's protocol for valuing EQ-5D-5L elicits these values using two stated preference methods: time trade-off (TTO) and discrete choice experiment (DCE) [9]. In accordance with the

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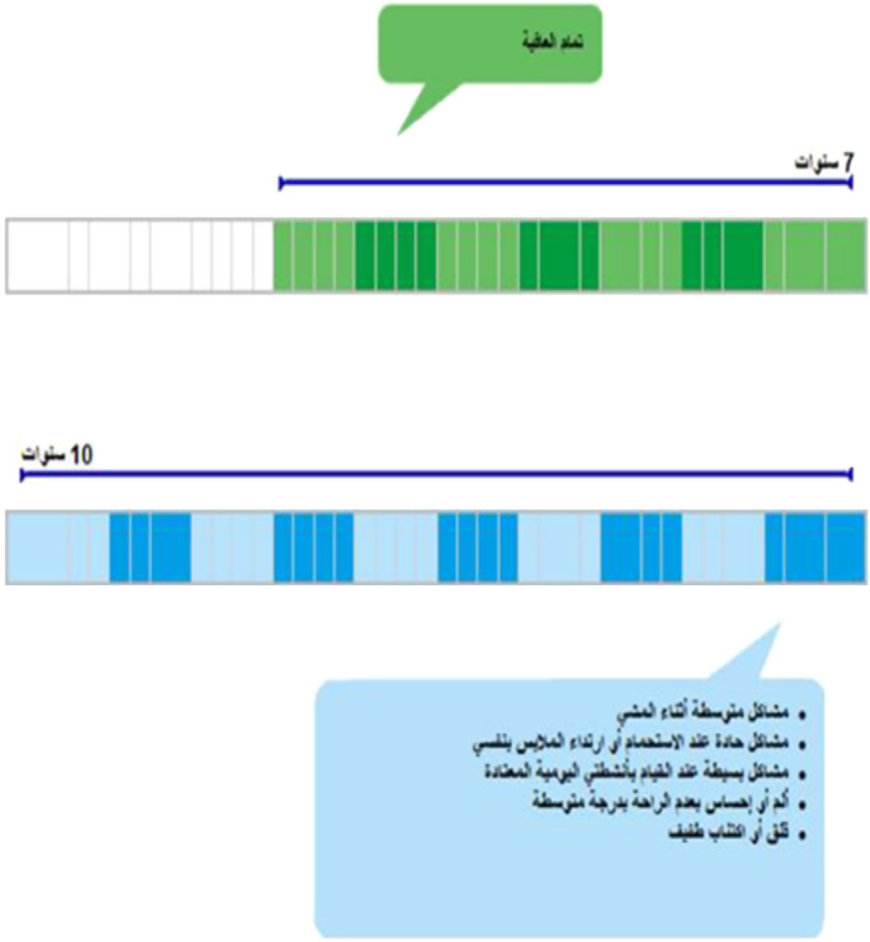

Fig. 1 – Screenshot from Arabic version of the EQ-VT. EuroQol Group Valuation Technology.

recommendations of Gold et al. [10], the values should reflect the general population preferences regarding the relative importance of the five health dimensions.

Views about health differ across countries [11], necessitating country-specific value sets in order for HTA decisions in a given jurisdiction to reflect the preferences of the local population(s) affected by those decisions. The EQ-5D-3L value sets are available in a growing number of countries [12]. The EQ-5D-5L value sets are currently being developed in countries such as England, Canada, and China. No local value sets, however, are available in the UAE or elsewhere in the Middle East to inform decision making in the region's health care systems.

Both the TTO and DCE methods involve asking survey respondents to evaluate health states by making trade-offs. In TTO tasks, respondents make trade-offs between having a better level of HRQOL and having a longer life. In DCE tasks, respondents consider two health states and make trade-offs between the various health problems described by each. Respondents in predominantly Muslim countries, such as the UAE, may respond to such tasks differently from respondents in Western, more secular countries where the methods were originally developed, particularly if Muslims have systematically different ways of thinking about the trade-offs between health, life, and death.

There have been calls for research on HRQOL assessment in Arabic countries to add to the scarce existing literature [2]. To our knowledge, the appropriateness of using methods such as the TTO to elicit health-state values from Muslim respondents in such countries has not been established.

Therefore, the primary objective of this study was to test the feasibility of eliciting EQ-5D-5L health-state values from a sample of citizens of the UAE (Emiratis) using the EuroQol Group's standardized valuation protocol. A secondary objective was to investigate cultural issues relating to the use of the methods in this population.

Methods

Study Design

In accordance with the EuroQol protocol [9], each respondent completed a valuation questionnaire administered within a computer-assisted personal interview. Each questionnaire comprised the following components (in order): self-reported health using the EQ-5D-5L; self-reported health using a visual analogue scale; basic background questions; four practice TTO tasks; 10 TTO tasks; feedback questions regarding the TTO tasks; seven DCE tasks; feedback questions regarding the DCE tasks; and an (optional) open-ended comment box. After completing the valuation questionnaire, respondents were asked further background questions and a series of feedback questions designed to elicit additional information about their experience of completing the tasks (including a question on the extent to which their responses were influenced by their religious or spiritual beliefs); and finally were asked to rank the five dimensions from "most important" to "least important." The valuation questionnaire was administered via the EuroQol Group Valuation Technology (EQ-VT) computer-assisted personal interview software developed specifically for EQ-5D-5L