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Valuing the health state 'tinnitus': Differences between patients and the general public

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Abstract

Objective: In recent years, prioritisation in health care has gained increasing attention. However, rankings of interventions might depend on whom valuations of health states are elicited from. This paper's objective is to compare tinnitus valuations by patients and the general public.

Methods: Groups of 210 patients and 210 adults not (currently) affected were interviewed to elicit valuations using visual analogue scale (VAS), time trade-off (TTO) and standard gamble (SG). MANOVA is used to test for group differences, controlling for sex and age.

Results: For all elicitation methods, valuations significantly differ in that patients report higher values than the general public respondents. Most notably, on the visual analogue scale which varies between 0 ('worst imaginable health') and 1 ('best imaginable health'), patients elicit a mean score of 0.54, and the general public 0.34 (those with former tinnitus experience) and 0.35 (without experience), respectively ($F(2,377) = 55.67, p < 0.001$). That is, patients valuate tinnitus as less severe than unaffected people.

Conclusion: As for other health states, tinnitus valuations differ depending on whether values of patients or the general public are elicited. These differences should be taken into account in health care evaluation and planning.

JEL classification: D61; I10

Keywords: Tinnitus valuation; Patients; General public; Standard gamble; Time trade-off

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1. Introduction

In socially financed health care systems, setting treatment priorities is a policy target trying to balance health benefits of interventions with associated costs (Cooksen and Dolan, 2000; Drummond et al., 1997). Typically, cost-effectiveness ratios of different interventions are compared to allow for restricting social funding to those interventions whose cost-effectiveness ratio is favourable (Drummond et al., 1995). In this context, health valuations include quality of life, an aspect that has been increasingly under investigation both in medical research and health economics (Kaplan, 1995; Pliskin et al., 1980).

However, there is much controversy as to whose valuations and preferences should be used in decision processes (Boyd et al., 1990; Dolan, 1999; Gold et al., 1996). Ostensibly, patients may be the natural choice since they

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Abbreviations: df, degrees of freedom; MANOVA, multivariate analysis of variance; Max, maximum; Min, minimum; MS, mean sum of squares; p, probability; SD, standard deviation; SG, standard gamble; SS, sum of squares; TTO, time trade-off; VAS, visual analogue scale

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are both directly affected by interventions and actually experience the health state under consideration. That is, in a sense they are better informed than the general public – a strong argument given that normatively, full information is a precondition for rational decision making (Boyd et al., 1990). However, in a societal perspective, patients' opinions might be biased in that they overemphasise the importance of their specific health state, which might channel unduly quantities of available resources towards its treatment (Hadorn, 1991). And even if the values derived would be unbiased in terms of costs, they may not necessarily mirror community preferences, and hence (alluding to Rawls's, 1971, concept of justice) may lack democratic legitimacy (Kaplan, 1993). Gold et al. (1996) therefore suggest that "patient preferences should *not* be seen as equivalent to community preferences, and they are therefore not the optimal ones for use in the Reference Case" (p. 104; italics added).

Yet, in any case there actually exists mounting evidence that patients do assign values to their own health state that significantly differ from those gathered in general public samples on the same health condition. Specifically, as indicated above most studies find that patients assign higher values (Boyd et al., 1990; Lenert et al., 1999; Llewellyn-Thomas et al., 1992; Sackett and Torrance, 1978), and only few find no differences (especially if valuations elicited before and after relevant health incidents are compared (Jansen et al., 2001; Llewellyn-Thomas et al., 1993)). This gives little comfort to those affected whose health state has been rated by respondents with no relevant personal experience: depending on the size and the direction of the deviation, appropriate rankings in league tables may be at high risk (Birch and Gafni, 1994).

Against this background, the present study aims to empirically investigate the problem of disagreeing valuations of tinnitus as a chronic health state by patients vs. the general public. Tinnitus is defined as a perception of sound in the absence of an apparent acoustic stimulus and is seen as a result of spontaneous and aberrant neural activity along the auditory axis (Ahmad and Seidman, 2004). Epidemiologically, 40% of all adults in industrial societies have experienced this impairment temporarily, and 10% on a daily basis (Feldmann, 1998). The prevalence increases with age (Ahmad and Seidman, 2004) while other demographic and socioeconomic variables seem not to have any predictive value (Unterrainer et al., 2001). Tinnitus is often associated with secondary symptoms: 58% of German tinnitus patients suffer from sleeping disorders, 38% have problems to follow conversations properly (Goebel, 1995), and 36% of all patients experience periods of depression or desperation. The accumulated stress can lead to a "vicious circle" that aggravates the situation (Goebel, 1995). Though numerous therapeutic interventions exist, cure remains elusive. Most treatments aim at symptomatic relief and enhanced quality of life of patients (Ahmad and Seidman, 2004).

Despite the epidemiological relevance and quality of life-impairing effects of tinnitus, only few studies have dealt with aggregate valuations of tinnitus (Erlandsson and Holgers, 2001; Wilson et al., 2002), and most studies have concentrated on defining a severity classification to investigate changes in tinnitus perception (Goebel and Hiller, 1994). For priority setting in health care, health states are commonly valued with generic index-instruments which assign a single value to health states to allow comparisons among different health interventions. To the knowledge of the present authors, standard gamble (SG) and time trade-off (TTO), two of the most common, reliable, and valid techniques (Green et al., 2000; Krabbe et al., 1996), have never been used to derive valuations for tinnitus. Experiences with visual analogue scales (VAS) as the third well-established instrument have been mixed (Goebel and Hiller, 1994; Jakes et al., 1986; Lenarz, 1992), e.g., in that subjective assessments of tinnitus loudness and annoyance have correlated only marginally with psycho-acoustic data (Meikle and Walsh, 1984). They have never been used to assign single quality values to the health state tinnitus.

Also, comparisons of patients' valuations with those of the general public have been performed rarely. In a study by Penner (1996), patients were asked to mimic their tinnitus noise patterns, and to assign a value between 1 and 10 to the associated annoyance. These ratings were compared to the assessments of 50 normal hearing subjects. Normal-hearing subjects tended to judge the burden in a similar fashion. In contrast, Wilson et al. (2002), using the SF-36, compared health profiles of tinnitus patients with ratings of the general public, finding that patients reported lower quality of life.

Against this background, the objective of this study is to compare the valuations of tinnitus by patients and a general public control group by comparing data elicited using the standard gamble, time trade-off, and visual analogue scale techniques.

2. Methods

2.1. Sampling and procedure

Two equally sized incidental samples of tinnitus patients and respondents from the general public ($N = 210$ each) were recruited and matched for sex and age. Patients were contacted at different places in Berlin, Germany: the Tinnitus-League (a self-help association), the Heinrich-Heine-Hospital (an institution focussing on psychosomatic conditions), an otolaryngology department (at Charité University Hospital), and a private clinic for the treatment of tinnitus; they were interviewed between September and December 2000. The