

POPULATION NORMS OF HEALTH-RELATED QUALITY OF LIFE IN MOSCOW, RUSSIA: THE EQ-5D-5L-BASED SURVEY

ABSTRACT

Introduction

The administrative division of the Russian Federation determines the organization and financing of health care from the state budget at the federal and regional levels (85 regions). Each region has executive bodies deciding over health care, which manage and finance the activities of regional medical institutions from their own budgets. Medical organizations operate separately, subordinate directly to the federal Ministry of Health and are financed from the federal budget. During 2012-2018, state expenditure on health care increased by 45% (based on current price levels). However, state expenditure on health care per capita differs between regions. In the same period, the difference between the available funds of the ten most funded and least funded regions almost doubled, leading to inequality in access to medical care between regions. Moscow's health care system ranks eighth among the most subsidized entities of the Russian Federation, behind St. Petersburg and the regions whose budgets are financed by the extraction and sale of natural resources.

Currently, 55% of the world's population live in cities, and this percentage is expected to rise to 68% in 2050 (United Nations projection). Urbanization is known to affect the health and general well-being of the population. Moscow, as one of the largest European cities, is an interesting object of research on the quality of life of its inhabitants

There are several different drug lists in Russia that have been identified by the process of health technology assessment as effective and safe enough to gain public funding. The current Russian HTA guidelines propose cost-utility analysis, and specifically, Quality Adjusted Life Years (QALYs) as the preferred pharmacoeconomic analysis to compare outcomes across diseases, to optimally allocate resources for treating different comparable diseases, and to establish a break-even point expressed as cost per QALY.

The most commonly used instruments to measure the quality of life are general questionnaires that can either provide an overall assessment of the impact of health status on the well-being or specific instruments designed to measure some aspects of the quality of life. Conducting a population study with a standardized, validated questionnaire will help to obtain a reference point to compare diseases/disease states, which in turn can help to effectively decide on the allocation of financial resources to interventions that impact the quality of life. Literature data shows the most well-known and most used general questionnaires are the SF-36 and the EQ-5D. Especially the EQ-5D questionnaire has been gaining popularity in Russia in recent years. The aim of this study was to define population norms for health-related quality of life for Moscow residents using the EQ-5D-5L questionnaire.

Material and methods

A cross-sectional study was conducted with the use of a questionnaire consisting of two parts: the generic quality of life questionnaire EQ-5D-5L and additional questions. The selection of respondents for the quota sample took into account their age, gender and the Moscow administrative district in which the interview was conducted. The amounts were defined so as to represent the adult residents of Moscow in terms of the analyzed demographic characteristics.

The EQ-5D questionnaire consists of two parts: a descriptive system and a visual analog scale (EQ VAS). The descriptive system consists of five domains: mobility (MO), self-care (SC), usual activities (UA), pain/discomfort (PD), and anxiety/depression (AD). In the EQ-5D-5L version, the respondent answers according to a five-level scale: no problems, minor problems, moderate problems, serious problems and extreme problems / not possible. A five-digit number is used to describe the state of health, where the position of the number determines the domain - individual levels of domain implementation are assigned values from 1 (no problems) to 5 (extreme problems), respectively. For the EQ-5D-5L questionnaire, 3125 health states were determined: from "11111" (no problems) to "55555" ("extreme problems" in all five domains). The individual health states were assigned the EQ-Index values - single numbers from 0 (death) to 1 (full health). Using a visual analog scale (EQ VAS) with values ranging from 0 to 100, the respondent subjectively determines his or her health condition at the time of the study.

The official Russian version of the EQ-5D-5L questionnaire was used in this study. The EQ-Index values were determined based on the health state utility value set developed for the Russian Federation. The interviews were conducted by two researchers who approached randomly selected respondents outdoors or indoors in randomly selected public places. The following endpoints were analyzed: health limitations in the field of EQ-5D-5L domains,

subjective quality of life according to EQ VAS, quality of life taking into account the health preferences of Russian society - EQ-Index, the unweighted sum of the levels of implementation of individual domains - Level Sum Score (LSS).

Results

One thousand twenty residents of Moscow aged 18-93 (mean 44.8 years) participated in the study. The study population was representative of the general adult population in Moscow in terms of the demographic characteristics selected for the quota sample (gender, age and Moscow administrative district in which the study was conducted).

In the studied population, health limitations were most common in the pain/discomfort domain (PD, 48.6%) and the least common in the self-care domain (SC, 11.5%). In most domains, there was an increase in health limitations with age. In the anxiety/depression (AD) domain, the incidence of problems was stable in all age groups (38.7% - 52.1%). In all domains, female respondents, on average, reported more problems than the men. The greatest differences were observed in the youngest age group (18-24 years) in the pain/discomfort (PD) and anxiety/depression (AD) domains. The most common health problem in the age group 18-44 years was anxiety or depression. In the 45-64 years age group, problems exist most commonly in the pain/discomfort (PD) domain. In the age group over 65, mobility restrictions were most frequently reported.

The mean value of the EQ VAS index in the study population was 74.1. The analyzed index was the highest in the 25-34 age group and decreased with age. The average value of the EQ-Index in the study population was 0.907. The EQ VAS and EQ-Index values were higher in men than in women, and the most significant differences were noted in the 18-24 age group. The mean value of the LSS index was 7.3 and was higher in women than in men (7.7 vs 7.0). An increase in LSS value with age was observed both in the group of women and men.

Multivariate analysis of the health-related quality of life, taking into account various demographic characteristics of the population, showed that female gender, age over 65 and lack of Internet access had a statistically significant negative impact on health-related quality of life, as measured by all three indicators (EQ-Index, LSS and EQ VAS). Carrying out an interview in the North District of Moscow and using the Internet at least once a week had a significant impact on the quality of life measured by only one indicator: LSS and EQ VAS, respectively. Both the secondary and higher education of the respondents had a positive impact on the quality of life.

Conclusions

The study presents population norms using the EQ-5D-5L questionnaire on a representative sample of Moscow residents. The study results can be used to optimize the efficiency of resource allocation in health care, taking into account the age and gender of the inhabitants, and also as a reference point in the study of the quality of life of patients.