

Patients' willingness to pay for health interventions in Spain: a systematic review



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Introduction

Traditional cost-effectiveness analyses largely focus on direct and indirect costs, such as medical expenses, hospitalizations, and productivity losses, as primary measures of healthcare interventions' value. However, these measures alone may not provide a comprehensive view of the intervention's impact, as they overlook intangible costs, which have the potential to be critical for understanding the true social value of healthcare^{1,2}.

Intangible costs (e.g.: patients' preferences, treatment convenience, psychological burden) represent aspects of care that directly influence patient satisfaction and well-being, often shaping patients' overall experience and acceptance of treatment options^{2,3}.

Willingness to pay (WTP) can be a valuable method to estimate the intangible costs and social value of new healthcare intervention from the patient's perspective.

Objectives

The primary objective of this study was to review and analyse recent studies on WTP for healthcare interventions in Spain. Additionally, a secondary objective was to suggest future implications for health economics research in Spain.

Results

Study selection

A total of 25 records were identified in the database search. After removing duplicates and searching for eligible title, abstracts and full texts, 6 studies were included in this review (Fig. 1).

Fig.1 PRISMA flow diagram

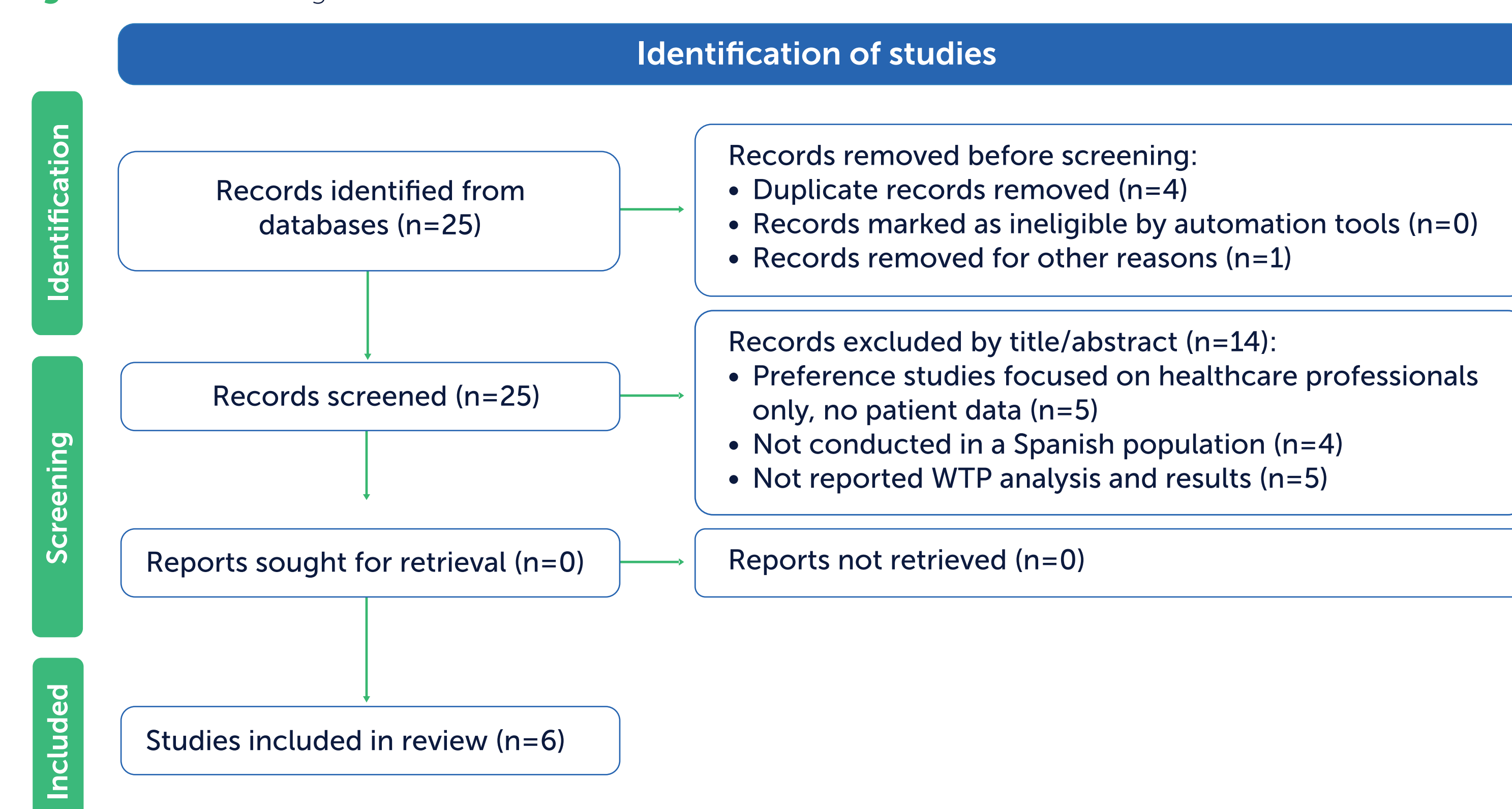


Table.1 Characteristics of the studies

Author and year	Design	Participants characteristics (n)	Aim	WTP for	WTP subgroup analysis or adjustments	Key WTP results
Darba et al. 2020 ⁴	Observational cross-sectional study	Adults diagnosed with T2DM, on oral antidiabetics and/or insulin, GLP-1 naïve (n=180)	To gather insights into patients with T2DM regarding their preferences on injection and medication frequency, and treatment complexity	Mode of administration	By experience on the use of injected treatments (naïve and no naïve)	<ul style="list-style-type: none"> Immediate cystoscopy: €62 Reducing environmental impact from high to neutral: €59 Reduce contamination risk during cystoscopy from 12% to 6%: €57 Unspecified improvement: €39
Borja et al. 2022 ⁵	Observational cross-sectional study	Adults who have undergone at least one cystoscopy procedure (n=265)	To validate patient opinions using robust statistical methods to enhance perspectives in cystoscopy practice	Cystoscopy procedures	By gender and age (<50 and ≥50 years)	<ul style="list-style-type: none"> No preparation: €83 Simple preparation: €45 Daily, unscheduled: €22 Weekly, unscheduled: €38
Fernandez et al. 2022 ⁶	Observational cross-sectional study	Adult aRCC patients currently or previously treated pharmacologically (n=105)	To evaluate preferences for pharmacological regimens in patients with aRCC	Survival gain SAE risk	None	<ul style="list-style-type: none"> 36% maximally €25/ month and 9% >€50/ month
Hernandez-Leal et al. 2022 ⁷	Observational cross-sectional study	Women with BC aged between 50 and 60 who participate in BCSP (n=65)	To analyse women's preferences in SDM within BCSP	More participatory care in BCSP	None	<ul style="list-style-type: none"> SDM: 39% between €10 and €30 and 14% €40
Skedgel et al. 2022 ⁸	Observational cross-sectional study	Adults with fertility issues (n=1688)	To investigate population preferences for assisted reproductive therapies.	Effectiveness; risk of complications; discomfort; SDM; daily injections; cost per cycle	None	<ul style="list-style-type: none"> 1-month survival gain: €13.059 1% SAE risk reduction: €4.396
Sweegers et al. 2023 ⁹	Observational cross-sectional study	Adults with MBC and an ECOG score ≤ 2 (n=99)	To identify barriers and facilitators of participation in exercise programs, along with patient preferences for program content and delivery methods.	Exercise programme	None	<ul style="list-style-type: none"> Improved effectiveness (15% increase in likelihood of live birth): €3,000-€3,500 SDM: <€3,000 from "some" to "full"

WTP: willingness to pay; T2DM: type 2 diabetes mellitus; MBC: metastatic breast cancer; ECOG: Eastern Cooperative Oncology Group; BC: breast cancer; BCSP: breast cancer support programme; aRCC: advanced renal cell carcinoma; SDM: shared decision-making; SAE: severe adverse event

Discussion and conclusions

- Currently, the estimation of WTP is an underutilized method with significant limitations for valuing interventions in Spain.
- The WTP estimates were found to be heterogeneous, reflecting the diverse preferences of patients regarding both clinical and non-clinical aspects of healthcare.
- Nonetheless, this study illustrates that, beyond efficacy, effectiveness, and safety, intangible factors such as convenience, environmental consciousness, and shared decision-making are essential components of WTP across diverse patient populations and healthcare settings.
- The economic evaluation of healthcare interventions would benefit from incorporating both tangible and intangible costs to provide a more comprehensive view of their value to patients and society.

Methods

A systematic literature review was conducted in PubMed/Medline and Cochrane Library databases. Depending on the characteristics of the database, different search strategies were used. A hand-search of reference list of relevant articles was also conducted.

Eligible publications were observational studies estimating WTP from the patient perspective for available or hypothetical healthcare interventions, published in English or Spanish, from January 2019 to January 2024.

Following duplicates removal, titles and abstracts were screened. Eligibility was then assessed by full text review. Two independent researchers (SM, MP) screened the studies based on the selection criteria. Discrepancies were resolved by consensus.

Relevant data from each selected publication were extracted including year, design, population, aim, selection criteria, WTP (methodology, subgroup analysis and adjustments, key results), reported limitations.

Study characteristics

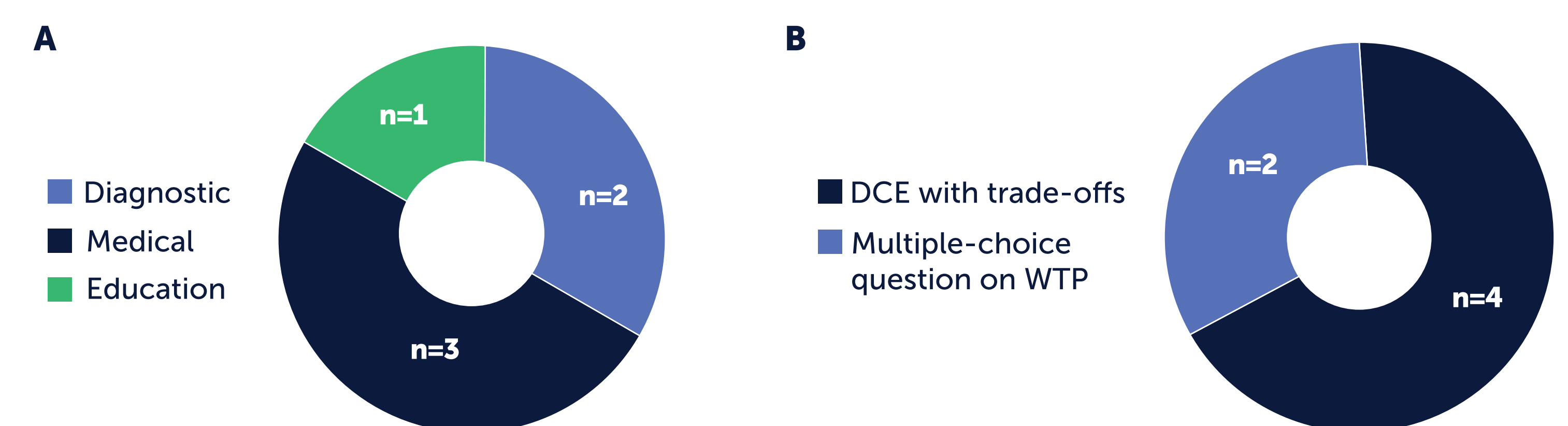
The six included studies were observational cross-sectional surveys involving a total of 2,402 patients (Table 1). The population assessed included oncologic conditions (n=3), lower urinary tract diseases (n=1), type 2 diabetes mellitus (n=1), and infertility (n=1). The healthcare interventions evaluated were categorized as medical (n=3), diagnostic (n=2), or educational (n=1) (Fig. 2A).

Willingness to pay

WTP was evaluated using either a discrete choice experiment (DCE) (n=4) or a multiple-choice question method (n=2) (Fig. 2B). Only two studies included subgroup analyses of WTP, and neither included an adjustment for economic level or other socioeconomic factors (Table 1).

The results show that the WTP values vary across different healthcare interventions and patient groups. The highest WTP values were associated with factors such as effectiveness, efficacy, and safety, highlighting their primary influence on patient preferences. However, intangible attributes like treatment convenience, environmental impact, and shared decision-making (SDM) also played a significant role in shaping WTP (Table 1).

Fig.2 Distribution of studies according to type of intervention (A) and method for estimating WTP (B)



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