HEALTH-RELATED QUALITY OF LIFE IN OPIOID USE DISORDER MEASURED BY UTILITY ANALYSIS

A SYSTEMATIC LITERATURE REVIEW

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OBJECTIVES

Opioid use disorder (OUD) is a chronic disorder with multi-faceted and negative medical, psychological and social consequences affecting a variety of health-related quality of life (HRQL) domains. Utility values (UVs) provide informative, relative estimates of HRQL across patients suffering from various chronic disorders. The HRQL of patients with OUD is low relative to the general population and to patients with other chronic diseases. We aimed to identify published UVs for OUD and to discuss evidence gaps.

METHODS

A systematic review of published studies that measured utility in an OUD population (using relevant terms to define OUD such as opioid dependence/abuse to reflect diagnoses based on both DSM-5 and DSM-IV) was conducted by searching global electronic databases (MEDLINE and MEDLINE In-process, EconLit, EMBASE and the Cochrane Library), health technology assessment websites (AMNOG, CADTH, HAS, NICE, PBAC, SMC)*, conference proceedings and reference lists. Literature searches were unrestricted by country or year. The quality of the identified utility studies was assessed by using a checklist from Papaioannou et al.[1]

The key criteria for quality assessment of utility studies are based on sample size, respondent selection and recruitment, inclusion/exclusion criteria, response rates, numbers lost to follow-up (and reasons), methods of missing data analysis and relevance of the data to the NICE reference case.

*AMNOG, Arzneimittelmarktneuordnungsgesetz; CADTH, Canadian Agency for Drugs and Technologies in Health; HAS, Haute Autorité de Santé; NICE, National Institute for Health and Care Excellence; PBAC, Pharmaceutical Benefits Advisory Committee; SMC, Scottish Medicines Consortium

RESULTS

As presented in Figure 1, we identified 1,524 relevant publications. Eleven papers were identified for data extraction.

Out of the 11 papers identified, only seven original studies reported UVs ranging from 0.56 to 0.86.[5, 6] Results from the included utility studies are summarised in Table 1. Six of these only considered one medication assisted treatment (MAT). Three studies examined comorbidities (one each for HIV co-infected patients [UVs: 0.62-0.67][2], patients with psychiatric disorders [UVs: 0.56-0.66][5] and HCV co-infected patients [UVs: 0.71-0.75][7]). Long-term data measuring UVs for more than 12 months were available in four studies, where only one reported utilities for continuously abstinent patients (UVs: 0.84).

Utility was measured in the identified studies using the EuroQoL-5 Dimensions (EQ-5D), Short-Form 6-Dimensions (SF-6D) and the Visual Analogue Scale for Quality of Life (VAS-QoL). The EQ-5D and SF-6D were the most utilised tools for measuring UVs, reported in six of the seven studies included in our data extraction.

- SF-6D – Aden et al. (2015) and Raisch et al. (2012).[2, 3]
- VAS-QoL – Aalto et al. (2011).[4]
- SF-6D and VAS-QoL – Oviedo-Joekes et al. (2010).[5]
- EQ-5D – Carpentier et al. (2009), De Jong et al. (2007) and Schäfer et al. (2009).[6-8]

Among patients with comorbidities, the largest impact on HRQL was seen with a psychiatric disorder, with an EQ-5D score of 0.66 for the overall population, and 0.56 for the subgroup of patients with a psychiatric disorder.[6]

Figure 1: PRISMA flow diagram

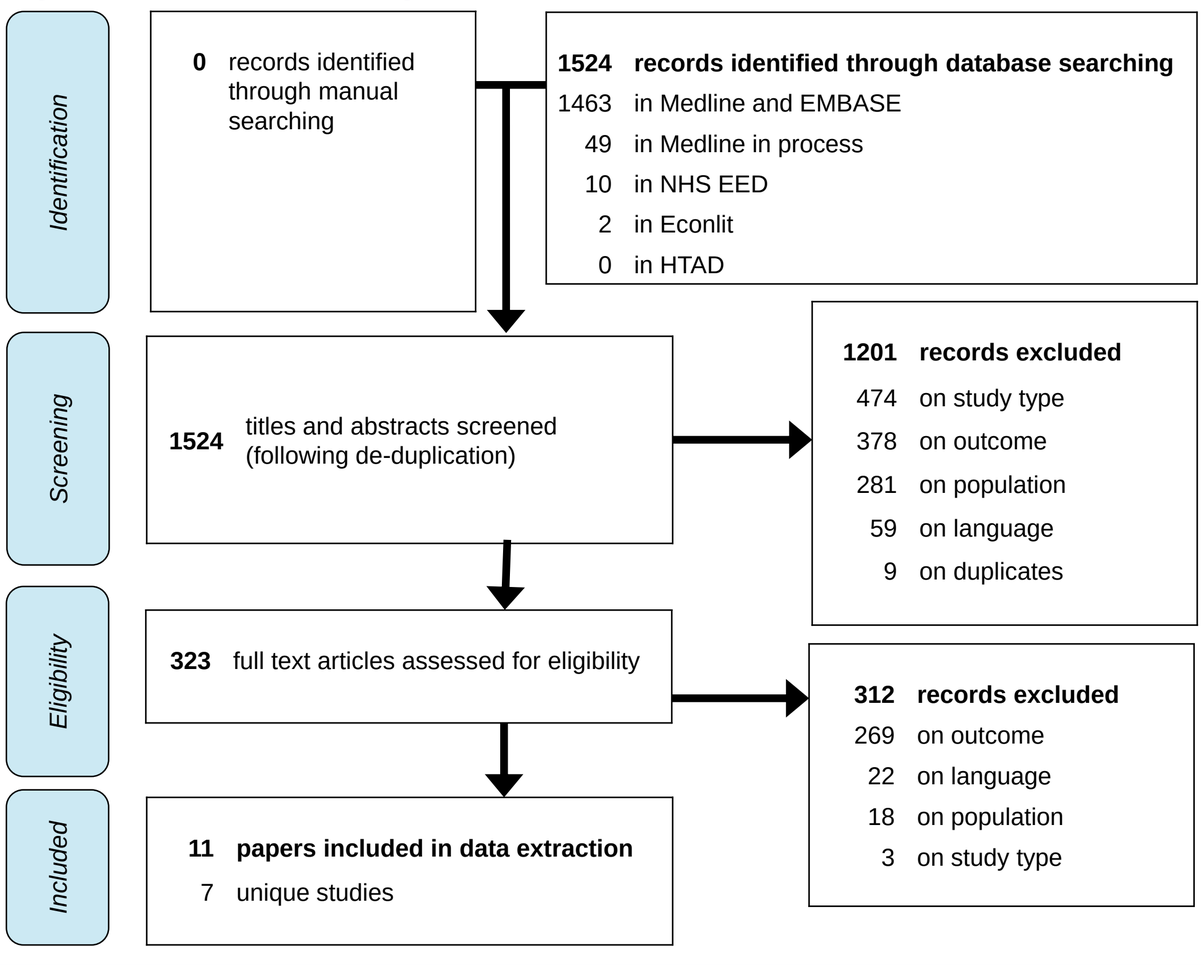

Table 1: Patient Characteristics

Study	Population	Country	Interventions	Utility scale	Sub-pop.	At baseline			At end point		
						n	Mean	SD	n	Mean	SD
Aden et al. (2015)[2]	OD HIV-infected patients	US	BMT	SF-6D		307	0.62	0.13	306	0.67	0.008
			Non-BMT	"		-	-	-	783	0.64	0.005
Raisch et al. (2012)[3]	OD patients		BMT	SF-6D		96	0.67	0.12	-	0.72	0.14
Aalto et al. (2011)[4]	OD patients mainly using buprenorphine intravenously	FI	BMT	VAS-QoL (0-10)		30	3.05	2.13	23	5.75	2.89
			SEP	“		30	4.05	2.55	-	-	-
Oviedo-Joekes et al. (2010)[5]	OD patients	CA	DAM	EQ-5D	Male	-	0.70	-	-	0.86	-
					Female	-	0.71	-	-	0.78	-
				SF-6D	Male	-	0.68	-	-	0.75	-
					Female	-	0.64	-	-	0.68	-
			MMT	EQ-5D	Male	-	0.70	-	-	0.77	-
					Female	-	0.68	-	-	0.75	-
				SF-6D	Male	-	0.69	-	-	0.71	-
					Female	-	0.64	-	-	0.65	-
Carpentier et al. (2009)[6]	Chronic OD patients w/ psychiatric co-morbidity	NL	MMT	EQ-5D	Total	193	0.66	0.31	-	-	-
					w/ psychiatric comorbidity	112	0.56	0.33	-	-	-
Schäfer et al. (2009)[7]	OD patients	DE	BMT	EQ-5D	HCV+	1091	0.71	-	1091	0.71	-
					w/ AT	122	0.72	-	122	0.72	-
					w/o AT	969	0.71	-	969	0.71	-
					HCV-	506	0.74	-	506	0.75	-
De Jong et al. (2007)[8]	De-toxified OD patients	NL	MMT	EQ-5D	Full	-	0.74	0.23	-	0.76	0.22
					Abstinent	-	0.75	0.24	-	0.84	0.17
					Relapsed	-	0.74	0.23	-	0.74	0.23

Key: AT, antiretroviral therapy; BMT, buprenorphine maintenance treatment; DAM, diacetylmorphine; EQ-5D, EuroQoL 5 dimensions; HCV, hepatitis C virus; HIV, human immunodeficiency virus; MMT, methadone maintenance treatment; NAL, naltrexone; OD, opioid dependent; SD, standard deviation; SF-6D, Short-Form 6-Dimensions; SEP, syringe exchange programme; VAS-QoL, Visual Analogue Scale for Quality of Life.
Note: Timeframe varies according to study.

DISCUSSION

There is limited HRQL evidence measured in utilities in the existing literature, and the majority of the identified studies report HRQL scores using disease specific measures. The generic preference-based measures, EQ-5D or SF-6D, were reported in only six studies identified in this HRQL review. These generic preference-based measures are the preferred measures when considering an economic model for health technology appraisal (HTA).

The majority of the studies in Table 1 provided UVs for one MAT only with no comparator. When MAT was compared with a treatment that was not MAT, the treatment was defined differently across the identified papers – often with varying levels of support and counselling.

CONCLUSION

In addition to confirming a lack of studies setting out comparative UVs and a wide range of UVs (0.56-0.86), we observed that publications often reported HRQL domains inconsistently and ignored psychological co-morbidities, which are significant within this patient population. Given the importance of HRQL in healthcare decision making, more widespread and consistent use of utility instruments for the treatment of OUD is needed to allow for treatment comparisons.

Psychiatric comorbidities were shown to have a large impact on HRQL. Therefore, the choice of HRQL measurement in studies of OUD patients should include measures sensitive to psychiatric conditions, and economic models should map psychiatric comorbidity data into UVs.

Future research should consider which of the generic measures captures the impact of treatment of OUD most accurately. In addition, to strengthen the validity of economic modelling analyses for OUD treatments, a large sample study that captures the UVs associated with key health states would be of value. Furthermore, analysis of UVs over time would be of interest; for example, differences in UVs when first entering the abstinent health state compared with UVs of patients who have been abstinent for some time. If UVs are found to be insensitive among OUD patients, then further research will be required to develop and validate mapping algorithms which can be used to convert disease-specific HRQL data to UVs that can be used in HTA submissions.

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