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Systematic Review of Pharmacoeconomic Studies Published in Algeria, Morocco, and Tunisia

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INTRODUCTION

The Maghreb countries are undergoing an intense process of demographic, economic, political and social transition. Their healthcare systems are in a state of upheaval; on the one hand, they have to adapt to new healthcare needs, and on the other, they have to adapt to the new economy (economic globalisation, competition, etc.) and the epidemiological context. National health expenditure (NHE) in the three central Maghreb countries is currently estimated at less than $400 per capita per year (compared with 6 to 10 times more in OECD countries). The estimated share of drugs is less than $80 per capita per year, which is both low and high: low compared with OECD data (more than $500 on average) and high when we measure the share of drugs in the NDS, which varies between 20% and 50% depending on the country (12% in the UK, 16% in France and 7% in New Zealand). In the light of these figures, drug use in the North African population needs to be put into perspective.

OBJECTIF

the present study aims to carry out such an assessment, identify any weaknesses in existing research and provide recommendations to ensure the quality and integrity of future pharmacoeconomic research in the Maghreb countries.

METHODES

A systematic literature search was conducted in May 2021 using four databases: Pub Med, Science direct, Scopus, Researchgate; to identify pharmacoeconomic studies concerning Central Maghreb countries (Algeria, Tunisia and Morocco). We found a total of 36 articles in this initial search The following keywords were used: cost effectiveness; economics, pharmaceutical; cost-benefit; cost utility; economic benefits; cost-minimization; economics; economic benefit analysis.

Screening of all identified studies was carried out independently by two different authors at two different stages. A third reviewer was consulted in the event of discrepancies. The selection process and the reasons for excluding articles are recorded in a diagram (Fig. 1) in accordance with PRISMA recommendations

Figure 1: Study selection process (based on PRISMA guidelines).

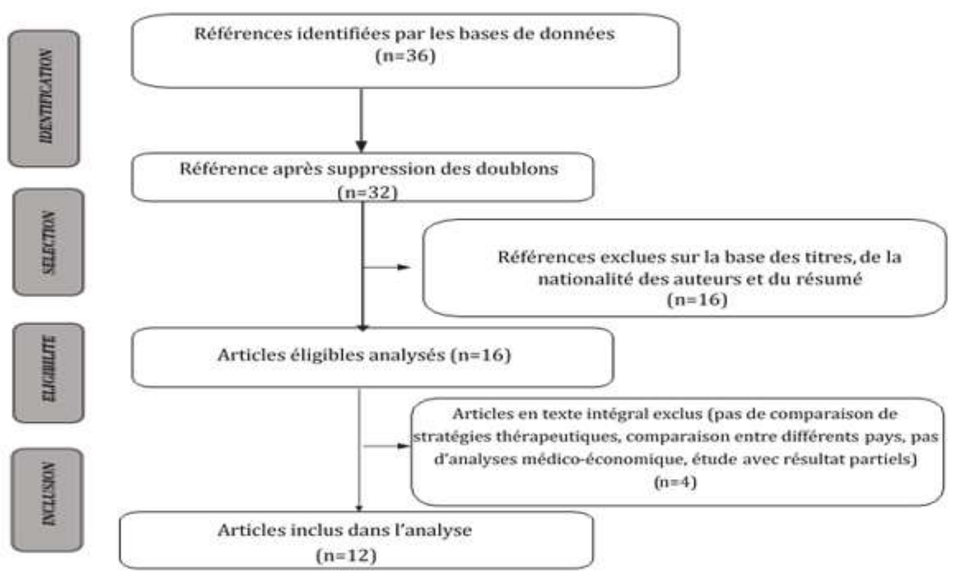
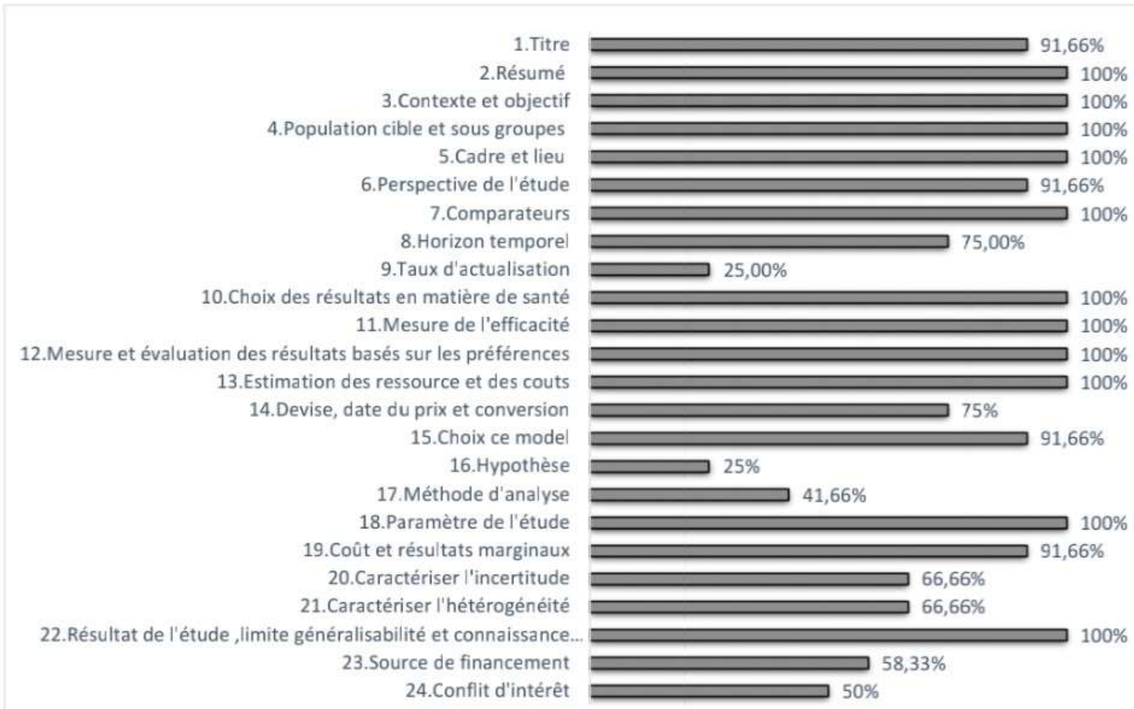


Figure.2: Percentage of full economic evaluations that adequately address eacheach element of CHEERS.



OUTCOME

When reviewing the economic data and analysing the included studies, The majority (66.66%) had the design of a cost-effectiveness analysis (CEA) and two studies for cost-benefit. For each of the cost-utility and cost-minimisation analyses, only one study was conducted (8.33%). The interventions studied in the included studies were treatment (41.66%), prevention (33.33%) or diagnosis (25%).

Eight studies (66.66%) included adopted modelling in their economic evaluations, including MARKOV modelling. Three other studies used the decision model, and the remainder were experimental models for explanatory purposes.

Outcome measures varied. As expected, costs and incremental cost-effectiveness ratio (ICER) were used in CEA; costs in BCR; benefit-cost ratio in CBA; and, finally, quality-adjusted life years (QALYs), disability-adjusted life years (DALYs) and also measures by reduction of cases or adverse effects. The majority of studies demonstrated that the treatment or strategy in question was cost-effective.

In short, the compliance of the studies analysed with the recommendations was correct. All of the methodologies analysed complied with the recommendations concerning the identification and measurement of costs. The expression of uncertainty in costs and results and the discounting of costs were the standards least mastered. In short, the studies complied with the 6 main categories of the adapted Cheers evaluation grid.

TABLEAU I : Description des articles inclus

Paramètre	Catégories	N	%
Méthode d'évaluation économique	ACE[1]	8	**(66.66)**
	ACB[2]	2	**(16.66)**
	ACU[3]	1	**(8.33)**
	ACM[4]	1	**(8.33)**
Étudier le design	Modélisation	8	**(66.66)**
	Cohorte prospective	3	**(25)**
	Essai contrôlé randomisé	1	**(8.33)**
Type d'intervention	Traitement	5	**(41.66)**
	Diagnostique	3	**(25)**
	Prévention	4	**(33.33)**
Lieu d'étude	Algérie	2	**(16.66)**
	Tunisie	5	**(41.66)**
	Maroc	5	**(41.66)**

DISCUSSION

Some systematic reviews have studied the quality of pharmacoeconomic publications from other countries. S. Farid et al reviewed the state of pharmacoeconomic research in Egypt by evaluating the volume and quality of fifteen studies and found that sixty percent of the studies evaluated had one or more technical limitations and weaknesses in the presentation of the pharmacoeconomic evaluation, such as lack of sensitivity analysis, calculation of ICER and specification of study perspective.

In this literature review, based on the inclusion and exclusion criteria, 12 studies were included. This limited number of included studies is comparable to contexts such as Saudi Arabia (4) Nigeria(5) ,Iran(6), and Zimbabwe(7), but lags behind other developing countries in the conduct of health-related economic evaluations (8-12). And (13).

This study had certain limitations: Firstly, although an exhaustive systematic search was used, it is possible that some economic studies were omitted because they were not published, as studies with positive results are more likely to be published than studies with negative results, or were not indexed in the databases searched (e.g. grey literature: government reports, pharmaceutical company reports and university theses, conference abstracts. However, some of these abstracts contained sufficient data to be analysed. Their inclusion could enrich the analysis carried out and the results presented. This could lead to publication bias. Finally, the 24 CHEERS items are treated equally, but some elements may be more important in assessing quality.

CONCLUSION

Practitioners' mastery of economic and statistical tools, as well as the transferability of the results of a study to other contexts, prove to be essential criteria to be optimised afin order to ensure the development of the use of pharmaco-economic evaluations in healthcare decision-making