Quality Assessment of Published Health Economic Analyses from South America

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BACKGROUND: Health economic analyses have become important to healthcare systems worldwide. No studies have previously examined South America's contribution in this area.

OBJECTIVE: To survey the literature with the purpose of reviewing, quantifying, and assessing the quality of published South American health economic analyses.

METHODS: A search of MEDLINE (1990–December 2004), EMBASE (1990–December 2004), *International Pharmaceutical Abstracts* (1990–December 2004), Literatura Latino-Americana e do Caribe em Ciências da Saúde (1982–December 2004), and Sistema de Informacion Esencial en Terapéutica y Salud (1980–December 2004) was completed using the key words cost-effectiveness analysis (CEA), cost-utility analysis (CUA), cost-minimization analysis (CMA), and cost-benefit analysis (CBA); abbreviations CEA, CUA, CMA, and CBA; and all South American country names. Papers were categorized by type and country by 2 independent reviewers. Quality was assessed using a 12 item checklist, characterizing scores as 4 (good), 3 (acceptable), 2 (poor), 1 (unable to judge), and 0 (unacceptable). To be included in our investigation, studies needed to have simultaneously examined costs and outcomes.

RESULTS: We retrieved 25 articles; one duplicate article was rejected, leaving 24 (CEA = 15, CBA = 6, CMA = 3; Brazil = 9, Argentina = 5, Colombia = 3, Chile = 2, Ecuador = 2, 1 each from Peru, Uruguay, Venezuela). Variability between raters was less than 0.5 point on overall scores (OS) and less than 1 point on all individual items. Mean OS was 2.6 (SD 1.0, range 1.4–3.8). CBAs scored highest (OS 2.8, SD 0.8), CEAs next (OS 2.7, SD 0.7), and CMAs lowest (OS 2.0, SD 0.5). When scored by type of question, definition of study aim scored highest (OS 3.0, SD 0.8), while ethical issues scored lowest (OS 1.5, SD 0.9). By country, Peru scored highest (mean OS 3.8) and Uruguay had the lowest scores (mean OS 2.2). A nonsignificant time trend was noted for OS ($R^2 = 0.12$; $p = 0.104$).

CONCLUSIONS: Quality scores of health economic analyses articles published in South America were rated poor to acceptable and lower than previous research from other countries. Thus, efforts are needed to improve the reporting quality of these analyses in South America. Future research should examine the region's level of expertise and educational opportunities for those in the field of health economics.

KEY WORDS: health economics, literature analysis, quality assessment, South America.

As health economics and pharmacoeconomics have become popular in recent years, many countries have developed and adopted guidelines for conducting economic analyses.[1,2] To illustrate the adoption of this technology, we searched MEDLINE using the search term economics, pharmaceutical and traced the years from 1990 to 2004. Figure 1 depicts the cumulative total number of publications associated with these key words over time. As time progressed, articles appeared increasingly more frequently, with an apparently linear expansion.

The use of this new technology requires that the quality of research reports be assessed to ensure their appropriateness and accordance with accepted quality standards. In previous research, which was not limited geographically, we found the quality of published economic evaluations to be only fair for both published articles[3,4] and abstracts.[5-7] Similar results were reported by Anis and Gagnon[8]; their analysis of submissions to a formulary committee suggest-

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ed that a lack of expertise could have been a contributing factor to lack of adherence to guidelines.

Health economics has been largely developed in Australia, Britain, Canada, Europe, and the US. Although the population of South America is currently approximately 370 million people,[9] no guidelines have appeared from that region. We therefore undertook this research to determine what South American economic analyses have been published and to assess their quality.

Methods

The countries of interest for this research included all those within continental South America including Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela. We examined all articles that presented health economic analyses. To qualify, studies must have examined a drug, treatment, procedure, program, or medical device against a relevant comparator with respect to both costs and outcomes. Papers must have been published in a healthcare journal; however, no restriction was placed on date or language. Presentations at meetings, colloquia, and studies only presented in abstract form were not accepted.

To locate these articles, we performed a search from inception to December 2004 of pertinent databases including MEDLINE (1990–December 2004), EMBASE (1990–December 2004), *International Pharmaceutical Abstracts* (1990–December 2004), Literatura Latino-Americana e do Caribe em Ciências da Saúde (1982–December 2004),[10] and Sistema de Información Esencial en Terapéutica y Salud (1980–December 2004).[11] The latter 2 databases focus on health-related literature in the Spanish and Portuguese languages, particularly from Latin America. Key words employed in the search included cost-effectiveness analysis (CEA), cost-utility analysis (CUA), cost-minimization analysis (CMA), and cost-benefit analysis (CBA), as well as all South American country names. References from retrieved papers and reviews of the topic were searched for further possible studies. Two reviewers independently identified potential articles, with discrepancies resolved through consensus discussion. In the case of failure to achieve consensus, a third reviewer was appointed to adjudicate.

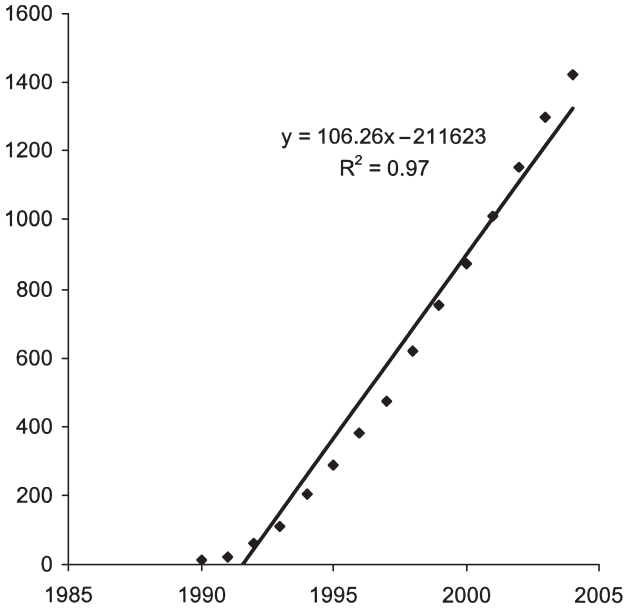

Figure 1. Cumulative total number of South American publications in MEDLINE associated with the search term "Economics, pharmaceutical" from 1990–2004.

Accepted articles were evaluated using a modified version of the 13 item checklist previously described and used by our group.[3,4] The only modification consisted of deleting the ninth question, "Is the evaluation suitable if made within a clinical trial?" This question was considered unimportant since no clinical trial was found in any of the reviewed articles. The final number of items available in our checklist was 12.

The total possible score for each item was 4 (4 = good, 3 = acceptable, 2 = poor, 1 = unable to judge, 0 = completely unacceptable). If an item was considered not applicable, it was labeled as such and not included in the evaluation. Thus, in the initial calculation, articles could earn a score ranging from 0 to 48 points. To arrive at the final score for each article, the total number of points awarded was divided by the number of pertinent questions. Final scores for articles therefore ranged from 0 to 4, and these article scores could be interpreted in a manner similar to that used with the individual items. When interpreting means for articles or across all studies, the midpoints between scores were taken into consideration (ie, "good" included all scores from 3.5 to 4.0, "acceptable" included 2.5 to <3.5, "poor" included 1.5 to <2.5).

We correlated the studies' mean overall score (OS) with the raters' Global Impression (GI). GI was defined as the rater's personal overall global estimate of the quality score for each study. Correlation between OS and GI showed how well the rater's personal views of the study aligned with the values obtained by analyzing and averaging the scores for all items.

Inter-rater reliability was tested using a sample of identical articles between the raters. Each rater assessed a set of 3 papers, and scores were compared. Adequate agreement was achieved when raters obtained equal scores or differences of less than 1 point for individual items and 0.5 for OSs.

Authors' language proficiency was as follows: native English (TRE and MI), advanced English (MM), native Portuguese (MM), advanced Spanish (MM), and intermediary Spanish (TRE and MI).

Descriptive statistics were used to describe the data. Included were the mean, range, standard deviation, mode, and minimum and maximum values. Differences in mean OS for Latin American publications and previous quality assessment from other countries[3,4] were assessed using Student's *t*-test. Categorizations of quality scores between South American publications and those from other countries were compared using a Mann–Whitney U test. Global impression scores and OSs were correlated using Pearson's r. Group differences by type of analysis, country, languages, and funding source were analyzed using a Kruskal–Wallis test.

Results

A total of 25 studies were retrieved; 1 duplicate was rejected, leaving 24 articles for the quality assessment.[12-35] Seventeen articles were in English (OS 2.7, SD 0.8), 4 in Spanish (OS 2.5, SD 0.6), and 3 in Portuguese (OS 2.6, SD 0.5). There were no statistically significant differences among the scores across languages (Kruskal–Wallis test; $\chi^2 = 0.32$; $p = 0.85$).

The cumulative number of publications has increased exponentially over time, from 1 in 1984 to 24 in 2004. A description of included studies and their main characteristics (ie, authors, alternatives compared, perspective, types of outcomes and costs) can be found in Table 1. Only 8 studies described their funding source, which included 3 pharmaceutical companies (OS 3.1, SD 1.3), 3 government agencies (OS 2.8, SD 0.5), and 2 nongovernmental

Table 1. Description of Selected Articles

Reference	Drug/ Alternatives Compared	Benefits/ Outcomes	Costs	Perspective	Type of Analysis
Bigal (2003)[12]	proposed treatment (acetylsalicylic acid, triptan, acetylsalicylic acid + metoclopramide) vs acetylsalicylic acid only	response rate to treatment	direct: consultations, preventive drugs, acute therapy drugs	NR	CEA
Botto (2003)[13]	ramipril vs placebo	life years saved	direct: ramipril, major cardiovascular events, hospitalization by angina and cardiac insufficiency, diabetes diagnostic	societal	CEA
Burckel (1999)[14]	vaccine vs no vaccine	avoided costs	direct: physician visits, prescription and nonprescription drugs, hospitalization, diagnostic tests indirect: lost productivity	employer	CBA
Calabró (2003)[15]	voriconazole vs amphotericin B	response rate to treatment	direct: drug acquisition, adverse events, hospital resources	NR	CEA
Creese (1984)[16]	alternative strategy vs routine practice vs immunization campaign	number of avoided deaths	direct: input of staff time, transportation, vaccine, other materials, supervising, supplying, training, publicizing	NR	CEA
Creese (1987)[17]	campaign vs routine immunization	fully immunized infant	direct: human and physical resources	NR	CEA
Dayan (2001)[18]	vaccine vs no vaccine	reductions in illness rate	direct: vaccine; adverse effects; outpatient visits; X-rays; antipyretic, antiviral, and antibiotic treatment; hospitalization indirect: parental absence from work	societal	CEA
Doyle (2001)[19]	venlafaxine vs SSRIs vs TCAs	treatment success and symptom-free days	direct: physician services, laboratory services, facility services, electroconvulsive therapy, pharmacotherapy	government	CEA
Farina (2002)[20]	palivizumab vs no intervention	reductions in hospitalization rate	direct: drugs, drug prescriptions, hospitalization	societal	CEA
Ferraz (1995)[21]	screening vs no screening hepatitis B vaccine program	equal benefits	direct: screening, vaccination	NR	CMA
Gehrke (2002)[22]	antihypertensive drug class	% patients with controlled hypertension	direct: purchase of drugs or supplies, payment for visits to doctor, laboratory tests, health insurance, expenses with meals and transportation indirect: work days lost, medical consultations or performing tests	NR	CEA
Morales (2004)[23]	vaccine (IMOVAX) vs no vaccine	% influenza-like symptoms	direct: vaccines, materials, administration indirect: time to get the vaccine, ADE in terms of productivity, influenza-like symptoms, employees working sick	employer	CBA
Murad (1997)[24]	UFT vs fluorouracil	equal benefits	direct: prechemotherapy, physician visits, premedication, chemotherapy, laboratory procedures, ADE, hospitalization	NR	CMA
Murad (1997)[25]	UFT vs fluorouracil	equal benefits	direct: prechemotherapy, physician visits, premedication, chemotherapy, laboratory procedures, ADE, hospitalization	government	CMA
Larrieu (2000)[26]	conventional surgical and unconventional treatment (albendazole or puncture-aspiration–injection–respiration) vs hydatidosis control program	avoided costs	direct: consultation, derivation, hospitalization, diagnosis, treatment	NR	CBA
Levine (1993)[27]	vaccine vs no vaccine	avoided costs	direct: treatment, exams, procedures, hospitalization, sequelae	government	CBA
Quintero (2001)[28]	sevofluorane vs remifentanil + propofol	time between surgery end and hospital discharge, ADE	direct: drug acquisition	NR	CEA
Rodrigo (2003)[29]	ipratropium bromide + salbutamol vs salbutamol only	reduction in hospitalization frequency	direct: treatment, exams, procedures, hospitalization, sequelae	NR	CEA

ADE = adverse drug event; CBA = cost-benefit analysis; CEA = cost-effectiveness analysis; CMA = cost-minimization analysis; NR = not reported; SSRIs = selective serotonin-reuptake inhibitors; TCAs = tricyclic antidepressants; UFT = tegafur–uracil.

agencies (OS 3.3, SD 0.6). These scores were not significantly different (Kruskal–Wallis test; $\chi^2 = 0.86$; $p = 0.65$).

There were 15 (62.5%) CEAs, 6 (25.0%) CBAs, and 3 (12.5%) CMAs; no CUAs were found. CBAs scored highest (OS 2.8, SD 0.8), CEAs next (OS 2.7, SD 0.7), and CMAs lowest (OS 2.0, SD 0.5). These scores were not significantly different (Kruskal–Wallis test; $\chi^2 = 2.24$; $p = 0.32$). The average OS was 2.6 (SD 1.0). By country, the OS score was 2.7 (SD 0.6, n = 5) for Argentina, 2.4 (SD 0.6, n = 9) for Brazil, 2.4 (SD 1.2, n = 3) for Colombia, 2.3 (SD 0.5, n = 2) for Chile, 3.0 (n = 1) for Ecuador, 3.8 (n = 1) for Peru, 2.2 (n = 1) for Uruguay, and 3.4 (SD 0.6, n = 2) for Venezuela. These scores were not statistically different (Kruskal–Wallis test; $\chi^2 = 4.56$; $p = 0.71$).

The mean OS for individual articles ranged from a minimum of 1.4 (35%) to a maximum of 3.8 (95%) out of a possible score of 4. The mean OS for all articles combined was 2.6 (SD 1.0), and the median was 2.4. Expressed as a percentage, the average was 65% and the median was 60%. These scores could be considered poor to acceptable since half scored above 60% and half scored below that value. There was no trend in scores over time ($R^2 = 0.12$; $p = 0.104$).

Table 2 shows that mean GI scores and OSs were almost identical (2.7 and 2.6, respectively) and highly correlated ($r = 0.91$, $df = 22$, $p = 0.005$). The item with the highest mean score was "definition of study aim," and the question with the lowest mean OS was "ethical issues." The correlation between GI score and OS was 0.91 ($df = 22$, $p < 0.001$). Variability between the raters was less than 0.5 point on OSs and less than 1 point on all items.

There was a statistically significant difference between mean OSs for South American publications (OS 2.6) compared with previous studies from other parts of the world (OS 2.9,[3] OS 3.0,[4] both $p < 0.001$).

Table 3 summarizes quality category differences between South American publications and those published previously.[4]

Discussion

The mean OS for South American articles related to health economic analysis was 2.6 out of 4, considered to be acceptable. Expressed as a percentage (65%), it would be on the lower end of that classification. The scores ranged from 1.4 (very poor) to 3.8 (good). Only 4 (17%) articles were categorized as good. The majority (54%; n = 13) would be described as poor, indicating that improvements are needed.

We accessed databases from their inception to obtain the maximum number of articles available in the literature. This strategy was considered efficient since the years of publication ranged from 1984 to 2004.

Our findings are comparable to those from 2 previous studies that analyzed economic evaluations worldwide from 1989 to 1993[3] and from 1992 to 1995.[4] However, the mean OS score of 2.6 for our study in South American countries was somewhat lower than that shown in the previous quality assessments, which were 2.9 and 3.0, respectively. In all of these studies, the mean OS was very similar to the mean GI score (OS 2.6, GI 2.7). Differences between our findings and those from studies from other countries in total mean OSs and among scores for individual items could be related to a lack of health economics expertise in South America.

Table 1. Description of Selected Articles (continued)

Reference	Drug/ Alternatives Compared	Benefits/ Outcomes	Costs	Perspective	Type of Analysis
Rollán (2000)[30]	FAM vs OAT vs LAC1 vs LAC2	% of disease eradication	direct: consults, endoscopy, diagnostic tests	NR	CBA
San Sebastian (2001)[31]	hospital vs community health workers vaccination program	fully vaccinated children	direct: fuel, vaccine supplies, salaries, per diem allowances indirect: time spent at vaccination	NR	CEA
Shepard (1989)[32]	campaign vs routine immunization	number of deaths averted	direct: 3-day "round," preparatory measures, publicity, visits to households and health facilities	NR	CEA
Suarez (2002)[33]	second-line drug treatment for MDR tuberculosis vs 2 other second-line treatments for MDR tuberculosis	DALYs	direct: drug treatment, food parcels, physician consultations, DOT visits to MDR tuberculosis unit, committee evaluation, exams, adverse effects	government	CEA
Temporado Cookson (1997)[34]	CVD 103-HgR (vaccine) vs cholera treatment	savings from vaccination program	direct: cholera treatment costs, CVD 103-HgR costs	NR	CBA
Ward (1986)[35]	drugs vs radiotherapy vs surgery	% remission	direct: diagnostics, treatment, follow-up, complications	NR	CEA

CBA = cost-benefit analysis; CEA = cost-effectiveness analysis; DALYs = disability-adjusted life years; DOT = directly observed therapy; FAM = famotidine + amoxicillin + metronidazole; LAC1 = lansoprazole + amoxicillin + clarithromycin; LAC2 = lansoprazole + amoxicillin + clarithromycin; MDR = multidrug-resistant; NR = not reported; OAT = omeprazole + amoxicillin + tinidazole.

Other factors could include the inability to produce such analyses due to a lack of funding.

The types of questions with highest (definition of the study aim) and lowest (ethical issues) mean OS scores were the same as in previous quality assessments. The mode for this latter item was 1, which represents "not reported." Others have suggested the appropriateness and importance of discussing ethical implications of pharmacoeconomic analysis in policy-making and medical decision-making.[36,37]

We found only one item (definition of study aim) from the 12 item checklist that had a mean OS higher than 3 (acceptable); the others ranged from 1.5 to 2.9 (not reported to poor to acceptable). We also noted that some studies did not correctly present or report their statistical, cost, or benefit analyses, which could directly compromise the overall quality and reliability of the results presented by the South American articles.

It is known that this distribution (CBA > CEA > CMA) also reflects the complexity of the analyses, meaning that CMAs are easier to perform because they allow authors to focus only on the costing aspects. There are 2 explanations that can account for these inverse score results: (1) the expertise in health economic analysis in South America is focused more on complex studies, thereby resulting in the highest scores, or (2) the scoring scale could be biased against noncomplex analyses. Noncomplex studies presented answers for individual scores that were categorized as not applicable (ie, CMA, issues such as "Measurement of outcomes/benefits") and thus were not included in the scores.

Table 2. Global Impression and Mean Overall Score by Type of Question

Item[a]	Question	Mean OS	SD	Mode	Minimum	Maximum
1	Definition of study aim	3.0	0.8	3	2	4
2	Sample selection	2.8	1.0	4	1	4
3	Analysis of alternatives	2.9	0.8	2	2	4
4	Analysis of perspective	2.6	1.2	4	1	4
5	Type of analysis	2.7	1.4	4	0	4
6	Measurement of outcomes/benefits	2.6	1.3	2	0	4
7	Measurement of costs	2.8	0.8	2	2	4
8	Analysis of results	2.6	0.7	2	2	4
9	Discussion, assumptions, limitations	2.6	0.8	2	2	4
10	Ethical issues	1.5	0.9	1	1	4
11	Conclusions	2.7	0.9	2	1	4
All	Mean overall score	2.6	1.0		1.4	3.8
12	Mean global impression score	2.7	0.8	2	2	4

OS = overall score.
[a]n = 24 for all items.

We also found that several studies from South America did not report funding sources and other information, such as the perspective of the study and methods of statistical analysis. This information is considered very important. In the case of economic evaluations, it is crucial to identify whether the methodology was appropriately applied and the results can be extrapolated.

There are 2 major limitations to our study: (1) the definition of quality was applied more to the reporting than the actual execution of economic evaluations (which is impossible to observe) and (2) although the inter-rater reliability was found to be adequate, intra-rater reliability was not tested on the final analysis since raters analyzed studies independently. We assumed that the raters' experiences and backgrounds were adequate for this quality assessment.

There is always the potential of publication bias as well (ie, studies with negative or null findings may not have been published). Therefore, our findings may underestimate the true number of South American health economic analyses in the literature. Unfortunately, unlike meta-analysis, which can use funnel plots, statistical estimates, or file drawer calculations, there is no technique that can be applied to estimate such bias. Therefore, the extent and impact of this limitation remain unknown. However, the potential for publication bias is also present in the studies we compared (ie, quality assessment from other parts of the world), and OS from South America remain significantly lower.

Conclusions

We conclude that quality scores for South American health economic analyses were, on average, acceptable but lower than those shown in research from other industrialized countries. We recommend that South American countries develop and implement guidelines for economic evaluations to assist in providing higher-quality reports. Future research should examine the level of expertise, educational opportunities, and availability of training programs in South America's government, pharmaceutical industry,

Table 3. Comparison of Quality Scores of South American Publications and Those Previously Published from Other Countries[a]

	South America		Other Countries[4]	
Quality Category	n	%	n	%
Good	4	17	9	17
Acceptable	6	25	37	69
Poor	13	54	8	15
Unable to judge	1	4	0	0
Completely unacceptable	0	0	0	0
TOTAL	24	100	54	100

[a]Mann–Whitney U test (Z = 2.878; p = 0.04).

and universities to assess the level of skills of those performing health economic analyses.

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EXTRACTO

TRASFONDO: Los análisis de estudios económicos en salud han tomado gran relevancia a nivel mundial. No existen artículos que exploren la contribución de estos tipos de análisis realizados en América del Sur.

MÉTODOS: Los estudios tenían que haber examinado simultáneamente costos y resultados. Se realizó una búsqueda bibliográfica en

MEDLINE, EMBASE, LILACS, y SIETES usando las siguientes palabras claves: costo-efectividad, costo-utilidad, reducción de costo, costo beneficio, las abreviaturas (por sus siglas in inglés) CEA, CUA, CMA, CBA, y todos los nombres de los países de América del Sur. Los artículos fueron clasificados por tipo y país por 2 evaluadores independientes. La calidad de los artículos fue determinada usando una hoja de 12 criterios con las siguientes puntuaciones: 4 (bueno), 3 (aceptable), 2 (pobre), 1 (no puedo juzgar), y 0 (inaceptable).

RESULTADOS: Se seleccionaron 25 artículos y se rechazó uno que estaba duplicado, para un total de 24 (CEA = 15, CBA = 6, CMA = 3; Brazil = 9, Argentina = 5, Colombia = 3, Chile = 2, Ecuador = 2, 1 para Perú, Uruguay, y Venezuela). La variabilidad entre evaluadores fue menor de 0.5 puntos de las puntuaciones totales (OS, por sus siglas en inglés) y menor de 1 punto en todos los criterios individuales. El promedio de las puntuaciones totales fue de 2.6 (desviación estándar = 1.0, rango 1.4–3.8). Los análisis de costo beneficio tuvieron las puntuaciones más altas (OS = 2.8, DE = 0.8), seguido por los de costo efectividad (OS = 2.7, DE = 0.7), siendo los de reducción de costos los de puntuación más baja (OS = 2.0, DE = 0.5). El criterio denominado "definición del objetivo del estudio" obtuvo la puntuación mayor (OS = 3.0, DE = 0.8) y el de "aspectos éticos" la menor (OS = 1.5, DE = 0.9). Por país, Perú obtuvo la puntuación más alta (puntuación total promedio = 3.8) y Uruguay la más baja (puntuación total promedio = 2.2). No se observó una tendencia significativa en las puntuaciones totales con respecto al tiempo de publicación ($R^2 = 0.12$; $p = 0.104$).

CONCLUSIONES: Las puntuaciones de calidad fueron de "pobres" a "aceptables" y más bajas que en investigaciones previas en otros países. Es necesario establecer estrategias para mejorar la calidad de los análisis económicos en salud en América del Sur. En el futuro, las investigaciones deben examinar el nivel de peritaje y las oportunidades educativas de los que tienen responsabilidad de realizar estudios económicos en salud en América del Sur.

Homero A Monsanto

RÉSUMÉ

MISE EN CONTEXTE: Les analyses en économie de la santé sont devenues importantes dans les systèmes de soins de santé à travers le monde. Aucun article n'a étudié la contribution des pays d'Amérique du Sud.

OBJECTIF: Parcourir la littérature pour revoir, quantifier, et évaluer la qualité des analyses économiques publiées en Amérique du Sud.

MÉTHODES: Les études devaient avoir examiné les coûts et les résultats. La recherche a été faite dans MEDLINE, EMBASE, LILACS, et SIETES en utilisant les mots-clés cost-effectiveness, cost-utility, cost-minimization, cost-benefit, les abréviations CEA, CUA, CMA, CBA, et tous les noms de pays sud-américains. Les articles ont été classés en deux catégories par 2 réviseurs indépendants. La qualité a été évaluée par une liste de 12 critères avec des scores correspondants: 4 (bon), 3 (acceptable), 2 (faible), 1 (incapacité de juger), et 0 (inacceptable).

RÉSULTATS: Vingt-cinq articles ont été identifiés dont un était mentionné à 2 reprises, en laissant 24 pour l'évaluation (CEA = 15, CBA = 6, CMA = 3; Brésil = 9, Argentine = 5, Colombie = 3, Chili = 2, Équateur = 2, et 1 chacun pour le Pérou, l'Uruguay et le Vénézuela). La variabilité entre les évaluateurs était inférieure à 0,5 point pour les scores sommaires (SS) et à 1 point pour les critères individuels. La moyenne des SS était de 2.6 (ET = 1.0), intervalle 1.4–3.8). Les études de coûts-bénéfices ont obtenu les scores les plus élevés (SS = 2.8; ET = 0.5) suivies des études de coûts-efficacité (SS = 2.7; ET = 0.7). Les études de minimisation de coûts ont obtenu les scores les plus faibles (SS = 2.0; ET = 0.5). Le critère portant sur la définition du but de l'étude a obtenu le score le plus élevé (SS = 3.0; ET = 0.8) contre le score le plus faible pour les questions éthiques (SS = 1.5; ET = 0.9). Par pays, le Pérou a obtenu le score le plus élevé (SS moyen 3.8) alors que l'Uruguay a obtenu le score le plus faible (SS moyen 2.2). Une tendance à travers le temps non significative a été notée ($R^2 = 0.12$; $p = 0.104$).

CONCLUSIONS: La qualité des scores variait de faible à acceptable et était moins élevée que celle rapportée dans la littérature d'autres pays. Des efforts sont requis pour améliorer la qualité des analyses économiques portant sur la santé. Des études futures devraient examiner le niveau d'expertise et la façon d'améliorer les connaissances sur l'économie de la santé en Amérique du Sud.

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