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EMPRICAL PAPER

Psychological intervention change measurement in Latin America: Where from? Where to?

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ABSTRACT

Objective: To conduct a scoping review of measure utilization in Latin America. We relate the findings to the needs of the region and give recommendations for measure usage in LA.
Methods: Six electronic databases (PubMed, Web of Science, CINAHL, PsychInfo, SCOPUS, and SCIELO) were searched to identify peer-reviewed literature. In total, 207 studies using change and/or outcome measures were identified based on a priori inclusion criteria.
Results: Production by country varied markedly; more than three quarters of the studies took place in just three of the 20 Latin American countries: Brazil, Chile, and Mexico. The most frequently used measures were the Outcome Questionnaire, Beck Depression Inventory-II, Hamilton Rating Scale, and Yale-Brown Obsessive-Compulsive Scale. The most common diagnosis was depression ($n = 54$).
Conclusions: Outcome and change research in Latin America is growing rapidly but future efforts should focus more tightly on the needs of the region, as well as on forging collaborations with researchers from other regions. The use of change measures for serial assessment throughout interventions is recommended in view of its adaptability to highly diverse Latin American social realities. Dissemination of research findings and promotion of outcome and change measure use through implementation of public policy is recommended.

Keywords: outcome measure; Latin America; psychotherapy research; publication strategies; scoping review

RESUMEN

Objetivo: Llevar a cabo una revisión del alcance de la utilización de las medidas de resultado en Latinoamérica. Los resultados encontrados son analizados en base a las necesidades de la región y se proponen recomendaciones para el uso de las medidas en la región.
Métodos: Seis bases de datos electrónicas (PubMed, Web of Science, CINAHL, PsychInfo, SCOPUS y SCIELO) fueron consultadas para identificar la literatura revisada por pares. En total, se identificaron 207 estudios que utilizaron medidas de cambio y/o resultado considerando los criterios de inclusión propuestos de antemano.
Resultados: La producción por país varió notablemente; más de tres cuarto de los estudios se desarrollaron en únicamente tres de los 20 países que conforman Latinoamérica: Brasil, Chile y México. Las medidas usadas con mayor frecuencia fueron el Outcome Questionnaire, el Inventario de Depresión de Beck-II, la Escala de Hamilton y la Yale-Brown Obsessive-Compulsive Scale. El diagnóstico más común fue la depresión ($n = 54$).
Conclusiones: La investigación sobre cambios y resultados esta creciendo rápidamente en Latinoamérica, sin embargo los esfuerzos futuros se debería ajustar de una manera más estrecha a las necesidades de la región, así como en forjar colaboraciones con investigadores de otras regiones. Se recomienda el uso de medidas de cambio para la evaluación continua a lo largo de las intervenciones aplicadas, en vista de su adaptabilidad a la diversidad de realidades sociales en Latinoamérica. La diseminación de los hallazgos en la investigación y la promoción del uso de las medidas de cambio y resultado en la implementación de políticas públicas es aconsejable.

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Clinical or Methodological Significance of this article: This study describes the state of outcome and change measurement for psychological interventions in Latin America through a scoping review and proposes directions in which it can best develop. Several recommendations are noted for future use and research of outcome measures in Latin America. We hope that this article can also serve as a platform to incentivize future collaboration with researchers from other regions.

This paper will review outcome and change measurement for psychological interventions in Latin America (LA) through a scoping review of the literature. Though we believe such a review to have intrinsic value, we also see it as a foundation from which to make suggestions for the future. To this end, this introduction will note the uses of therapy outcome and change measures and then give background about LA, which is necessary to derive appropriate implications from the findings in the discussion, particularly as to what type of measures may be more fitting for the region and why.

Outcome measures (OMs) can be defined broadly as indicators of the effect of an intervention (Smith et al., 2015). Outcome measurement can become an integral part of service design allowing practitioners to review change against benchmarks (Barkham et al., 2001; Fortney et al., 2017). It has been used for many years to establish the efficacy and effectiveness of psychotherapy within randomized controlled trials (RCT) traditionally assessing participants before and after an intervention (Lambert, 2013). In that paradigm, OMs were generally used with clinical samples defined by formalized diagnoses and the OMs focused on markers of the diagnosis. However, recent authors have recommended supplementing or replacing symptom measures with measures that assess general distress (Tarescavage & Ben-Porath, 2014) and quality of life (McPherson et al., 2009) to reflect a broader model of recovery (Anthony, 1993).

Although measuring the effect of an intervention at, or even better, after its conclusion is useful and sometimes necessary, tracking ongoing changes within psychological interventions with repeated assessments is also desirable and has developed markedly in the last 15–20 years. While the term "outcome measure" was much used in the former paradigm, often the same measures are now used repeatedly, usually on a session-by-session basis throughout the course of an intervention.

Repeated and sessional measurement can detect the fluctuation, dynamics, and patterns of change, which might not be gradual or linear (Hayes et al., 2007) and might be very badly summarized by traditional beginning/ending "outcome measurement," as shown by research that indicates that sudden gains in one between-session interval might be as large as the total gain of the client during the whole treatment (Stiles et al., 2003). Thus, within-therapy change measurement can reveal predictors and mechanisms of change and allow for richer comparisons between clients, therapists, treatments, and services than traditional outcome measurement. Though there are measures designed more in line with one paradigm or the other, this review uses "outcome or change measures" to reflect that the distinction is more about the use rather than the type of measure.

As research on psychological interventions has expanded significantly in recent years (Nathan & Gorman, 2015), outcome and change measure utilization and development has grown in parallel with this. However, there is a paucity of systematic research exploring the "how," "why," and "what" of measure selection and utilization. Compounding this, the vast majority of measure development and utilization takes place in developed countries, reflecting the concentration of research production in those areas. As well as dominating research output, these are the regions in which systematic data collection is a common practice (Greenhalgh et al., 2014). Outside of developed countries, there is limited research on measure development and utilization (De la Parra, 2013). In line with this, few measures have been developed, adapted, and/or validated in Spanish, although the number seems to be growing. The "how," "why," and "what" of OM usage requires exploration paying careful attention to human, economic and political geography.

LA is far from a unitary or homogenous region (Weaver, 2000). There are widely disparate realities across different countries linguistically, economically, politically, and in health care. While the dominant languages are Spanish, Portuguese, and French, the estimated number of indigenous languages is disputed but well over 100. This review is confined to work published in Spanish or Portuguese, the most commonly used languages in the region. Latin American economies are heterogeneous, with gross domestic product per capita that varies substantially (from $2,141 in Nicaragua to $17,874 in Uruguay), while most economic activity is concentrated in a few countries such as Brazil, Mexico, Chile, and Argentina (OECD, CAF, & ECLAC, 2018). The economic outlook is varied but favorable for most countries. LA's political landscape has been characterized by considerable turmoil punctuated by dictatorships, although in the past 40 years democracy has grown (Di Tella, 2004). Infrastructure, including access to quality health care, varies across regions

with some areas being on par with developed nations while others have limited resources (The World Bank Group, 2019).

Mental health services are often precarious in LA, with large treatment gaps and there are widespread shortages of mental health professionals which contribute to the inadequacy of the systems (Bruckner et al., 2011; World Health Organization, 2011); this despite of mental health illness accounting for almost one-quarter of the burden of disease for the region (Lund et al., 2012; World Health Organization, 2013). In addition, mental health treatments in LA are characterized by diversity of theoretical approaches. De la Parra (2013) presented the results of a survey responded by clinicians and researchers in psychotherapy from different countries in Latin America showing that at least four approaches are used in the region: Psychodynamic, Cognitive–Behavioral, Integrative/ Eclectic, Systemic, and Gestalt/Humanistic. Moreover, community psychology, a school of thought and practice that embraces social justice, provides a positive model of mental health and recovery, and strives for the integration of the individual into society (Montero, 2018), is widely adopted in Latin American mental health systems (Wiesenfeld, 2012). Each approach has its own procedures and structure, which results in treatments with different durations and frequencies of sessions (Erekson et al., 2015).

To the best of the authors' knowledge, no systematic review of psychotherapy outcome and change measures in LA has been conducted despite its importance in light of the mental health care needs of the region and the benefits of benchmark tracking. This study aimed to conduct a scoping review of measure utilization in this region. In so doing, we intended to identify countries in which OM studies took place, the measures most used with adults, and the studied population (clinical vs. non-clinical).

Methods

The present study followed the guidelines proposed by Arksey and O'Malley (2005) in which five phases are recommended: (1) defining the research question, (2) identifying relevant studies, (3) selecting the studies in the light of the inclusion criteria, (4) processing and charting the data, and (5) reporting the results and these numbered phases are described below.

Phase 1: Defining the Research Question

Given the lack of information regarding the use of OMs in LA, the focus of the present study was to understand the size and scope of the peer-reviewed literature, which included outcome and/or change measures of psychological interventions in Spanish in LA. Several specific questions guided the search:

(1) Which Latin American countries have conducted studies using outcome and change measures for psychological interventions?
(2) Which measures for psychological interventions have been used in research in LA?
(3) What populations have been studied with measures of therapy change in LA?

Phase 2: Identifying Relevant Studies

The searches were carried out between May 27, 2019 and Jun 14, 2019. Six databases were searched: PubMed, Web of Science, CINAHL, PsychInfo, SCOPUS, and SCIELO, to identify peer-reviewed literature. Separate searches were conducted for each database: the first using terms in English, the second using Spanish translations of those terms, and the third using the Portuguese translations. The queries included the following terms: outcome measure [*medida de resultado*], treatment outcome [*resultado de tratamiento*] [*resultado do tratamento*], psychotherapy [*psicoterapia*], psychological treatments [*tratamientos psicológicos*] [*tratamentos psicológicos*], counseling [*consejería*] [*aconselhamento*] outcome and process assessment [*evaluación del proceso y resultado*] [*avaliação de resultados e processos*], and Latin America [*Latinoamérica*] [*América Latina*]. When including "Latin America" as a search term the results were limited, hence the names of the 20 countries, and one dependency, were added to the query (Argentina, Brazil, Belize, Bolivia, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Dominica Republic, Uruguay, and Venezuela). All the studies published until December 31, 2018 were included.

Phase 3: Study Selection

First, duplicated studies were identified and removed. Second, two independent reviewers (C.P. & G.M) screened the titles and abstracts of the remaining studies in order to determine which studies met inclusion criteria. All the peer-reviewed literature conducted in LA which used at least one outcome or change measure for psychological intervention in Spanish or Portuguese and studied adult population was included. Third, the full text articles

included at the second phase by at least one of the reviewers were screened to verify whether they did meet the inclusion criteria. Fourth, the reviewers met and discussed the studies in which there were disagreements about their inclusion in the review and these were resolved through consensus.

Phase 4: Processing and Charting the Data

K.P. conducted data extraction and the variables of interest included: year of publication, participants sampled, type of publication, outcome and change measures used, country in which the study was conducted, language of the publication, type of diagnosis, authors' affiliation country, and journal in which the study was published. C.P. and G.M. supervised data extraction.

Phase 5: Reporting the Results

Data was analyzed and reported based on the research question and the variables of interest. Graphs and analysis were conducted using R software (R Core Team, 2018).

Results

The queries of all databases resulted in $N = 3{,}834$ references. After the removal of duplicates, 2,427 references remained (Figure 1 shows the PRISMA flow chart of study identification and selection). The two reviewers independently screened the title and the abstract to determine eligibility based on the inclusion and exclusion criteria. After this first screening, the degree of agreement between raters was calculated using Cohen's kappa. The inter-rater

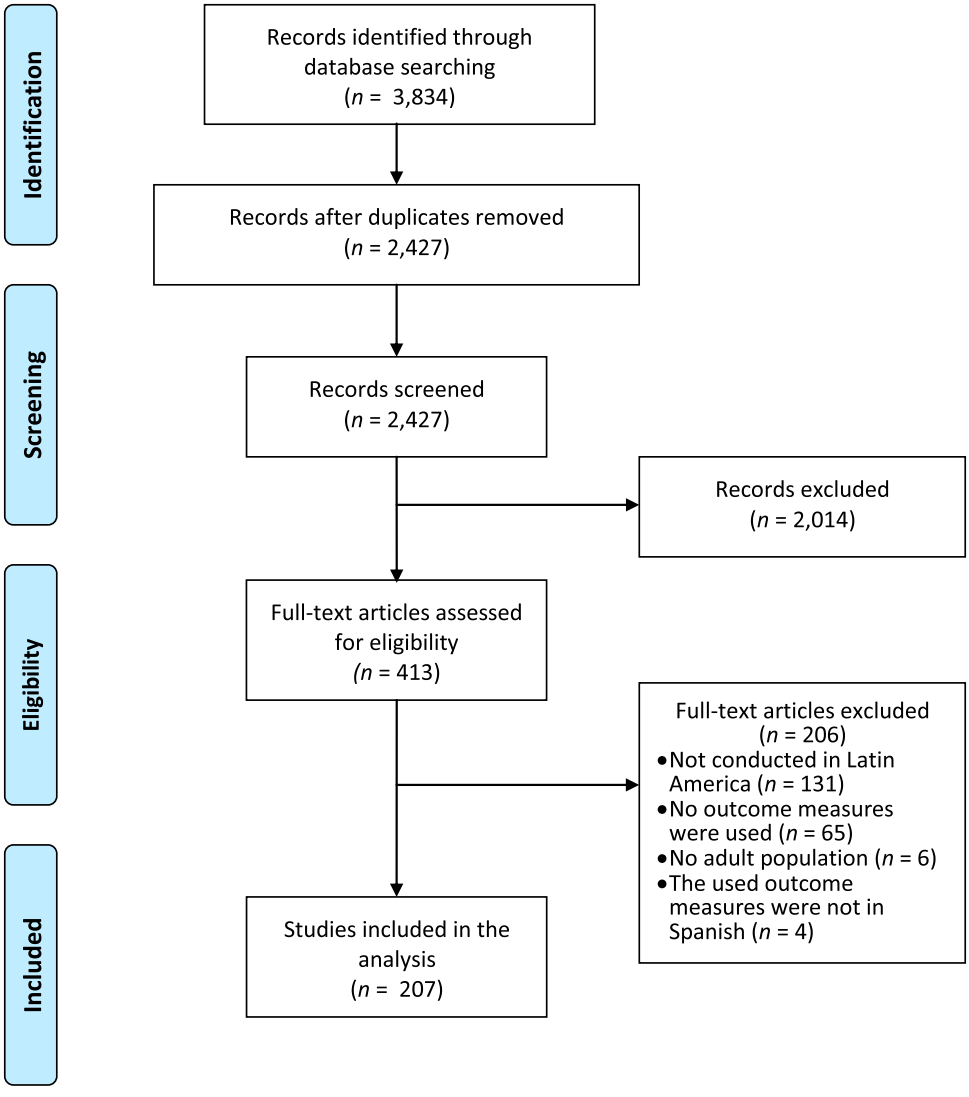

Figure 1. PRISMA flow chart of study identification and selection process.

reliability was good ($\kappa = .86$, 95% CI [.83, .88]). In the second screening, the two reviewers assessed 413 full-text articles for eligibility. As noted above full-text articles were sought for all studies included by at least one of the reviewers in the first screening. The inter-rater reliability was excellent ($\kappa = .91$, 95% CI [.87, .95]). The reviewers discussed those articles in which there were discrepancies about eligibility and reasons for exclusion, which left 207 articles meeting the criteria from which data was extracted and results obtained.

Study Location

The included studies were published between 1990 and 2018 (Figure 2). The majority of the studies were conducted in the last 10 years ($n = 164$), with most ($n = 26$) in 2017. Eight studies reported data from multiple countries (including at least one in LA), while the remaining studies were conducted solely in LA ($n = 199$, 96%). Most studies were conducted in Brazil ($n = 107$), followed by Chile ($n = 54$), Mexico ($n = 19$), Argentina ($n = 13$), Colombia ($n = 7$), Cuba ($n = 3$), Puerto Rico ($n = 3$), Costa Rica ($n = 2$), and the remainder were distributed between El Salvador, Honduras, Nicaragua, Peru and Venezuela, with one study conducted in each of these countries. English was the most common language of publication (83%), followed by Spanish (11%) and Portuguese (6%). Only two articles presented the article in two languages, English and Spanish. The 207 articles were published across 123 journals; *Revista Brasileira de Psiquiatria* ($n = 11$) published the highest number of articles, followed by *Psychotherapy Research* ($n = 9$), *Journal of Affective Disorders* ($n = 8$), *Research in Psychotherapy: Psychology, Process and Outcome* ($n = 7$), *Revista Argentina de Clínica Psicológica* ($n = 6$), and lastly *Trials*, *Behavioral and Cognitive Psychotherapy* and *Terapia Psicológica*, which had 5 articles each. The remaining

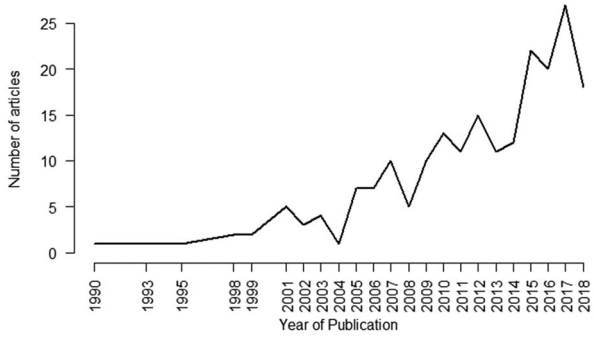

Figure 2. Number of outcome and change measure studies published between 1990 and 2018 in Latin America.

115 journals each had four articles or fewer. The authorship of most studies was exclusively from Latin American countries (78%), 20% of the articles involved authors from LA and other regions and 2% of the articles had no authors with Latin American affiliations. Affiliations outside of LA came from 14 countries: most from the United States ($n = 22$), followed by United Kingdom ($n = 9$), Spain ($n = 5$) and Israel ($n = 5$). Other countries were Canada ($n = 3$), Germany ($n = 3$), Australia ($n = 2$), Sweden ($n = 1$), Ireland ($n = 1$), Italy ($n = 1$), Portugal ($n = 1$), France ($n = 1$), Switzerland ($n = 1$), and New Zealand ($n = 1$).

Measures Used

In total, 109 different measures were identified. The Beck Depression Inventory-II (BDI-II; A. Beck et al., 1996) was the most commonly used measure ($n = 71$), followed by several formats of the Outcome Questionnaire (OQ-45.2, OQ-30.2; Lambert et al., 1996), which was used in 42 studies, the Hamilton Rating Scale for Depression (HRS-D; Hamilton, 1960), used in 30 studies, the Clinical Global Impression scale (CGI; Guy, 1976) in 28 studies, the Beck Anxiety Inventory(BAI; A. T. Beck et al., 1988) in 25 studies, the Hamilton Rating Scale for Anxiety (HRS-A; Hamilton, 1960) and the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989), used in 21 studies each, several formats of the Symptom Checklist (SCL): the revised version (Derogatis, 1994) and a short version (Abuín & Rivera, 2014), used in 15 studies, the World Health Organization Quality of Life Assessment (WHOQOL; The WHOQOL Group, 1995) in 13 studies, and the Short Form Health Survey (SF-36; Ware et al., 1993) in 12 studies. See Table 1 for detailed information of these measures according the type of study and the country where they were used.

We classified the OMs into two groups: one group contained those measures that can be considered as global measures of psychological distress (Tarescavage & Ben-Porath, 2014): OQ-45.2 (Lambert et al., 1996), OQ-30.2 (Errázuriz et al., 2017), Depression, Anxiety and Stress Scale (Lovibond & Lovibond, 1995), Outcome Rating Scale (Miller & Duncan, 2000), and Psychological Well-being Scale (Ryff, 1989). The second group contained all those measures that assess symptoms specific to some psychological disorder, e.g., BDI (Beck et al., 1996). The SCL variants (Derogatis, 1994) were counted as a symptom-specific measure when specific subscales were used and as general when only the Global Severity Index was analyzed. The studies using only specific measures accounted for

Table 1. Ten most utilized measures by country and type of study.

Measure	Country	Type of study (number of studies)
BDI	Argentina	Pre-post (3)
	Brazil	RCT (26), Pre-post (15), Case study (4), Psychotherapy process (3)
	Chile	Pre-post (4), Case study (2), Descriptive (2), Psychotherapy process (2), Validation and psychometrics (1)
	Honduras	RCT (1)
	Mexico	Case study (2), Pre-post (2), RCT (1)
	Puerto Rico	Psychotherapy process (1), RCT (1)
	Venezuela	RCT (1)
OQ	Argentina	Case study (1), Pre-post(1)
	Brazil	RCT (2), Validation and psychometrics (2)
	Chile	Psychotherapy process (18), Pre-post (4), Validation and psychometrics (4), Case study (3), RCT (3), Descriptive (1)
	Colombia	Validation and psychometrics (1)
	El Salvador	Case study (1)
	Mexico	Pre-post (1)
CGI	Brazil	Pre-post (12), RCT (12), Psychotherapy process (2), Case study (1), Validation and psychometrics (1)
BAI	Brazil	Pre-post (7), RCT (11), Case study (3), Psychotherapy process (2),
	Chile	Case study (1)
	Mexico	Pre-post (1)
HRS-D	Argentina	Pre-post (1)
	Brazil	RCT (11), Pre-post (5), Case study (1), Psychotherapy process (1)
	Chile	RCT (2), Cost-effectiveness study (1), Pre-post (1), Psychotherapy process (1)
	Colombia	Pre-post (1), RCT (1)
	Cuba	Pre-post (1)
	Honduras	RCT (1)
	Mexico	RCT (1)
	Venezuela	RCT (1)
HRS-A	Brazil	Pre-post (11), RCT (6), Case study (1), Psychotherapy process (1),
	Chile	Pre-post (1)
	Mexico	RCT (1)
Y-BOCS	Argentina	RCT (1)
	Brazil	RCT (9), Pre-post (5), Psychotherapy process (5), Validation and Psychometrics (1)
SCL	Argentina	Case study (2), Pre-post (1), Validation and Psychometrics (1)
	Brazil	Psychotherapy process (2), Pre-post (1), RCT (1)
	Chile	Pre-post (1), Case study (1), Validation and Psychometrics (1)
	Mexico	RCT (2), Psychotherapy process (1)
	Puerto Rico	Psychotherapy process(1)
WHOQOL	Argentina	Feasibility (1)
	Brazil	RCT (6), Pre-post(4), Psychotherapy process (1)
	Chile	Pre-post (1)
SF-36	Argentina	Feasibility (1)
	Brazil	Pre-post (4), RCT (4)
	Chile	RCT (2), Validation and psychometrics (1)

Note. BDI: Beck Depression Inventory; OQ: Outcome Questionnaire; CGI: Clinical Global Impression scale; BAI: Beck Anxiety Inventory; HRS-D: Hamilton Rating Scale for Depression; HRS-A: Hamilton Rating Scale for Anxiety; Y-BOCS: The Yale-Brown Obsessive Compulsive Scale; SCL: Symptom Checklist; WHOLOQ: World Health Organization Quality of Life Assessment; SF-36: Short Form Health Survey.

49% of the total, while 24% used only global measures and 27% used both types. Table 2 shows the study designs according the type of measures used. The global measures were more commonly used for studies of research in psychotherapy process ($n = 20$), while, symptom-specific measures were more commonly used in randomized controlled trials ($n = 45$) and pre–post non-randomized studies ($n = 33$). The majority of the studies used the measures in two assessment points: before the treatment and after the treatment ($n = 166$), while 28 studies used them in multiple, often sessional/weekly, measurements.

Population Studied

Most of the studies included a clinical sample ($n = 137$) consisting exclusively of participants presenting a diagnosis of a mental health disorder. Of these, the majority used only symptom-specific measures ($n = 74$), while 44 studies used both types of measures. Of

Table 2. Study design regards the type of outcome measure used.

Type of study	Global Measures	Symptom Specific	Both	Total
Randomized Controlled Trial	7	45	25	77
Psychotherapy process	20	9	4	33
Pre-post non-randomized study	9	33	18	60
Case study	3	6	8	17
Validation and psychometrics	8	5	1	14
Descriptive	1	3	0	4
Cost-effectiveness study	0	1	0	1
Feasibility study	1	0	0	1

the studies utilizing a non-clinical sample exclusively ($n = 61$), global measures ($n = 26$) and symptom-specific measures ($n = 27$) were used similarly; only eight studies used both type of measures. Nine studies had both clinical and non-clinical samples. Of those, six studies were validations and psychometric explorations; four used only global assessment measures, one study used only symptom-specific measures, and one used both types of measures.

The most common diagnosis for the studies that included a clinical sample was depression ($n = 54$), most of these studies were conducted in Chile ($n = 24$), followed by Brazil ($n = 13$) and Mexico ($n = 9$). The second most common diagnosis was obsessive-compulsive disorder ($n = 21$), and the vast majority of these studies were conducted in Brazil ($n = 19$). The other most common diagnoses were schizophrenia ($n = 9$), anxiety ($n = 9$), and post-traumatic stress disorder ($n = 7$). No discernible patterns were noted in regards to the country in which these diagnoses were studied (for more details of all the included studies, see supplementary material).

Discussion

To the best of our knowledge, this is the first study to explore the utilization of outcome measures in Latin America, so much will be gained by repeating this review after a suitable period of time, and there are, of course, limitations to this study. Our use of "outcome" and "psychological treatments" as key search terms obviously restricted the results to studies that coded their intervention and/or measure in that manner. We also did not attempt to explore any "grey literature" as our impression is that such material is very limited and not systematically available. These caveats matter but our findings provide a clear, if preliminary, understanding of this rapidly developing area. Results from this scoping review highlight the scarcity of research involving outcome/change measures in LA; this is consistent with global patterns of scientific research production in that most output comes from developed countries. In a bibliometric study of scientific production in public health from 2003 to 2011, Chinchilla-Rodríguez and colleagues (2015) found that only 6.57% of the world output emerged from LA (from 13% of the world's population). Within psychology research, LA accounted for approximately 1% of the global output in a study analyzing scientific output from 1999-2004, while Europe and North America accounted for 88% of production (Navarrete-Cortes et al., 2010).

Despite these geopolitical realities, the present study shows that outcome measurement research is an area of growth in LA. Omitting our geographical restrictors but otherwise using the same search terms and the same databases, we identified a total of 53,096 papers cf. our 3,844: i.e., 7% from LA. The earliest paper found globally was from 1947, while in LA the first study was from 1990. In addition, a marked acceleration in growth started in 2010 in LA, about ten years after a similar acceleration had happened globally. Aside from this difference, both curves showed acceleration in the last decade: 69% of the Latin American papers were from that decade versus 76.5% for the global figures.

Though OM research output from LA still lags somewhat behind that from North America and Europe, the current study shows that Latin American researchers conduct the overwhelming majority of OM research from LA and the recent increase in production suggests a growing local interest in the subject. However, the majority of articles from LA, 83%, were published in English. The dominance of publishing in English is understandable given that journals with the highest citation rates tend to be in English, however, this may limit the dissemination of research to countries with low English proficiency, leading to a differential impact across Latin America. Only Argentina is rated as having high general proficiency in English; Costa Rica, Dominican Republic, and Uruguay have moderate proficiency; while the remaining countries are rated as having low and very low proficiency (EF Education First, 2018).

Production by country varied significantly with no relation to English proficiency. More than three quarters of the studies came from Brazil, Mexico and Chile, which suggest economic factors may be influencing general research productivity, as these three countries have, respectively, the first, second and fifth highest gross domestic product at purchasing power parity in LA (International Monetary Fund,

2019). It would be unsurprising if production were not related to financial resources. Entwined with economics is availability of higher education and research settings: these three countries also have the highest number of top ranked universities in LA as estimated by the Spanish Consejo Superior de Investigaciones Científicas (2019). Within this subgroup, Brazil stands out as a key center for production, accounting for 52% of all articles selected. If considering only Spanish-speaking countries, Chile accounts for the majority of article production (54%).

Research in Chile is predominantly process oriented, while research in Brazil, Mexico and Argentina, the other three other countries with the highest research output, consists mostly of outcome studies (RCTs and pre–post). See details in Table 1. There are also differences and commonalities in the type of diagnosis by country: depression is the most commonly studied diagnosis in Chile, Mexico and Brazil, and the second most common diagnosis in Argentina after anxiety disorders. Brazil also has an unexpectedly high number of studies involving obsessive-compulsive disorder. Concentration of certain type of studies and diagnosis in the two countries with the most prolific production, Chile and Brazil, may result from specific research interest of groups in that area. For example, the vast majority of papers focused on OCD come from the Anxiety Disorders Program in Hospital de Clínicas Porto Alegre in Brazil, while the majority of Chilean psychotherapy process studies come from the Millennium Institute for Depression and Personality Research. This group has widely used the OQ as outcome measure, an instrument that has been validated and widely utilized in that country: 60% of the studies conducted in Chile utilized the OQ as an outcome measure.

Even though this review showed a wide variety of measures in use, 71% of the studies utilized one or more of the following four measures: OQ, BDI-II, HRS-D, and/or various forms of the Symptom Checklist. Of course, measure selection is limited by a lack of instruments either created for or adapted and psychometrically supported in LA. This is an important issue as 14 publications in the 207 were psychometric explorations in LA (involving OQ-45.2, SCL, BDI, Penn State Worry Questionnaire, and Yale-Brown Obsessive Compulsive Scale). There is clearly a pressing need for more studies of the psychometric properties of already used OMs in LA.

More studies used symptom specific (50%) rather than using global measures (23%) or using both (27%). Interestingly, 73% of psychotherapy process studies utilized global measures while 92% of RCTs used symptom-specific measures. This dominance of symptom specific measures is not dissimilar to those found in Europe (McPherson et al., 2009) or in North America (Froyd et al., 1996).

The focus on specific measures in trials driving "Evidence Based Practice" has been criticized by some authors arguing that symptom-specific measures fail to capture the increasing support of the recovery model (Anthony, 1993). McPherson et al. (2009) analyzed RCT studies used to develop depression treatment guidelines by the UK then National Institute for Clinical Excellence (later called the National Institute for Health and Care Excellence but still using the acronym NICE), which initially showed cognitive behavioral therapy had an apparent outcome superiority compared to other treatment modalities. However, this advantage disappeared when restricting results to those from general and quality of life measures rather than symptom-specific measures. The authors criticized the dominance of symptom-based change in mental health research, and proposed quality of life as a broader metric of recovery that takes into consideration a positive view of mental health as something more than merely the absence of pathology. This criticism and alternative view is congruent with already established models of mental health and psychological interventions developed and widely adopted in LA (Wiesenfeld, 2012) in response of the needs of the region. Latin American community psychology acts at the community level rather than in focusing on the individual in isolation, and its objectives are focused on increasing well-being and improving quality of life rather than decreasing specific symptoms (Montero, 2018). Whilst it can be argued that use of individual change measures is incongruent with the social focus of community psychology, there is no intrinsic contradiction between its tenets and general change measures and it seems that much would be gained by routine use of general changes measures in such work. By contrast, there is an obviously tension between use of diagnosis and problem focused measures and the philosophy of community psychology.

In this review, studies with multiple measurements ($n = 28$), generally sessional/weekly, were less common than those following the traditional paradigm of just two measurements ($n = 166$): "pre/post measurement" (though more often actually "assessment/last session" or "first session/last session"). However, the multiple repeated measures paradigm is increasingly used and recognized globally for the additional information it can give about change (Hayes et al., 2007; Stiles et al., 2003). Considering the fluid and complex nature of the Latin American society and diversity of short-term, long-term and community-based interventions, adopting routine repeated measures model may be particularly

important and may also capture the influence of abrupt economic and political changes that can profoundly and rapidly affect the reality of individuals' mental state. These are phenomena not well caught in traditional RCT nor pre/post routine change measurement.

Conclusion

Considering the findings in the light of the concrete realities of the LA landscape, several recommendations should be considered. First, it is unlikely that simple replication of practices of developed countries will be appropriate or beneficial for LA. The rapidly changing conditions in LA society suggests adopting a repeated measures design of assessment that places an emphasis on process as much as outcome. Secondly, the Latin American expertise in community psychology and its links with the recovery model suggest that a shift from emphasis on problem specific measures to general measures would be wise. Thirdly, given the comparative lack of resources in the region, dissemination and availability of outcome and change measures is imperative. Mental health services in LA are limited in both quantity and quality in proportion to a high burden of mental illness (World Health Organization, 2018). The use of standardized measures could improve efficient use of available resources and optimization of treatment approaches appropriate for the Latin American context. LA is characterized by heterogeneity in theoretical psychological orientations, types of interventions, clinical settings, and research purposes; therefore, embracing a measure that can be used across all these different realities might serve to create a common language, facilitating tracking and benchmarking of the region as a whole. Furthermore, the adaptation and validation of already commonly used measures globally may be appropriate as it can generate greater comparability of findings between LA and the rest of the world. This would potentially lead to mutually beneficial collaborations with researchers from developed countries, especially those with significant Spanish-speaking populations. To encourage the use of outcome and change measures, open-access research and copyleft instruments should be utilized, as well as Spanish language platforms in which to distribute these. Finally, we believe it is clear that change measurement should and will continue to grow and develop in LA if supported by public policies promoting the integration of standardized assessment practices that inform public health decision making and improve clinical practices into all services.

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References

Abuín, M. R., & Rivera, L. d. (2014). La medición de síntomas psicológicos y psicosomáticos: El Listado de síntomas Breve (LSB-50). *Clínica y Salud*, *25*(2), 131–141. https://doi.org/10.1016/j.clysa.2014.06.001

Anthony, W. A. (1993). Recovery from mental illness: The guiding vision of the mental health service system in the 1990s. *Psychosocial Rehabilitation Journal*, *16*(4), 11–23. https://doi.org/10.1037/h0095655

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, *8*(1), 19–32. https://doi.org/10.1080/1364557032000119616

Barkham, M., Margison, F., Leach, C., Lucock, M., Mellor-Clark, J., Evans, C., & McGrath, G. (2001). Service profiling and outcomes benchmarking using the CORE-OM: Toward practice-based evidence in the psychological therapies. *Journal of Consulting and Clinical Psychology*, *69*(2), 184–196. https://doi.org/10.1037//0022-006X.69.2.184

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*(6), 893–897. https://doi.org/10.1037/0022-006X.56.6.893

Beck, A., Steer, R., & Brown, G. (1996). *Manual for the Beck Depression Inventory- second edition (BDI-II)*. Psychological Corporation.

Bruckner, T. A., Scheffler, R. M., Shen, G., Yoon, J., Chisholm, D., Morris, J., Fulton, B. D., & Dal Poz M. R., Shekhar, S. (2011). The mental health workforce gap in low- and middle-income countries: A needs-based approach. *Bulletin of the World Health Organization*, https://doi.org/10.2471/BLT.10.082784

Chinchilla-Rodríguez, Z., Zacca-González, G., Vargas-Quesada, B., & Moya-Anegón, F. (2015). Latin American scientific output in public health: Combined analysis using bibliometric, socioeconomic and health indicators. *Scientometrics*, *102*(1), 609–628. https://doi.org/10.1007/s11192-014-1349-9

Consejo Superior de Investigaciones Científicas. (2019). *Ranking Web of Universities*. http://www.webometrics.info/en/node/54.

De la Parra, G. (2013). Psychotherapy research in developing countries: The case of Latin America. *Psychotherapy Research*,

23(6), 609–623. https://doi.org/10.1080/10503307.2013.830794

Derogatis, L. R. (1994). *Symptom Checklist-90-R: Administration, scoring & procedure manual for the revised version of the SCL-90*. National Computer Systems.

Di Tella, T. (2004). *History of political parties in twentieth-century Latin America*. Routledge.

EF Education First. (2018). *EF EPI* 2018. www.ef.com/epi.

Erekson, D. M., Lambert, M. J., & Eggett, D. L. (2015). The relationship between session frequency and psychotherapy outcome in a naturalistic setting. *Journal of Consulting and Clinical Psychology*, *83*(6), 1097–1107. https://doi.org/10.1037/a0039774

Errázuriz, P., Opazo, S., Behn, A., Silva, O., & Gloger, S. (2017). Spanish adaptation and validation of the outcome questionnaire OQ-30.2. *Frontiers in Psychology*, *8*(673), 1–9. https://doi.org/10.3389/fpsyg.2017.00673

Fortney, J. C., Unützer, J., Wrenn, G., Pyne, J. M., Smith, G. R., Schoenbaum, M., & Harbin, H. T. (2017). A tipping point for measurement-based care. *Psychiatric Services*, *68*(2), 179–188. https://doi.org/10.1176/appi.ps.201500439

Froyd, J. E., Lambert, M. J., & Froyd, J. D. (1996). A review of practices of psychotherapy outcome measurement. *Journal of Mental Health*, *5*(1), 11–16. https://doi.org/10.1080/09638239650037144

Goodman, W. K., Price, H., Rasmussen, S., Mazure, C., Fleischmann, R., Hill, C., … Charney, D. (1989). The Yale-Brown obsessive compulsive scale. *Archives of General Psychiatry*, *46*(11), 1006–1011. https://doi.org/10.1001/archpsyc.1989.01810110048007

Greenhalgh, T., Howick, J., & Maskrey, N. (2014). Evidence based medicine: A movement in crisis? *BMJ*, *348*(jun), g3725–g3725. https://doi.org/10.1136/bmj.g3725.

Guy, W. (1976). *ECDEU assessment manual for psychopharmacology*. US Department of Heath, Education, and Welfare Public Health Service Alcohol, Drug Abuse, and Mental Health Administration.

Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery, and Psychiatry*, *23*(1), 56–62. https://doi.org/10.1136/jnnp.23.1.56

Hayes, A. M., Laurenceau, J.-P., Feldman, G., Strauss, J. L., & Cardaciotto, L. (2007). Change is not always linear: The study of nonlinear and discontinuous patterns of change in psychotherapy. *Clinical Psychology Review*, *27*(6), 715–723. https://doi.org/10.1016/j.cpr.2007.01.008

International Monetary Fund. (2019). *Report for selected countries and subjects*. https://bit.ly/39vK0yr.

Lambert, M. J. (2013). Outcome in psychotherapy: The past and important advances. *Psychotherapy*, *50*(1), 42–51. https://doi.org/10.1037/a0030682

Lambert, M. J., Hansen, N., Umphress, V., Lunnen, K., Okiishi, J., Burlingamen, G., & Reisinger, C. (1996). *Administration and scoring manual for the OQ-45.2*. American Professional Credentialing Services.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33*(3), 335–343. https://doi.org/10.1016/0005-7967(94)00075-U

Lund, C., Tomlinson, M., de Silva, M., Fekadu, A., Shidhaye, R., Jordans, M., Petersen I., Bhana A., Kigozi F., Prince M., Thornicroft G., Hanlon C., Kakuma R., McDaid D., Saxena S., Chisholm D., Raja S., Kippen-Wood S., Honikman S., Fairall L.,& Patel, V. (2012). PRIME: A Programme to Reduce the treatment Gap for mental Disorders in five Low- and Middle-Income countries. *PLoS Medicine*, https://doi.org/10.1371/journal.pmed.1001359

McPherson, S., Evans, C., & Richardson, P. (2009). The NICE Depression guidelines and the recovery model: Is there an evidence base for IAPT? *Journal of Mental Health*, *18*(5), 405–414. https://doi.org/10.3109/09638230902968258

Miller, S., & Duncan, B. (2000). *The outcome rating scale*s.

Montero, M. (2018). Community psychology: A Latin American Creation. In R. Ardila (Ed.), *Psychology in Latin America* (pp. 195–219). Springer International Publishing.

Nathan, P., & Gorman, J. (2015). *A guide to treatments that work*. Oxford University Press.

Navarrete-Cortes, J., Fernández-López, J. A., López-Baena, A., Quevedo-Blasco, R., & Buela-Casal, G. (2010). La psicología a nivel mundial: Un análisis bibliométrico de las publicaciones en la Web of Science. *Universitas Psychologica*, *9*(2), 553–567. https://doi.org/10.11144/604

OECD, CAF, & ECLAC. (2018). *Latin American Economic Outlook 2017: Rethinking Institutions for Development*. doi: 10.1787/leo-2017-en

Pan American Health Organization. (2013). WHO-AIMS: Report on mental health systems in Latin America and the Caribbean .

R Core Team. (2018). *R: A language and environment for statistical computing. R Foundation for Statistical Computing*. https://www.r-project.org/.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069

Smith, P., Morrow, R., & Ross, D. (2015). *Field trials of health interventions: A toolbox* (3rd ed.). OUP Oxford.

Stiles, W. B., Leach, C., Barkham, M., Lucock, M., Iveson, S., Shapiro, D. A., Iveson M., Hardy, G. E. (2003). Early sudden gains in psychotherapy under routine clinic conditions: Practice-based evidence. *Journal of Consulting and Clinical Psychology*, *71*(1), 14–21. https://doi.org/10.1037/0022-006X.71.1.14

Tarescavage, A. M., & Ben-Porath, Y. S. (2014). Psychotherapeutic outcomes measures: A critical review for practitioners. *Journal of Clinical Psychology*, *70*(9), 808–830. https://doi.org/10.1002/jclp.22080

Ware, J. E., Kosinski, M., & Keller, S. D. (1993). *SF-36 physical and mental component summary scales: A user's manual*. The Health Institute, New England Medical Center.

Weaver, F. (2000). *Latin America in the world economy: Mercantile colonialism to global capitalism*. Routledge.

The WHOQOL Group. (1995). The World health Organization quality of life assessment (WHOQOL): Position paper from the World health Organization. *Social Science & Medicine*, *41*(10), 1403–1409. https://doi.org/10.1016/0277-9536(95)00112-K

Wiesenfeld, E. (2012). Community social psychology in Latin America: Myths, dilemmas and challenges. *Global Journal of Community Psychology Practice*, *3*(1), 26–41. https://www.gjcpp.org/pdfs/V3i1-0003 Wiesenfeld.pdf.

The World Bank Group. (2019). *The World Bank Indicators*.

World Health Organization. (2011). *Human resources for mental health: workforce shortages in low- and middle-income countries*.

World Health Organization. (2018). *World Health Statistics*. https://www.who.int/gho/publications/world_health_statistics/en/%0A%0A