Implementation of early psychosis services in Latin America: A scoping review

David Aceituno1,2 | Cristián Mena3,4 | Norha Vera1 | Alfonso Gonzalez-Valderrama3,4 | Ary Gadelha5,6 | Elton Diniz5 | Nicolas Crossley2,7 | Mark Pennington1 | Matthew Prina1

1Health Service & Population Research Department, Institute of Psychiatry, Psychology and Neuroscience, King’s College London, London, UK
2Department of Psychiatry, School of Medicine, Pontificia Universidad Católica de Chile, Santiago, Chile
3Early Intervention Program, J. Horwitz Psychiatric Institute, Santiago, Chile
4School of Medicine, Universidad Finis Terrae, Santiago, Chile
5Programa de Esquizofrenia (PROESQ), Department of Psychiatry, School of Medicine, Universidade Federal de São Paulo, São Paulo, Brazil
6Centro de Pesquisa e Inovação em Prevenção de Transtornos Mentais e uso de álcool e outras drogas (CEPIPREV), School of Medicine, Universidade Federal de São Paulo, São Paulo, Brazil
7Department of Psychosis Studies, Institute of Psychiatry, Psychology and Neuroscience, King’s College London, London, UK

Correspondence
David Aceituno, Health Service & Population Research Department, Institute of Psychiatry, Psychology and Neuroscience, King’s College London, London, UK. Email: david.aceituno_farias@kcl.ac.uk

Funding information
Research and Development

Abstract
Aim: The evidence of the effectiveness and cost-effectiveness of early intervention for psychosis (EIP) services has motivated their implementation worldwide. However, complex interventions of such EIP services require local adaptations to successfully match population needs and cultural differences. Latin America is a heterogenous region where EIP services are progressively being adopted. Our aim is to map such initiatives in the region with a focus on implementation outcomes.

Methods: A scoping review following the Preferred Reporting Items for Systematic review and Meta-Analysis extension for Scoping Reviews guidelines was conducted. International and regional databases were searched for publications describing EIP programmes in the region. Besides mapping the services, we described implementation outcomes based on the Standards for Reporting Implementation Studies Checklist.

Results: Ten articles describing seven EIP initiatives from the region were found. Four countries were represented: Argentina, Brazil, Chile and Mexico. The implementation outcomes reporting was heterogenous, although it was possible to ascertain EIP services are feasible and adequate for the region’s context. Also, there is some evidence of effectiveness in terms of reducing hospitalizations and improving symptoms. Information about fidelity measures was scarce and there was no information about costs or cost-effectiveness.

Conclusions: Only a small proportion of Latin American countries have adopted EIP services. Although these programmes seem to be feasible and effective, data on other implementation outcomes, such as fidelity, cultural appropriateness, cost-effectiveness and affordability are not available. This might in part explain why this effective approach has not been yet scaled-up at nationwide levels.

KEYWORDS
early medical intervention, health plan implementation, Latin America, mental health services, psychotic disorders
1 | INTRODUCTION

1.1 | Early intervention services worldwide

Early intervention for psychosis (EIP) services have consistently been shown to improve outcomes for people with psychosis in terms of symptoms, relapses, employment, suicide attempts and quality of life (Correll et al., 2018; Csillag et al., 2016). Furthermore, from an economic perspective, although a more specialized service might incur in higher costs, current evidence shows that EIP services reduce some costly interventions (Randall et al., 2015) and might be cost-effective across different countries (Aceituno, Vera, Prina, & McCrone, 2019).

The implementation of EIP around the globe is rather heterogeneous, regardless of country income and type of health system. For instance, a recent review of EIP services in Europe found high disparities in the region, with countries such as the United Kingdom, Norway, and Denmark providing nationwide programmes, while in France and Germany, EIP services seldom exist (McDaid, Park, Iemmi, Adelaja, & Knapp, 2016). Similarly, in Asia, EIP services have been successfully implemented in Singapore, Hong Kong, Korea, and Japan, developing a regional network of collaboration (Lee, 2013). However, the implementation of EIP services remains at local level in other Asian countries, supported mostly by research endeavours (Lee, 2013; Rangaswamy, Mangala, Mohan, Joseph, & John, 2012).

In low-and-middle-income countries (LMICs), the implementation of these services faces greater problems, such as scarce resources, weak infrastructure, absence of mental health policies, lack of healthcare workforce, and stigma (Saxena, Thornicroft, Knapp, & Whiteford, 2007). Despite this, the evidence behind EIP services has motivated researchers and early adopters to design ways of implementing such initiatives in less resourced settings. Different proposals have been suggested (see for example Chisholm et al (2008) and Farooq (2013) and more recently, the World Psychiatric Association (WPA) has set up an expert panel to develop guidelines and recommendations for EIP in LMICs, with expected results by mid-2020 (Singh, Javed, & WPA Expert International Advisory Panel for Early Intervention in Psychosis, 2020).

Finally, successful implementations require evidence that goes beyond clinical effectiveness. The emerging field of Implementation Science has expanded the scope of health service research by measuring outcomes at the implementation stage. For instance, Proctor et al (Proctor et al., 2011) propose a taxonomy of these outcomes for mental health, where the acceptability, adoption, appropriateness, feasibility, fidelity, penetration and sustainability of interventions are considered as relevant as symptoms reduction (Peters, Tran, Adam, &, World Health Organization, 2013; Proctor et al., 2011). This information is highly valuable because it allows planners and policy makers to implement the necessary adjustments that a particular setting might require. Also, it helps to understand the process by which an intervention is incorporated and to foresee eventual challenges other adopters might have encountered. However, thus far, the Early Intervention research agenda has focused mostly on fidelity measurements (Addington et al., 2018), which although relevant, neglect other important aspect of the implementation process.

1.2 | Latin American context

Latin America is a vast region comprising approximately 632 million people and 20 countries (United Nations, 2018). This region shares a colonial history and some cultural similarities, such as Latin-rooted language and Christian religion. In addition, several recognized risk factors of psychosis, such as violence, inequality, substance misuse and political and economic instability are especially prevalent in Latin America (Kohn et al., 2005; Pan American Health Organization, 2013).

Such disparities are reproduced at health systems level, which mirrors the state of EIP services development. For instance, in 2011, a literature review identified five EIP initiatives in only two Latin American countries (Brazil and Mexico) (Brietzke, Araripe Neto, Dias, Mansur, & Bressan, 2011). All these programmes were developed alongside research centres or universities, and they had not yet been scaled-up to the national level. However, more recently, new services have been implemented in the region, new evidence has been produced and a collaborative network for the study of psychosis has been created to move the field forward in the region (N. A. Crossley et al., 2019; N. Crossley et al., 2019). Hence, we aimed to review the state of implementation of EIP services in Latin America. We sought to map the evidence of such implementation, looking at the characteristics of the services currently taking place, with emphasis on implementation outcomes measures, such as acceptability, feasibility, fidelity, effectiveness, cost-effectiveness and sustainability.

2 | METHODS

We conducted a scoping review of the literature about the implementation of EIP services in Latin America, following the Preferred Reporting Items for Systematic review and Meta-Analysis extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018). A scoping review protocol was designed before starting the search based on the approach suggested by Arksey and O’Malley (Arksey & O’Malley, 2005) and the Joanna Briggs Institute (The Joanna Briggs Institute, 2015). The PRISMA-ScR checklist and the protocol are available in the supplementary materials.

2.1 | Eligibility criteria

According to current recommendations (Munn et al., 2018; Tricco et al., 2018), inclusion criteria of scoping reviews should be based on the type of participants under study, the concept to be examined and the context where the review is taking place. In our review, we applied the following inclusion criteria:

- Participants: Studies describing services for people in their early stages of psychosis, including first-episode psychosis (FEP) and clinical high-risk of psychosis (CHR-P) regardless of age, gender, location or comorbidities. We included studies using standardized methods to define psychosis according to the Diagnostic and
Statistical Manual of Mental Disorders or the International Classification of Disease criteria. We did not discard studies including affective psychoses.

- Concept: We selected studies addressing or describing EIP services. This included any type of intervention, programme or initiative specifically developed for people in their early stages of psychosis.
- Context: we included studies conducted in a Latin American country, according to the definition given by the United Nations Economic Commission for Latin America and the Caribbean. Studies including Latino population but conducted outside the region were excluded.

Anticipating a low number of studies, we kept our review as inclusive as possible; therefore, we included any type of study design, including qualitative analyses, case studies, observational and analytical studies.

2.2 | Information sources

Our search included standard databases and additional sources of information. Standard databases included the following: Medline, EMBASE, Global Health and PsycInfo. We also searched in Latin American databases such as LILACS and Scielo. Furthermore, we searched in the International Early Intervention in Mental Health Association (IEPA) website (https://iepa.org.au/services/). IEPA is a widely recognized non-profit international network of stakeholders working in the early phases of mental health problems and provides an updated database of EIP programmes around the world. Finally, we made direct contact with local mental health stakeholders, including policy makers, clinicians and service users via email.

2.3 | Search strategy

In order to make our search as comprehensive as possible, we included terms related to psychosis and Latin America without language or time restrictions. We used terms such as "psychosis," "psychotic disorders," "schizophrenia," "at-risk mental state," "prodrome" and every Latin American country. See Supplementary Materials for a full list of search terms.

2.4 | Selection process

Two reviewers (DA and ED) screened titles and abstract independently and compared them against inclusion criteria. Disagreements were solved by consensus or discussion with a third reviewer (AGV) if consensus was not achieved.

2.5 | Data extraction and management

We developed a data extraction based on the Standards for Reporting Implementation Studies Checklist (Pinnock et al., 2017) and the framework developed by Proctor et al. (Proctor et al., 2011). Consequently, for each included study we extracted general characteristics, such as study type, country and participants, as well as methods and implementation outcomes, such as acceptability, feasibility, fidelity measures, effectiveness, cost-effectiveness and sustainability. A detailed taxonomy can be found in the Supplementary Materials.

The data extraction was conducted by one of the team member (DA) and verified by another author (CM).

2.6 | Synthesis of results

We conducted a narrative synthesis of the results, considering the diverse methodologies, settings, and outcomes measured. Besides, our aim was mapping EIP services in the region rather than obtaining a summary statistic.

3 | RESULTS

3.1 | Literature search

We obtained 3282 unduplicated references from the searches. From these, 48 articles were reviewed in full text and 10 articles were included for analysis according to our inclusion and exclusion criteria. A PRISMA flowchart is depicted in Figure 1 and a list of excluded studies with reasons for exclusion can be found in the Supplementary Materials.

3.2 | Characteristics of included studies

The studies described seven EIP programmes (some articles referred to the same programme) and were conducted in Argentina, Brazil, Chile and Mexico. The study designs consisted of two randomized-controlled trials (RCTs) (Valencia, Juarez, Delgado, Diaz, et al., 2017; Valencia, Juarez, & Ortega, 2012), six observational studies (Cabral & Chaves, 2010; Chaves, 2007; Gaspar et al., 2019; Gonzalez-Valderrama et al., 2017; Louzã, Azevedo, Macedo, & Gattaz, 2008; Padilla et al., 2015) and two qualitative analyses (Eisenstadt, Monteiro, Diniz, & Chaves, 2012; Valenzuela, Pastorino, Alvarado, Villalón, & Vanegas, 2012). Sample sizes ranged from 16 to 102 participants with a mean (SD) of 33.7 (34.1) participants. Most of the studies were conducted in specialized settings, mainly research centres or tertiary care, with only two studies carried out in primary care (Padilla et al., 2015; Valenzuela et al., 2012).

The population of interest was FEP in 8 out of 10 studies, although the types of intervention differed. For instance, two studies (Padilla et al., 2015; Valenzuela et al., 2012) evaluated training healthcare professionals in primary care to improve detection and referral of people with early psychosis. Conversely, six studies (Cabral & Chaves, 2010; Chaves, 2007; Eisenstadt et al., 2012;
Gonzalez-Valderrama et al., 2017; Valencia et al., 2017, 2012) assessed the impact of multidisciplinary teams working in stand-alone services for people with FEP. The interventions delivered by these teams generally consisted in low-dose antipsychotics, psychosocial interventions including psychoeducation and family involvement, as well as social-skill training. This package of interventions is consistent with international guidelines and previously published work (Addington et al., 2018; Bertolote & McGorry, 2005; Correll et al., 2018).

Additionally, we were able to find two articles describing specialized services for people at high-risk of psychosis (Gaspar et al., 2019; Louzà et al., 2008). These services included formal assessment of prodromal symptoms based on widely recognized instruments (P. Fusar-Poli et al., 2016; Paolo Fusar-Poli, 2017) and a mix of psychosocial interventions and medications to prevent or delay a full-blown psychosis episode, with one case also including a public campaign through newspapers, radio and TV to increase awareness of early psychosis (Louzà et al., 2008).

A list with the main characteristics of the included studies can be found in Table 1.

3.3 Implementation outcomes

In terms of implementation outcomes, the studies were heterogeneous. However, none of the included studies was comprehensive enough to include all of the items suggested by current guidelines (Pinnock et al., 2017; Proctor et al., 2011). All of the programmes...
were adopted at local level (hospital or health service) and interacted with other elements of the system, which is compatible with evidence of the feasibility and initial penetration of EIP services, according to the Proctor et al taxonomy (Proctor et al., 2011). Nevertheless, only a minority of the programmes described the appropriateness of the intervention. Likewise, the effectiveness of the interventions was reported by 3 out of 10 studies, with favourable results to EIP services. Furthermore, only two programmes (Gaspar et al., 2019; Valencia et al., 2012) measured the fidelity of some of their components and although the interventions described are consistent with other EIP services (Correll et al., 2018), none of the studies reported fidelity measures at service level.

Additionally, we found no evidence about affordability, costs and cost-effectiveness of these programmes. Finally, in terms of sustainability, although some programmes have continued within their hospitals or research centres, none of them have been scaled-up at national level.

A list of the included studies with implementation outcomes is depicted in Table 2 and a detailed description by country is presented below.

### Table 1: Characteristics of included studies

| Reference          | Country   | Study design | Population | Intervention                                                                 | Setting            | Sample | Follow-up |
|--------------------|-----------|--------------|------------|-------------------------------------------------------------------------------|--------------------|--------|-----------|
| Padilla et al., 2015 | Argentina | Cohort       | FEP        | Training to health coordinators to improve referral of cases with FEP.         | Primary care       | 53     | 10 years  |
| Eisenstadt et al., 2012 | Brazil    | Qualitative  | FEP        | Outpatient programme consisting in (a) pharmacotherapy, (b) family psychoeducation, and (c) patients psychoeducation. | Urban, tertiary care | 16     | NA        |
| Cabral & Chaves, 2010 | Brazil    | Cross-sectional | FEP     | Outpatient programme consisting in (a) pharmacotherapy, (b) family psychoeducation, and (c) patients psychoeducation. | Urban, tertiary care | 46     | NA        |
| Louza et al., 2008 | Brazil    | Cross-sectional | CHR-P     | Outpatient programme consisting in (a) psychoeducation, (b) follow-up and (c) Community campaign to detect CHR-P. | Urban, tertiary care | 18     | NA        |
| Chaves, 2007       | Brazil    | Cross-sectional | FEP      | Outpatient programme consisting in (a) pharmacotherapy, (b) family psychoeducation, and (c) patients psychoeducation. | Urban, tertiary care | 45     | NA        |
| Gaspar et al., 2019 | Chile     | Cohort       | CHR-P      | Inpatient programme consisting in (a) pharmacotherapy, (b) family psychoeducation, and (c) CBT. | Urban, tertiary care | 27     | 2 years   |
| Gonzalez-Valderrama et al., 2017 | Chile | Cohort         | FEP    | Inpatient and outpatient programme consisting in (a) pharmacotherapy, (b) family psychoeducation, (c) CBT, and (d) occupational therapy. | Urban, tertiary care | 55     | 10 weeks  |
| Valenzuela et al., 2012 | Chile  | Qualitative  | FEP        | Training to healthcare professionals and teachers to improve referral of FEP patients. | Primary care       | 186    | NA        |
| Valencia et al., 2017 | Mexico  | RCT          | FEP        | Outpatient programme consisting in (a) pharmacotherapy, (b) family psychoeducation, and (c) psychosocial treatment. | Urban, tertiary care | 102    | 6 months  |
| Valencia et al., 2012 | Mexico  | RCT          | FEP        | Outpatient programme consisting in (a) pharmacotherapy, (b) family psychoeducation, and (c) psychosocial treatment. | Urban, tertiary care | 102    | 12 months |

Abbreviations: CBT, cognitive-behavioural therapy; CHR-P, clinical high-risk of psychosis; FEP, first-episode psychosis; NA, not applicable; RCT, randomized-controlled trial.
| Programme | Acceptability | Adoption | Appropriateness | Feasibility | Fidelity | Penetration | Sustainability | Cost-effectiveness |
|-----------|--------------|----------|----------------|-------------|----------|-------------|----------------|-------------------|
| Investigation of Movement Abnormalities and Genetic of Schizophrenia study (IMAGES) [Argentina] | No description | Yes. At regional level | No description | Yes. Six years of continuous training | No description | Yes. Implementation at primary care level. | No. Intervention ceased after study completion. | No description |
| Psychosis Episode Programme of the Federal University of São Paulo (UNIFESP-EPM). [Brazil] | Yes. Good acceptability of the intervention by family members. No information of other stakeholders. | Yes. Programme adopted at hospital level. | Yes. Over 95% of the families considered the intervention fitted their needs. | Yes. Adequate reach of family members. | No description | Yes. Referral from A&E, primary and secondary care. | Partially. Stable programme since 1999 at local level, but not scaled-up. | No description |
| ASAS programme (Avaliacao e seguimento de Adolescentes e Adultos Jovenes em Sao Paulo) [Brazil] | No. Most schools refused the programme to talk about psychosis with the teachers. | Yes. At research centre and communities that accepted the intervention. | No description | Yes. Between 2004 and 2007 | No description | Partial. Some schools that agreed to participate | No. Intervention ceased after study completion. | No description |
| University of Chile High-risk Intervention Program (UCHIP) [Chile] | Yes. Compliance to psychosocial interventions and medications was between 62.9% and 85.2, respectively. | Yes. Programme adopted at university hospital. | No description | Yes. Four years of programme | Yes. Psychoeducation according to Spanish guideline PIENSA. Medications according to National Guidelines. | Yes. Referral from A&E and secondary care. No other system levels integration. | Partial. Stable programme at local level, but not scaled-up. | No description |
| Early Intervention in Psychosis (EIP) Program, Psychiatric Institute "Dr. José Horwitz B." [Chile] | No description | Yes. Programme adopted at hospital level. | No description | Yes. Ten years of programme | No description | Yes. Referral from A&E, primary and secondary care. | Partial. Stable programme at local level, but not scaled-up. | No description |

(Continues)
3.3.1 | Brazil

Four studies from Brazil met our inclusion criteria (Cabral & Chaves, 2010; Chaves, 2007; Eisenstadt et al., 2012; Louzã et al., 2008). They describe two EIP services, both from Sao Paulo.

Brazil has a unified health system (Sistema Unico de Saude or SUS), with universal health coverage (Castro et al., 2019). The mental health system organization is coincident with the Caracas Declaration principles (Mateus et al., 2008), which imply a deinstitutionalization of psychiatric care, including mental health interventions in primary care, outpatient services in secondary care (Centros de Atenção Psicossocial), and community programmes (Mateus et al., 2008; World Health Organization, & Ministry of Health of Brazil, 2007).

The first programme developed specifically for FEP was the Psychosis Episode Programme of the Federal University of Sao Paulo (UNIFESP-EPM) in 1999 (Chaves, 2007). This service implemented a protocolized treatment consisting of low-dose antipsychotics, weekly psychoeducation groups for patients and family interventions. The programme reported good acceptance by patients and relatives, as well as adequate adoption and penetration at local level. However, the programme has not been scaled-up to the wider health care system. Similarly, there is no published evidence about fidelity to international guidelines, effectiveness or costs of the programme.

The second programme found was ASAS (Louzã et al., 2008) (Avaliação e seguimento de Adolescentes e Adultos Jovens em Sao Paulo). This intervention consisted of a public campaign through newspapers, radio and television to increase awareness of early symptoms of psychosis, followed by phone screening and an outpatient service for people meeting CHR-P criteria. Reporting was limited to a cross-sectional study describing the intervention and the characteristics of 18 participants meeting CHR-P criteria. The intervention was considered feasible, but the reporting of other implementation outcomes was scarce.

3.3.2 | Chile

The Chilean health system implemented a Health Benefit Plan where people with schizophrenia are prioritized to receive financially protected access to care, including medication and psychosocial interventions from their first episode (Markkula, Alvarado, & Minoletti, 2011). Although the plan is intended to be nationally implemented, including the public and private sectors, there is evidence of inadequate offer of interventions (Markkula et al., 2011), and people with psychosis do not receive specialized interventions as recommended in EIP guidelines (Addington et al., 2018).

We found three articles describing EIP initiatives in Chile (Gasparr et al., 2019; Gonzalez-Valderrama et al., 2017; Valenzuela et al., 2012). One study (Valenzuela et al., 2012) included a process evaluation of an intervention consisting of training for primary care professionals in detection and prompt referral to secondary care. The qualitative analysis revealed good acceptance of training and increasing levels of skills to detect people with psychotic symptoms, although
participants highlighted health systems barriers (lack of time and poor coordination) to improve their performance. The final results of this study have not yet been published.

Only one report of a stand-alone EIP service was found (Gonzalez-Valderrama et al., 2017). This consisted of a multidisciplinary team working at tertiary level, offering inpatient and outpatient care for FEP patients. Although the programme has been proved to be feasible and adopted by the local system (8 years with an established coordination with other levels of the mental health system), we found no published evidence of fidelity, effectiveness, cost-effectiveness or scale-up to regional or national level.

Furthermore, we found one study describing the only Chilean programme designed for people at prodromal stages of psychosis (Gaspar et al., 2019). A team formed mostly by psychiatrists detected cases from emergency and accident (A&E) rooms and secondary care, which is somewhat different to other programmes described in the literature (Fusar-Poli et al., 2013). Preliminary results of a cohort of 27 participants showed a mean time to psychosis of 348 days, with rate of antipsychotic prescription of 85.2% (Gaspar et al., 2019). No comparison with people receiving standard of care was available.

Finally, at the time of writing this manuscript, we are aware of an ongoing RCT evaluating the effectiveness of a specialized programme for FEP in Chile, consisting of a multidisciplinary team, who coordinate evidence-based services based on the interests, needs and preferences of each participant. The estimated study completion date is 2024 (ClinicalTrials.gov Identifier: NCT04247711).

3.3.3 | Mexico

The Mexican health system is organized into sub-systems of insurances largely determined by employment status (OECD, 2016). Mental health care is delivered through interventions at primary care, specialized outpatient care (Unidades Especializadas de Atención, UNEMES) and psychiatric hospitals, although a high proportion of services are still hospital-centred (Organización Mundial de la Salud & Secretaría de Salud de México, 2011). Furthermore, the Mexican health system has a prioritized list of disorders, the Catálogo Universal de Servicios de Salud (Universal Health Services List), in which schizophrenia is included (Organización Mundial de la Salud & Secretaría de Salud de México, 2011).

We identified two studies (Valencia et al., 2017, 2012) describing one EIP programme from Mexico. These were the only randomized trials found in our review, evaluating the effectiveness of an integrated treatment for FEP people compared with pharmacotherapy alone at the National Institute of Psychiatry in Mexico City.

The programmes were considered acceptable by users and families and included a bespoke fidelity measure to ensure the quality of psychosocial interventions. In both RCTs, participants receiving EIP services had better outcomes in terms of fewer relapses, shorter hospitalizations and lower symptomatology. We did not find information on economic outcomes or implementation at national level.

3.3.4 | Other Latin American countries

One study described an intervention taking place in Argentina (Padilla et al., 2015). This was a cohort study assessing the impact of training primary healthcare workers to reduce the DUP. Although the intervention was successful in terms of the primary outcome, no other implementation outcomes were reported and we are unaware whether the programme has continued or has been scaled-up at a higher level.

Finally, we were also able to find references from other Latin American countries, although they did not meet our inclusion criteria to be described in more detail. For example, Rivera Arroyo proposed a pilot EIP programme in Santa Cruz, Bolivia (Rivera Arroyo, 2016); Valle reviewed the characteristics of EIP services and discussed eventual implementation in Peru (Valle, 2019) and the development of a service in Costa Rica was mentioned in a personal communication. No evaluation or implementation assessment was published at the time of submission.

4 | DISCUSSION

In this review, we have mapped the Latin American efforts to implement services for people in the early stages of psychosis, including all approaches taken. We followed a systematic methodology as recommended for scoping reviews. We also used the Implementation Science framework, in order to thoroughly assess the state of EIP services in the region. We hope this information will be valuable for policy makers, clinicians and service users alike.

Despite the systematic effort to find published and unpublished works reporting EIP initiatives in the region, we were able to identify only 10 studies and just four countries were represented. Furthermore, although some initiatives worked with primary care and other sectors, most of the services have been developed through psychiatric hospitals and were based in capital cities. Whilst this might reflect a greater propensity for services set in psychiatric hospitals and urban centres to publish evaluations, and not necessarily a lack of EIP services in other settings, we did not find any evidence of EIP in other settings.

The insufficient reporting of implementation outcomes is worth highlighting. Most of the studies demonstrated the feasibility and local uptake of EIP services, but scarce attention was paid to appropriateness, fidelity measures and economic outcomes. This is relevant given the constraints on mental health budgets in Latin America. Only 2% of the total health budgets in the included countries are allocated to mental health (Pan American Health Organization, 2013). Furthermore, the lack of fidelity measures raises questions as what is understood by early intervention in psychosis in the Latin American setting.

Likewise, the scarcity of information about the appropriateness of these interventions highlights the need to involve service users in these initiatives. It is concerning to note that most interventions made no mention of the involvement of service users. Again, this might reflect a lack of reporting rather than an exclusion of families and
users from services development. However, local evidence suggests service users are still neglected in Latin America (Pan American Health Organization, 2013).

It is important to discuss the causes for the limited implementation of EIP services in the region. Many factors might be responsible for this. Firstly, EIP services have been conceptualized as specialized interventions on top of stepped models of care within mental health systems (Thornicroft & Tansella, 2013). Although this does not imply EIP services are luxuries, such a model of care certainly demands a level of specialization that Latin America may not be able to afford yet. The fact that countries with higher development within the region, such as Brazil, Chile and Mexico have started to implement these services might support this argument.

Secondly, it might be the case that Latin American countries prioritize other mental health needs. Epidemiological data suggest the region has high levels of depression and anxiety disorders, as well as alcohol and substance abuse disorders (Kohn et al., 2005; Pan American Health Organization, 2013). Consequently, with insufficient mental health budgets, lack of human resources and precarious infrastructure and legislation, it is understandable that a highly specialized intervention could be deprioritized. In fact, people with schizophrenia already receive prioritized interventions in many of the included countries, although without the intensity and degree of specialization advocated by EIP initiatives.

This review has highlighted the absence of information about cost-effectiveness and affordability of EIP services in Latin America. Evidence on the cost-effectiveness of EIP in high-income countries may have limited transferability despite the potential value for money of reducing the impact of psychosis. It seems, therefore, paramount to generate local evidence if this model of care is to be expanded in the region as has happened in Europe, Australia and Asia.

Finally, we were not able to find any specific details of the adaptation of EIP to the Latin American population as described in other cultures. For instance, in Asia it was rapidly acknowledged the word “psychosis” might have a negative connotation and EIP programmes modified the term to reduce stigma and improve population reach (Lee, 2013). It has also been highlighted that EIP services should tailor their interventions to meet various ethnic, cultural and religious backgrounds. We did not find any description of such adaptations in our review, which seems essential to secure a culturally sensible implementation.

4.1 | Limitations

This review is subject to several limitations. Although we expanded our search to local databases and journals and we did not restrict articles by language, it is possible that relevant non-indexed publications were missed. Hence, we may have overlooked local initiatives that are not reported but already in place. We used other sources and contacted local researchers, but we did not formally search the grey literature.

Similarly, the scarce information on implementation outcomes might reflect reporting problems rather than a lack of attention to them. We used a validated instrument to assess such outcomes and a highly cited framework in mental health. We also triangulated information from several reports when they referred to the same EIP programme. However, it might be the case that researchers were not aware of the importance of implementation outcomes, or simply that it was not the focus of their work. We believe, nonetheless, these outcomes are crucial to inform the adaptation of complex interventions such as EIP programmes.

5 | CONCLUSIONS

Despite the consistent evidence about effectiveness and cost-effectiveness of EIP services from diverse health systems, implementation in Latin America has been slow. The studies in this review are evidence that this model of care is feasible and acceptable to implement in the region, although this has been limited to research centres based in capital cities and at a tertiary healthcare level. It is, therefore, paramount to generate local evidence in terms of cultural appropriateness, fidelity and cost-effectiveness of EIP to successfully scale-up these programmes nationwide.

ACKNOWLEDGEMENTS

We are grateful of the Latin American consortium ANDES for their collaboration in the production of this manuscript. ANDES is supported by the Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo CYTED (218RT0547). This work was produced during the doctoral studies of DA, funded by the National Agency for Research and Development (ANID), Scholarship Program Doctorado Becas Chile 2017 Number 72180074.

CONFLICT OF INTEREST

A. G. has participated in Advisory Boards for Janssen and Daiichi Sankyo and also has received fees as a speaker for Daiichi-Sankyo, Ache and Janssen. M. P. reports receiving consultancy fees from Merck. Other authors report no competing interests.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ORCID

David Aceituno  https://orcid.org/0000-0002-2967-5816
Alfonso Gonzalez-Valderrama  https://orcid.org/0000-0003-4716-4021

REFERENCES

Aceituno, D., Vera, N., Prina, A. M., & McCrone, P. (2019). Cost-effectiveness of early intervention in psychosis: Systematic review. The British Journal of Psychiatry: The Journal of Mental Science, 215(1), 388–394. https://doi.org/10.1192/bjp.2018.298
Addington, D., Birchwood, M., Jones, P., Killackey, E., McDaid, D., Meltzer, H., ... Nordentoft, M. (2018). Fidelity scales and performance measures to support implementation and quality assurance for first
mentation studies (StaRI) statement. BMJ, 356, i6795. https://doi.org/10.1136/bmj.i6795

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., ... Hensley, M. (2011). Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy in Mental Health*, 38(2), 65–76. https://doi.org/10.1007/s10488-010-0319-7

Randall, J. R., Vokey, S., Loewen, H., Martens, P. J., Brownell, M., Katz, A., ... Chateau, D. (2015). A systematic review of the effect of early interventions for psychosis on the usage of inpatient services. *Schizophrenia Bulletin*, 41(6), 1379–1386. https://doi.org/10.1093/schbul/sbv016

Rangaswamy, T., Mangala, R., Mohan, G., Joseph, J., & John, S. (2012). Early intervention for first-episode psychosis in India. *East Asian Archives of Psychiatry: Official Journal of the Hong Kong College of Psychiatrists = Dong Ya Jing Shen Ke Xue Zhi: Xianggang Jing Shen Ke Yi Xue Yuan Qi Kan*, 22(3), 94–99. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/23019281

Rivera Arroyo, G. (2016). A pilot early psychosis intervention programme in Bolivia. *European Psychiatry: The Journal of the Association of European Psychiatrists*, 33, S585. https://doi.org/10.1016/j.eurpsy.2016.01.2171

Saxena, S., Thornicroft, G., Knapp, M., & Whiteford, H. (2007). Resources for mental health: Scarcity, inequity, and inefficiency. *The Lancet*, 370(9590), 878–889. https://doi.org/10.1016/S0140-6736(07)61239-2

Singh, S. P., Javed, A., & WPA Expert International Advisory Panel for Early Intervention in Psychosis. (2020). Early intervention in psychosis in low- and middle-income countries: A WPA initiative. *World Psychiatry: Official Journal of the World Psychiatric Association*, 19(1), 122. https://doi.org/10.1002/wps.20708

The Joanna Briggs Institute. (2015). *Joanna Briggs Institute Reviewers’ Manual*. Retrieved from http://jannaharris.org/assets/docs/sumari/Reviewers-Manual_Methodology-for-JBI-Scoping-Reviews_2015_v2.pdf

Thomicroft, G., & Tansella, M. (2013). The balanced care model for global mental health. *Psychological Medicine*, 43(4), 849–863. https://doi.org/10.1017/S0033291712001420

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., ... Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine*, 169(7), 467–473. https://doi.org/10.7326/M18-0850

United Nations. (2018). United Nations Economic Commission for Latin America and the Caribbean. Retrieved from http://estadisticas.cepal.org/cepalstat/web_cepalstat/estadisticasindicadores.asp

Valencia, M., Juarez, F., Delgado, M., & Diaz, A. Early intervention to improve clinical and functional outcome in patients with first-episode psychosis. https://www.iconceptpress.com/book/mental-disorder/11000123/1305000979.pdf. Accessed June 1, 2020.

Valencia, M., Juarez, F., & Ortega, H. (2012). Integrated treatment to achieve functional recovery for first-episode psychosis. *Schizophrenia Research and Treatment*, 2012, 962371. https://doi.org/10.1155/2012/962371

Valenzuela, M. T., Pastorino, M. S., Alvarado, R., Villalón, M. C., & Vanegas, J. (2012). Diseño y evaluación de proceso de una intervención comunitaria para la detección precoz del primer episodio de psicosis en Chile. Revista Chilena de Salud Pública, 16(2), 123–130. https://doi.org/10.5354/0717-3652.2012.20296

Valle, R. (2019). Revisión de los programas de intervención temprana de psicosis: propuesta de implementación en Perú. *Revista Colombiana de Psiquiatria*, 49, 178–186. https://doi.org/10.1016/j.rcp.2018.11.001

World Health Organization, & Ministry of Health of Brazil. (2007). *WHO-AIMS report on mental health system in Brazil*. Brasilia, Brazil: World Health Organization.

**SUPPORTING INFORMATION**

Additional supporting information may be found online in the Supporting Information section at the end of this article.