ORIGINAL ARTICLE

# What challenges does mental and neurological health research face in Latin American countries?

# ¿Qué desafíos enfrenta la investigación en salud mental y neurológica en los países latinoamericanos?

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*Abstract*

***Objective:*** *The World Health Organization Atlas Project identified important deficiencies in world mental and neurological health resources. These deficiencies, especially evident in low and middle-income countries, can be overcome by improving research capacity. The objective of this study is to assess the status of mental and neurological research in Latin American countries and identify the main difficulties encountered in conducting research, publishing results, and shaping health policies, interventions, and programs.* ***Method:*** *Semi-structured interviews were conducted with 34 key informants from 13 Latin American countries.* ***Results:*** *Participants reported that production of mental and neurological research in Latin American countries is low. Lack of financial and human resources, including lack of support from government agencies, were identified as the main factors contributing to the dearth of local research. The few research projects that do take place in Latin American countries are often funded at researchers' personal expense. Few policies, interventions, or programs are generated from research results. To address these deficiencies, participants called for training in research methodology, mechanisms for identifying funding opportunities, and greater recognition of their research products.* ***Conclusions:*** *Researchers and stakeholders recognize the need to mobilize local and international efforts aimed at strengthening research capacity and results implementation. This will lead to an overall optimization of mental and neurological research in the region.*

***Descriptors:*** *Latin America; Mental health; Research; Health priorities; Public policy*

*Resumen*

***Objetivo:*** *El proyecto Atlas de la Organización Mundial de la Salud identifica importantes deficiencias en salud mental y neurológica. Estas deficiencias, especialmente evidentes en países de medianos y bajos ingresos, pueden resolverse mejorando las capacidades en investigación. El objetivo de este estudio es evaluar el estado de la investigación en salud mental y neurológica en países Latinoamericanos, e identificar las principales dificultades encontradas al hacer investigación, publicar resultados, y generar políticas, intervenciones, y programas.* ***Método:*** *Entrevistas semi-estructuradas fueron realizadas a 34 informantes de 13 países Latinoamericanos.* ***Resultados:*** *La producción de investigación en salud mental y neurológica en países Latinoamericanos es escasa, debido principalmente a la carencia de recursos financieros y humanos, incluyendo el casi ausente apoyo de agencias gubernamentales. Los pocos proyectos de investigación que se llevan a cabo son financiados mayormente con recursos propios de los investigadores. Pocas políticas, intervenciones o programas son generados a partir de resultados de investigación. Resolver estas deficiencias requerirá entrenar profesionales en metodología de la investigación, identificar oportunidades de financiación y lograr un mayor reconocimiento de los productos de la investigación.* ***Conclusiones:*** *Hay necesidad de movilizar esfuerzos locales e internacionales orientados a fortalecer las capacidades en investigación y la implementación de resultados. Esto llevará a una optimización general de la investigación.*

***Descriptores:*** *América Latina; Salud mental; Investigación; Prioridades en salud; Política social*

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## Introduction

The burden of mental and neurological (MN) disorders has been widely recognized and duly documented in recent World Health Organization (WHO) reports and programs.[1-3] These disorders rank second on the global health priority list, after infectious diseases.[2] However, MN disorders have traditionally been a low priority on both national and international agendas. According to the WHO Atlas Project,[2,3] the most important deficiencies in world MN resources are lack of policies, few and inadequate care facilities, limited access to medications, and discrimination and stigma. These deficiencies are especially evident in low and middle-income (LAMI) countries, where the burden of MN disorders is predicted to rise steeply,[4] in part, as a consequence of the countries' inability to expeditiously generate evidence-based policies and interventions.

Success in producing policies and interventions rests on the generation and availability of local research data, which facilitates the efficient allotment of resources to particular local needs. Thus, to improve MN health status in these countries, research capacity urgently needs to be strengthened. The first step towards improving research capacity is to assess its current situation, the existing support for research, and the impact of research results on the elaboration of policies and interventions.

## Method

This paper reports on a qualitative study undertaken as part of a larger initiative supported by the Global Forum for Health Research to assess the status of MN research in LAMI countries in Africa, Asia, and Latin America.[5] In order to gain an in-depth understanding of the difficulties encountered in the actual implementation of research projects, publication of results, and their impact on health policies, intervention, and health programs, we conducted interviews with 34 informants – researchers and stakeholders – from 13 Latin American countries (LACs)[i] between November 2005 and March 2006. Stakeholders were authorities from governments, health institutions, financing entities, non-governmental organizations (NGOs), universities, and associations of users or professionals. Researchers were identified primarily through electronic publication databases (PubMed and PsycINFO). Those with multiple publications and whose contact information was provided were selected and invited to participate. Additionally, the authors used their own MN professional and research networks to contact prominent researchers in the region. Network activation and snowball sampling techniques were the main methodology to contact stakeholders. The sample size was established following a 'theoretical saturation' criteria,[6] where interviews were accumulated until there was no new or additional relevant data being gathered. Only one (a Peruvian congressman) did not accept to participate.

Table 1 presents demographic data for all 34 key informants, including nationality, professional background, and training or degrees. Participants were informed about the project's objectives and methodology before consenting to be interviewed. The methodology was reviewed and approved by the Ethics Committee of Universidad Peruana Cayetano Heredia and Universidade Federal de São Paulo. Interviews were conducted by the first author and a research staff member by phone or in person. Interviewers had training and experience in implementing qualitative research, and for this study they followed a structured interview guide (see Table 2).

Responses were audio-recorded, transcribed, and coded for emergent themes. Transcriptions were performed within 5 business days after the interview by personnel hired for that purpose, being reviewed by the interviewers to ensure accuracy and that all the information collected was coded and analyzed. Complete transcripts were available for all interviews. For the analysis, deconstructed extracts were converted and inputted to a database. Two of the authors (FF and CG) proceeded to identify those extracts that referred to the primary unit of analysis: Factors that Undermine Research. Next steps included an "editing (data-based) analysis" style,[6] where each of those research-undermining factors was scrutinized in order to set up the basis for data-developed categories. Two categories arose from this process: Research Production and Research Dissemination and Impact. These categories map onto the theoretical framework for the purpose of research that is generally accepted by the medical and research community. Under this theoretical framework, research is seen as a process that moves from generating a study idea, design of the proposal, funding, implementation and data analysis (i.e., research production), to publication, dissemination and implementation of the results (i.e., dissemination and impact).

Triangulation was performed to contrast the statements of researchers and stakeholders. Overall, triangulation showed moderate to good agreement between both types of participants and, additionally, helped achieving greater comprehensiveness of the information obtained.

## Results

### 1. Research production

Most of the participants declared that MN research production is low. In several countries with comparably better resources, such as Brazil and Mexico, research production is higher, but at levels still far below those of developed countries. Participants reported that the few existing large-scale research projects either take place in the context of pharmaceutical industry-funded clinical trials or are sponsored by NGOs, agencies of the American government, or international institutions such as the Pan-American Health Organization (PAHO) and the WHO. Conversely, most small-scale research is done at the initiative of individual researchers who use their own logistic and financial resources to conduct studies in areas of personal interest. As a result, such research often does not reflect local or national needs. These realities and the resulting low production in MN research is attributed to lack of interest on the part of governments to strengthening health systems and to an almost nonexistent institutional research culture.

Lack of commitment from governments to pursue sustainable improvements in the implementation of health services extends to all areas of care, but for most informants this is particularly evident in MN health, where there has been no or limited action, policy development, or legislation. Many of them agreed that MN health is not perceived as a priority by their governments. This lack of interest translates into serious shortfalls in research funding, for it follows that if basic services in MN health are underfunded, resources for research will be even less available. As a Bolivian participant stated: *"Latin-American government health policies have been based upon the prevailing diseases,*

[i] **Argentina (n = 1), Bolivia (n = 5), Brazil (n = 2), Chile (n = 1), Colombia (n = 1), Costa Rica (n = 3), Dominican Republic (n = 4), Ecuador (n = 1), Honduras (n = 1), Mexico (n = 3), Panama (n = 3), Peru (n = 8), and Venezuela (n = 1).**

**Table 1 - Sample description**

| Researcher | Stakeholder | Stakeholder Category* | | | | | Country | Professional background | Additional training/Degrees |
|---|---|---|---|---|---|---|---|---|---|
| | | Official | University | Professional association | User association | NGO | | | |
| • | | | | | | | Argentina | Psychiatry | Psychopharmacology |
| • | | | | | | | Bolivia | Psychiatry | Superior Education |
| • | | | | | | | Bolivia | Psychiatry | Epidemiology and Public Health |
| • | | | | | | | Brazil | Psychiatry | |
| • | | | | | | | Chile | Psychiatry | |
| • | | | | | | | Costa Rica | Medicine | Biochemistry |
| • | | | | | | | Costa Rica | Psychiatry | Psychopharmacology |
| • | | | | | | | Honduras | Psychiatry | |
| • | | | | | | | Mexico | Psychiatry | |
| • | | | | | | | Mexico | Psychiatry | Medical Sciences |
| • | | | | | | | Mexico | Medicine | Neurosurgery |
| • | | | | | | | Panama | Psychiatry | |
| • | | | | | | | Peru | Psychiatry | |
| • | | | | | | | Peru | Psychiatry | |
| • | | | | | | | Venezuela | Psychiatry | |
| • | • | • | | | | | Bolivia | Psychology | Psychoanalysis |
| • | • | • | | | | | Bolivia | Psychiatry | |
| | • | | | • | | | Bolivia | Psychiatry | Pharmacodependency |
| | • | | • | | | | Brazil | Psychiatry | |
| • | • | | • | | | | Colombia | Psychiatry | |
| | • | | | | | • | Costa Rica | Economy | Demography and Public Health |
| | • | | | • | | | Dominican Republic | Psychiatry | |
| • | • | • | | | | | Dominican Republic | Psychiatry | Clinical Psychology |
| • | • | • | | | | | Dominican Republic | Psychiatry | Education in Health Sciences |
| • | • | | | • | | | Dominican Republic | Psychiatry | |
| • | • | | | • | | | Ecuador | Psychiatry | Liaison Psychiatry |
| • | • | • | | | | | Panama | Psychiatry | Psychology |
| • | • | • | | | | | Panama | Psychiatry | Public Health, Superior Education |
| | • | | | | • | | Peru | None | |
| | • | • | | | | | Peru | Psychiatry | |
| | • | • | | | | | Peru | Medicine | Internal Medicine |
| | • | • | | | | | Peru | Psychiatry | |
| • | • | • | | | | | Peru | Psychiatry | Neurosciences, Psychobiology, Menta Health and Social Clinic |
| • | • | • | | | | | Peru | Psychiatry | Medicine |

** The following stakeholder categories were defined: 1) officials (decision-makers such as Ministry of Health officials, health insurers, and legislators; donors; and research councils); 2) university administrators; 3) professional associations; 4) associations of users of mental health services; 5) other NGOs.*

*those having higher incidence. These diseases have been prioritized, while mental health has never been considered a main concern."*

Participants observed that the problem is not just one of money or commitment to improving health services. There are many political and health authorities, they note, who do not apprehend or value the role that research can play in decision-making. This perception results in an institutional unwillingness to finance and facilitate research and, in turn, a lack of established research policies in public institutions.

To underscore these points, two examples were offered of how a favorable political context and the influence of key actors can overcome neglect of MN health issues and facilitate research. In Peru, thanks to the interest of the authorities of the National Institute of Mental Health (*Instituto Especializado en Salud Mental Honorio Delgado – Hideyo Noguchi)* and a favorable political context, a series of epidemiological projects have been implemented since 2001. A similar situation is described by a Mexican researcher regarding the creation of the Mexican Institute of Psychiatry (the main mental health research institution in the

country). In this case, the founder, Dr. Ramón de la Fuente, occupied an influential political position.

Participants also noted that some MN issues have begun to gain greater attention by being on the agenda of certain international institutions. For example, several informants from Peru and Bolivia mentioned that research on drug use has received more attention than other MN research areas. Due to these two countries' status as producers of coca leaves, external agencies, like the US National Institutes of Health and the WHO, have been especially interested in supporting research in this area.

While small changes appear to be taking place in several countries, survey participants agreed that the most important challenge facing MN research in all LACs is the scarcity of human and financial resources. Lack of resources affects all stages of the research process: development of proposals, funding, project implementation, dissemination of results and, finally, the translation of results into specific policies, programs, or interventions (Figure 1).

While most LACs seem to have a reasonable number of MN health professionals, the majority is not engaged in research. The exception is Bolivia where there is an insufficient number of MN health professionals involved in patient care and even fewer dedicated to research. In those LACs with a good number of MN health professionals, formal research training is conspicuously absent, both at the undergraduate and graduate levels. Universities and other higher education institutions do not have a research culture and consequently do not promote the teaching of essential methodological skills in the professionals they train.

A number of training and human resource issues surround LAC researchers' ability to develop competitive research proposals that can achieve financial support from donors, especially at the international level, and to implement those projects that do receive funding. For example, a Peruvian participant mentioned that despite the availability of a database with 20,000 subjects, a product of epidemiological studies in several regions of Peru, few publications have been generated. This is due, in part, to insufficient human resources to deal with data management and analysis in the institution in charge of these epidemiological studies. Another aspect of the problem, as he elaborates, is that: *"The whole writing subject is a hard one. [That is why] scientific production is still lying behind. Researchers have ideas, very good ideas, but they are not used to writing. [That is because], in a country with limited resources, the investigator must do a little of everything, his own design, analysis, writing, etc. Then, if an*

**Table 2 - Interview guide***

| Subject | Researchers | Stakeholders |
|---|---|---|
| **Demographics** | **Work, status, experience etc.** | |
| **A. Background** | Conception of research: where and who | Knowledge of research conception, source of research question, researchers, and broad goals of the research (was it known, and if yes, how) |
| | Planning: consultation with stakeholders etc. | Funding: knowledge of source |
| | Funding: source, process of securing it, how much | |
| **B. Process** | Collaborative or single-site | Collaboration between stakeholders and researchers (e.g., facilitating access to subjects etc.) |
| | Collaboration with stakeholders, with external partners etc. | |
| | Duration | |
| | Type of research: biological, psychosocial etc. | |
| | Design: epidemiological, case-control, experimental, intervention etc. | |
| | Setting: health care, community-based etc. | How are results communicated to them as stakeholders |
| **C. Findings** | Did they build on earlier local findings | Expected or surprising |
| | Strength of evidence (e.g. generalizability, type of analysis) | |
| | Were they replicating findings from other countries | |
| | Expected or surprising | |
| **D. Dissemination of findings** | Where and how | |
| | Timing | Their involvement |
| | Resources | Appropriateness of methods of dissemination |
| | Was dissemination planned beforehand | |
| | Involvement of stakeholders | |
| **E. Impact** | Involvement or interest of advocacy groups | Involvement or interest of advocacy groups |
| | Relationship of researchers with users of research | Relationship of researchers with users of research |
| | Identifying/mobilizing necessary resources | Identifying appropriate political climate, sources of support etc. |
| | | Identifying/mobilizing necessary resources |
| **F. Identifying key facilitating or hindering factors** | Advocacy efforts | |
| | Transforming findings to understandable language for stakeholders | |
| | Resource availability (financial and human) | |
| | Political will | |
| | Media interest | |
| | Credibility of researchers | |
| | Timing of research findings (e.g., relative to external but related events, needs etc.) | |
| | Relationship between researchers and policy makers or other stakeholders (e.g., previous working contacts, consultancy, social etc.) | |
| | Role of (potential) opposing and active interest groups (their involvement, their resistance etc.) | |
| **G. Concluding message** | How to maximize facilitating factors and minimizing hindering factors | |
| | Any other key messages | |

** The interview guide was developed for the project by Professor Oye Gureje, DSc (Department of Psychiatry, University of Ibadan, Nigeria)*

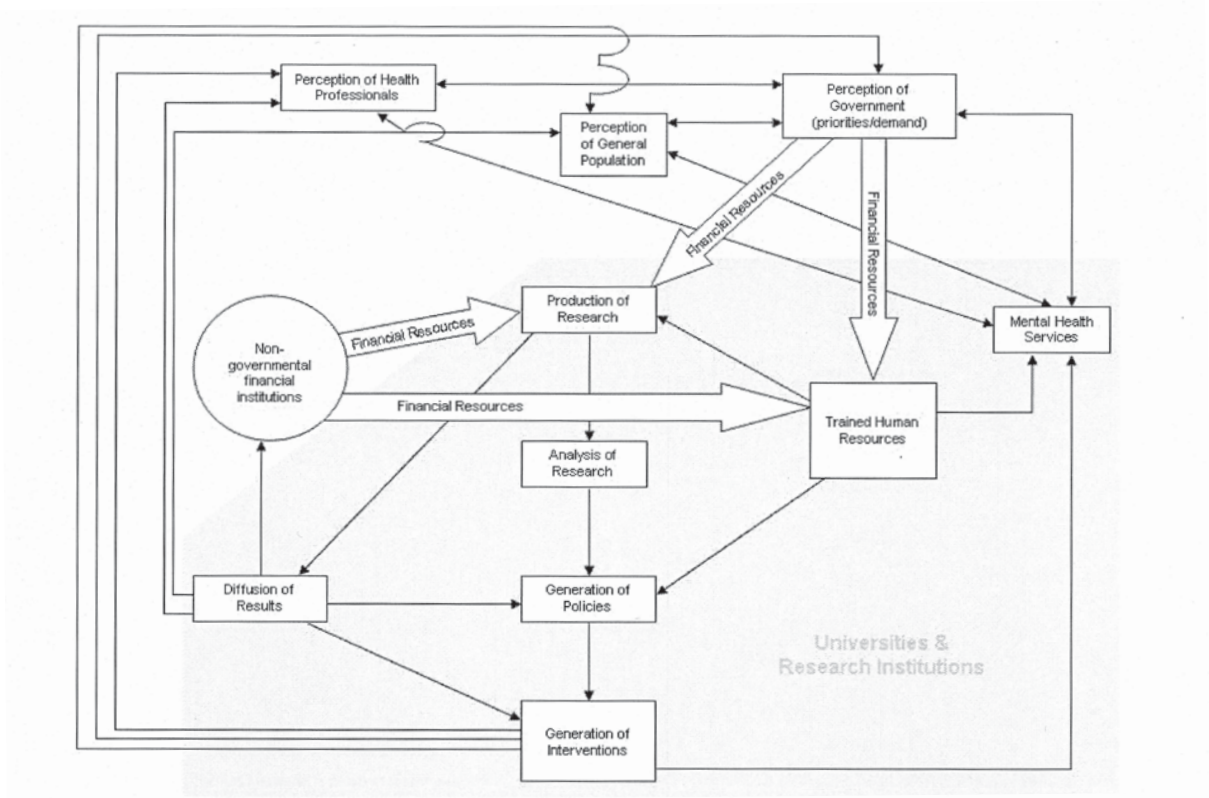


**Figure 1 - Key processes and interactions from research production to the generation of policies and interventions**

*investigator does not manage the concepts of statistical analyses, he is going to progress very slowly and will have to depend on a statistician, whom the researcher probably will not be able to reach because of limited economic resources."*

Participants also reported that even where there is interest and skills in performing research, most MN health professionals choose not to do it because it is not "profitable." For this reason, they engage mainly in patient care, frequently working in several settings to achieve a better income. Average salaries are very low, especially in the public sector. As a Peruvian participant explained: *"Anyone working on research does not get any reward for doing it; the little financial help we get is used for paying all the expenses of the investigation, but nothing goes to the researcher. […] It is not well seen that a researcher charges for a salary in a grant proposal. It is not written anywhere, but the understanding is that nothing of the research money should go to the researcher. So, a person cannot live from research."*

Lack of other career incentives also deter researchers from getting involved in long-term projects. In developed countries, research offers the opportunity to build a successful career. As one participant describes, this is not the case in LACs: "[…] *the value of research for the medical career in Peru is of very little importance; it is not even considered when applying for a residency in psychiatry; for instance, an updating course taken over a weekend is scored higher than a research publication resulting from more than a year of work."*

Few opportunities for research training and failure to achieve satisfactory career earnings from research activities were identified as factors leading to a steady "brain drain" of young professionals who migrate abroad in search of better opportunities. As an Argentinean researcher observed *"the brain drain has significantly affected the potential growth of research in my country."*

Participants agreed that governments should play a greater role in financing MN health research. Where only a small portion of governments' budgets is allocated to health care, and an even smaller amount is devoted to mental health, financial resources for MN research activities are negligible. As a researcher who also served as stakeholder explains, *"[…] Even the general health budget in my country is very small: imagine the size of the mental health budget, and then the amount for mental health research in that budget."* These factors make research in MN health an isolated and limited activity, with little possibility of making an impact in the community or at government levels.

In countries where governments direct financial resources for research through research councils,[ii] scientific production in all health areas, including MN health, was considered better than in other LACs. Nevertheless, a Mexican researcher declared: *"What is being encouraged in Mexico is research in general, the mental health problems do not generate much interest. Yet, this general interest in research, which has made it possible to consider research as part of university labor, has indirectly benefited the research production in mental health."* Still, investment in MN health is much lower than that directed to other areas, such as infectious diseases or maternal and infant health, and it is uneven.

[ii] **For example, Conselho Nacional de Desenvolvimento Científico e Tecnológico (Brazil), Consejo Nacional de Investigaciones Científicas y Técnicas (Argentina), Instituto Colombiano para el Desarrollo de la Ciencia y la Tecnología, Francisco José de Caldas (Colombia), Consejo Nacional de Ciencia y Tecnología (Mexico), Comisión Nacional de Investigación Científica y Tecnológica (Chile).**

Problems like violence and substance abuse have received more attention from governments than depression, psychosis, or other behavioral disorders. The MN problems selected for investment tend to be those that the media (e.g., violence) or external actors (e.g., substance use) take an interest in.

Pharmaceutical companies and non-governmental agencies or organizations were also acknowledged to play an important role in developing MN health research capacity. A number of researcher participants mentioned, for example, that their research work had been possible due to the support of NGOs, the WHO, or the PAHO. In some cases, governments had contributed funding to studies initiated by non-governmental institutions. For instance, in Mexico, a mental health mapping project was jointly financed by the *Instituto Mexicano de Psiquiatría*, CONACYT, and the WHO. This first national survey of mental health *"has been a very important work as it contains the first statistics referring to mental health problems in Mexico,"* states a Mexican researcher. Similarly, a Bolivian researcher commented that a collaborative project between his government, a US agency, and a United Nations institution produced significant results that have been successfully translated into plans and programs for substance abuse prevention.

While pharmaceutical industry-funded clinical trials have permitted many MN health professionals to be trained and engage in research, some stakeholder participants expressed concern about the local, beneficial impact of such studies. They argue that developing countries should channel efforts and resources towards research aimed at solving regional or national problems. Researchers, therefore, should not limit their efforts to the conduct of pharmacological research focused on particular pathologies. Researcher participants countered, however, that maintaining active support for research in their countries is dependent on the pharmaceutical industry in the near absence of investment in research by governments and other sources. Pharmaceutical industry support, they maintain, has contributed to an increase in research capacity, which, in some cases, may be redeployed to implement research addressing more pertinent local and national needs.

### 2. Research dissemination and impact

The dissemination of research results has two targets. The scientific community, which includes researchers and health professionals, can be reached mainly through specialized journals, while the lay community, comprising politicians and other decision-makers, as well as the general public, is reached mainly through the media.

Participants agreed that there are deficiencies in the dissemination of research results to the local, and especially the international, scientific communities. They stated that local research results are frequently presented in congresses or meetings, but they are rarely published as research articles in scientific journals. A Panamanian participant commented that the results of research done in his country usually *"are not published or disseminated, and end up as simple experiences that [only] serve for the investigator himself, for his own interest and for a small group of people to whom he can transmit this information."*

Opportunities for researchers to publish in local journals are limited as there are few specializing in MN health issues in most of the LACs. Local journals, with some exceptions, such as the *Revista Brasileira de Psiquiatria* and *Salud Mental* (Mexican journal), frequently do no comply with peer-review and scientific standards for selecting articles or are not issued periodically – two factors that prevent them from being indexed in international databases (e.g., PubMed, PsycINFO). A number of local journals are institutional journals, edited by hospitals, institutes, professional associations, or government divisions, and have limited dissemination. Papers published in these local journals have only a small impact, even among local professionals. Although regional or national databases, such as SciELO,[iii] LILACS,[iv] or LIPECS,[v] facilitate access to articles published in local journals, several publications have not been included yet in these regional databases.

Publishing in international scientific journals is even more challenging. Many LAC researchers lack scientific/technical English proficiency. This impedes the writing process and, in some cases, makes it more expensive, as researchers have to employ private translation services. As a result, participants pointed out, little of the limited MN research done in LACs becomes published in international journals; its impact is small if any at all.

While participants acknowledged the role the media can play in reaching the non-scientific community, especially policy-makers, decision-makers, and other institutional authorities, they observed that, in LACs, the media is frequently uninterested in research results related to mental health or neuropsychiatry. Instead, participants asserted, the media tends to sensationalize certain topics (e.g., suicide or homicide) and contributes to stigmatizing MN issues. Many of the participants made it clear, however, that health professionals share some of the responsibility for the media's neglect of MN issues. As a Costa Rican researcher explained, scientists do not like to present the results of their research through the media, which may constitute "*an important mistake.*"

By actively working with the media, researchers can have an impact on public opinion. When researchers are proactive in disseminating their work, they can influence the message the media reports and, eventually, the generation of policies, interventions, and programs. Aside from sensationalizing topics, when researchers and other MN professionals are not involved, the media may report with bias on MN issues or confuse the importance or implications of the research. A Colombian participant described how the media was crucial for the translation of his research results regarding drug use and eating disorders into public health measures. However, a study on depression and tobacco did not have any impact on the media and eventually the results were not implemented: "*The results of my study about depression in adults showed a catastrophic picture (incredible depression levels), but no action was taken from those results. Similarly, a study related to tobacco use and nicotine dependence did not cause much impact. Journalists were certainly more attracted by [our studies on eating disorders. If we compared, for example, the results of our studies on depression and bulimia, the first ones were much more a matter of public health and care, but they were not recognized as such.*"

Asked about the impact of MN health research, participants offered three explanations why research findings often fail to be used as the basis for public policy in LACs: 1) MN health personnel are not trained in results implementation or translation, 2) scant attention is given to MN health by stakeholders, and 3) research

[iii] **Scientific Electronic Library Online, an initiative of Fundación de Apoyo a la Investigación del Estado de São Paulo (FAPESP) and Centro Latino-americano y del Caribe de Información en Ciencias de la Salud (BIREME).**
[iv] **Latin American and Caribbean Health Sciences, an initiative of BIREME.**
[v] **Literatura Peruana en Ciencias de la Salud.**

results are commonly seen to be of little use in actual decision-making scenarios.

Participants agreed that there is a gap between the production of research and the implementation of public health measures linked to it. Participants opined that most medical training programs prepare professionals to work with patients on an individual level in a hospital setting. Training in population-based health is largely absent in university curricula. A Peruvian participant stated: *"most psychiatrists or psychologists are not able to do anything other than patient care, because they lack training in the planning and development of programs. In many universities, mental health issues are not approached from the point of view of public health, but from a medical recovery point of view. Then, logically, the students graduated from these universities will not be able to propose a program or policy on mental health, because they have the idea that mental health care is something that takes place only in psychiatric hospitals and with the use of drugs."*

Participants re-emphasized that MN health has been historically considered of little importance in political arenas. This situation is reflected in a complete lack of national MN policies in some countries and delays or unsatisfactory implementation of MN health programs in others. Peru provides an example of the constantly changing nature of MN health programming in LACs. During the 1980s, a Peruvian stakeholder recounts, mental health was a department in the Ministry of Health, but it was deactivated late in that decade. Later, in the 1990s, mental health emerged as one of fourteen Peruvian Ministry of Health programs, but it was not considered relevant either in terms of actions or budget. In 2001, this program was deactivated, to be resurrected again 3 years later, with the approval of a set of guidelines for mental health action. From this point in time, mental health issues have gained recognition within the Ministry of Health, thanks to the current economic and sociopolitical stability in the country.

Participants attributed lack of action on mental health to skepticism from policy-makers that something can be done to solve MN health problems, along with the belief that there are more important health problems to be addressed, such as tuberculosis, HIV/AIDS, and other diseases with known rates of high morbidity and mortality. In addition, several participants suggested that the indifference towards MN health issues can be explained by the fact that many decision-making positions are occupied by non-specialists, and decision-making processes follow political interests exclusively. What is more, as many participants pointed out, a great deal of mental health problems go undiagnosed or unrecorded, leaving researchers and other stakeholders without numbers to support their argument for improved MN services and more research. A Bolivian researcher revealed that *"when you go to a doctor in distant provinces or rural areas you find out that there are no depression cases registered… the reason is that they were not diagnosed. This is why authorities tell us that even when they know that mental health is important, they cannot support this point before decision-makers because mental or psychiatric diagnoses are not recorded in the health systems or settings."*

The third explanation offered for the failure to apply research results is that decision-makers usually do not search for evidence to inform policies, interventions, or programs. They opt instead for soliciting the advice of "experts" or rely on *ad hoc* institutional reports and other sources of quick information when trying to identify health needs or effective methods of disease control in populations. Some participants noted that often media reports, rather than scientific studies, are used as primary information sources by politicians. With a few exceptions (e.g., infectious diseases, maternal and infant health), there is a tendency to solve immediate problems in the easiest or most expeditious way. Underscoring this assessment of the decision-making context is a Peruvian participant's comment that *"most of the time policies have been generated from the initiative of decision-makers, and have not been sustained with research or quantitative diagnosis."* A Costa Rican participant summed up the situation with the word: "mismatch," meaning that *"there are people behind an office desk planning the mental health of a country, while there are people at the other side, in hospitals, trying to make progress with what they are getting."* Trying to explain the same issue, another Costa Rican participant said that *"it seems like those responsible for making decisions believe that science is something that would not be profitable."*

In general, the participants agreed that research results should be used to inform public health measures, especially for chronic health problems. When pertinent data are not available, then the first step should be to generate appropriate research instead of making blind decisions, which can lead ultimately to wasted time and resources. The cost of implementing appropriate research is expected to be lower than the losses generated by a failed policy. While not disagreeing entirely with this view, one Peruvian participant, who has served as decision-maker, declared to be *"very critical of policies which are based in mere evidence."* Decision-making, he said, should be supported, not solely by data, but through the foresight of people interpreting this data. He pointed out that there is *"an art in decision-making which is similar to the creative capacity in medicine."*

Participants also acknowledged that the scant consideration research receives in political arenas can also be attributed to the researchers themselves, who often show little interest in establishing a dialogue with decision-makers. Researchers often think that their work is finished when they get a paper published in a scientific journal, but the reality is that decision-makers usually do not read this type of publication. More effective interaction between both groups of actors should be encouraged.

## Discussion

Two salient concerns emerge from our exploration of the difficulties encountered in the implementation of MN research projects, publication of results, and impact on health policies, intervention, and health programs. The first is that MN health is a neglected area within health services system in LACs, a situation also demonstrated by the WHO Mental Health Atlas,[2] (see Table 3, mental health budget allocation column). The second is that research is rarely considered as a tool for decision-making.

The neglect of MN health issues by LAC governments is consistent with the literature for LAMI countries. For example, Jacob et al.,[7] in the cogent series on global mental health published by *The Lancet*, showed that many LAMI country governments provide scarce financial resources for MN health (Table 3). In addition, these authors claim that such neglect seems to be unrelated to the countries' poverty level, as there was wide variability in the development of successful mental health systems among countries within the same income category. This suggests that poverty does not necessarily impede improvements in MN health, and that success in this health area is possible in depressed economies. Although the specific factors that helped some poor countries to establish successful MN systems remain to be determined, it is likely that the savvy distribution of scarce resources played an important role. A more effective distribution of resources is something that

**Table 3 - WHO Mental Health Atlas 2005[2] - Key information on the countries studied**

| Country | Indexed epidemiology research | Mental health policy | Mental health program | Information gathering system: Reporting | Information gathering system: Data collection | Mental health facilities: Primary level: Mental health is part of primary care | Mental health facilities: Primary level: Treatment for severe mental disorders | Mental health facilities: Primary level: Training of professionals on mental health issues | Mental health facilities: Community care facilities | Total psychiatric beds 10,000 population | Budget Allocation (% of total health budget) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Argentina | ● | ● | ● | x | x | ● | ● | x | ●[a] | 6 | 2 |
| Bolivia | x | ● | ● | ● | x | ● | x | x | ● | 0.791 | 0.2 |
| Brazil | ● | ● | ● | ● | ● | ● | x | x | ● | 2.56 | 2.5 |
| Chile | ● | ● | ● | ● | ● | ● | ● | x | ● | 1.27 | 2.3 |
| Colombia | ● | ● | x | ●[a] | ● | ● | x | x | ● | 0.45[b] | 0.08 |
| Costa Rica | ● | ● | x | ● | ● | ● | ● | ● | ● | 2.6 | 8 |
| Dominican Republic | ● | ●[c] | ● | ● | ● | ● | x | ● | ● | 0.37 | 0.5 |
| Ecuador | ● | ● | ● | ● | ● | ● | x | ● | x | 1.69 | 0 |
| Honduras | ● | ● | ● | ● | ●[a] | ● | ● | x | x | 0.6 | 2.3 |
| Mexico | ● | ● | ● | ● | ●[a] | ● | ● | ● | ● | 0.67 | 1 |
| Panama | ● | ● | ● | x | ●[a] | ● | ● | x | ● | 2.55 | NA |
| Peru | ● | ● | ● | ●[a] | ● | ● | x | x | ● | 0.47 | 2 |
| Venezuela | ● | ● | ● | ● | ● | ● | x | x | x | 2.5 | NA |

*● = yes; x = no*
*(a) limited or with deficiencies*
*(b) psychiatric beds in mental health hospitals*
*(c) norms for action in mental health*

can be achieved by well-planned research. Improving MN health systems in LACs, however, implies overcoming the factors identified by the participants in this study – that is, the limited production and dissemination of research results and the ambivalent and sometimes damaging role played by the media.

Improving the production of MN research, however, will not happen without investment in research funding and the training of researchers. And, such investment will not be forthcoming until MN health begins to rank higher among LAC health priorities. Indeed, Saraceno et al., and Saxena et al. showed that in LAMI countries the prevailing health agendas, which do not include MN health as a priority, lead governments to spend far less than needed on MN issues.[8,9] This, in turn, leads to a critical shortfall of human and infrastructure resources that could be overcome with political willingness.

The second concern raised by this study is that formal research is undervalued or ignored as a decision-making tool by policy-makers. This fact is equally to blame for minimal financial resources being allotted to the generation of research and, consequently, only a small number of professionals being involved in research. Those who perform research activities often lack key administrative, logistic, and infrastructure support. A number prefer to participate in research sponsored by the private sector, in particular by the pharmaceutical industry.

The low production and, many times, the poor quality of research results have resulted in MN health research in LACs being under-represented in international literature databases (e.g., PubMed and PsycINFO). This observation by the participants in our study is consistent with findings by Razzouk et al.[10] and creates a vicious cycle of under-dissemination. While researchers may fail to publish because there are few local journals devoted to MN health and many lack the status of indexed journals, the low quantity and quality of MN research production in LACs is a leading factor in why there are so few local scientific journals specialized in MN health and why many local scientific journals fail to meet the criteria required to be indexed in international databases.

Low quantity and quality of research has implications that extend beyond academic publishing concerns. The media has little material to draw on, diminishing its already small interest in MN health issues. Another "vicious cycle" is set in motion as decision-makers, whose perceptions that MN health is not a priority and that research is of low utility in decision-making, are reinforced. By the same token, they are unable to access research-generated data, either because these data simply do not exist or because they were not efficiently disseminated.

Caution must be exercised in making these findings extensive to all LACs. The variability in MN health status among LAMI countries in the same income category is also present in LACs. The problems in MN health systems and research mentioned by study participants do not fit all LAC realities. For instance, Brazil's government allots more financial resources for health issues than other LACs, and research financing is less dependent on large international institutions such as the WHO and the PAHO. In addition, Brazil has fewer NGOs working on health issues. It enjoys some stability in health research funding – including mental health research funding – and has achieved a large number of publications.[10,11]

This study is also subject to biases introduced by the small size of the study sample and the bibliometric and snowball sampling techniques used to identify participants.[12] We are reasonably confident, however, that the status of MN research and the problems encountered in conducting and disseminating the results of such research are sufficiently visible to professionals engaged in this activity, and that these professionals have a relatively accurate perception of what is going on in their countries regarding MN health. This study should be considered as another piece of evidence that helps to build a body of compelling evidence that MN research, and MN health in general, are neglected areas of health in many LACs. That its findings are in consistency with what has been reported for LAMI countries[7-9] bolsters confidence in the conclusions drawn and gives weight to the recommendations we make.

The most important of these recommendations, given its potential to make all other recommendations possible, is to mobilize and consolidate local and international efforts to foster and support MN health research in LACs. Institutions, such as the WHO, the PAHO, the Global Forum for Health Research and the World Bank among others, should advocate for LAC governments to prioritize MN health problems and promote a high quality research-based policy generation culture. If both goals are accomplished, all other components of the MN research cycle (Figure 1) would be desirably activated. Governments would create a self-nourishing demand for research. The budget designated for MN health and MN research would be increased. Institutions would invest in training professionals to perform research and translate results. There would be more publications of higher quality that might be indexed in high-impact databases. Research projects would multiply and, consequently, more opportunities would develop for the media to disseminate research results that help to educate the general population, which then would add its well-informed voice to pressure decision-makers. In this way, a new "virtuous circle" could be created.

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** Modest*
*** Significant*
**** Significant. Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author.*
*Note: UNIFESP = Universidade Federal de São Paulo; FAPESP = Fundação de Amparo a Pesquisa de São Paulo; CNPq = Conselho Nacional de Desenvolvimento Científico e Tecnológico; CAPES = Coordenação de Aperfeiçoamento de Pessoal de Nível Superior.*
*For more information, see Instructions for authors.*

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