

# Bibliometric Analysis of Randomized Clinical Trials in the Philippines

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## ABSTRACT

**Background and Objective.** Randomized controlled trials (RCTs) are essential for advancing evidence-based health-care by evaluating the effectiveness and safety of health interventions. Despite the increasing recognition of clinical research, the Philippines has had limited contributions to global RCT output. This bibliometric analysis aims to assess the trends, characteristics, and impact of RCTs conducted in the Philippines and published online.

**Methods.** A systematic search of Medline (PubMed), and EMBASE, along with Acta Medica Philippina, was conducted to identify published RCTs from January 1990 to October 2022. Eligible studies were screened and analyzed based on publication trends, funding sources, study designs, research settings, and institutional contributions. Descriptive statistics were used to summarize key findings.

**Results.** A total of 391 RCTs were identified, with a notable increase in number of RCTs published over time. Most studies (91.8%) were published in international journals, and funding was primarily sourced from pharmaceutical companies (47.1%). The predominant RCT design was two-arm parallel (64.7%), with hospitals being the most common research setting (54.2%). Research areas were led by infectious diseases, particularly vaccine-preventable illnesses (23.8%). While the University of the Philippines Manila (21.1%) and the Research Institute for Tropical Medicine (13.7%) were the leading institutions in terms of highest number of published RCTs, foreign authors accounted for nearly half (47.3%) of primary authorships. The most cited studies focused on cardiovascular diseases, infectious diseases, and oncology.

**Conclusion.** The increasing number of published RCTs in the Philippines reflects growth in research capacity and institutional engagement. Strengthening national research dissemination platforms and fostering regional collaborations will be essential in advancing the Philippines' contribution to global clinical research.

**Keywords:** *bibliometric analysis, randomized controlled trials, Philippines*



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## INTRODUCTION

Randomized controlled clinical trials (RCT) play a major role in evidence-based healthcare by providing high quality evidence on the effectiveness and safety of interventions. These interventions may include medicines, diagnostic tests, biomarkers, and health programs. Through the years, RCTs have become more familiar with a corresponding exponential increase in published literature. However, the United States remains the predominant RCTs publishing country.<sup>1</sup> In Asia, over 30,000 clinical trials were conducted from 2002 to 2022, with the Philippines ranking 51<sup>st</sup> among the 177 countries in terms of the number of clinical trials conducted.

This study analyzed the trends in the conduct of RCT in the Philippines. Our objective was to identify and synthesize published randomized clinical trials in the Philippines that were accessible online. We aimed to determine the chronological distribution and growth pattern of biomedical RCTs conducted in the Philippines, the most common research areas, and their characteristics. While it did not assess methodological quality, the descriptive insights from this analysis—such as the volume of trials over time, trial phases, and health topics—may help stakeholders identify gaps and priorities for future clinical trial capacity-building in the Philippines and strengthen its contribution to the global research landscape.

## METHODS

### Study Design

A systematic review and bibliometric analysis of published RCTs conducted in the Philippines were performed through studies found in the following online databases: Medline (PubMed), and EMBASE. *Acta Medica Philippina*, a local journal not indexed in the above databases, at the time, was also searched.

### Eligibility Criteria

All biomedical randomized clinical trials conducted in the Philippines published online from January 1, 1990 to October 31, 2022, regardless of population, intervention, setting, and type of RCT were included in the study. Reports were excluded if they were 1) a protocol, 2) a published RCT describing baseline characteristics only, 3) a secondary analysis of RCT data, 4) a systematic review of RCTs, 5) a preprint, 6) a retracted RCT, 7) a conference proceeding, 8) an abstract only, 9) not published in English. The search was conducted on March 2023 across MEDLINE (PubMed), EMBASE, and *Acta Medica Philippina*. The detailed search strategy, including search terms and limits, is provided in the Appendix.

### Study Selection

Deduplication was performed automatically using Covidence.<sup>2</sup> After duplicate studies were removed, two independent reviewers screened the titles and abstracts for inclusion. The full texts of potentially eligible studies were then retrieved and assessed for eligibility by the same reviewers. Any disagreements at either stage were resolved by a third reviewer. The reporting of studies followed the PRISMA checklist.<sup>3,4</sup>

### Data Extraction

Data was extracted by one reviewer and was counterchecked by a second reviewer. Two reviewers decided classification of studies according to intervention type and research area. The following information was gathered from the studies collected: 1) Study author, 2) Year of publication, 3) Database source/s, 4) Trial registration, 5) Journal where article was published and its 5-year impact factor rating, 6) Source of funding, 7) Type of RCT, 8) Phase of trials, 9) Location, 10) Setting where the studies were conducted (hospital, clinic, community), 11) Type of intervention, 12) Institutions involved, 13) Sites involved, 14) Primary author/most senior author affiliation, 15) Population being studied, 16) Number of citation. Citation counts were obtained from Google Scholar while the 5-year impact factor values were obtained from Medline and Embase.

Research area was defined as the primary condition being treated or addressed by the RCT. Each trial was assigned to a single research area based on its main clinical focus. For this study, community/public health referred to trials conducted among generally healthy populations with the aim of disease prevention, health promotion, or risk reduction at the population level.

Setting was defined as the primary context in which the trial was conducted. Categories were hospital (tertiary or secondary hospital-based), clinic (outpatient or ambulatory care facilities), community (populations outside formal healthcare facilities such as barangays, schools, or households), mixed (across more than one setting), and online (internet-based recruitment and interventions). For studies involving collaborations between two or more institutions, each institution was counted separately in the analysis of institutional affiliations.

### Data Analysis

The data were analyzed using descriptive statistics, with frequencies and percentages used to summarize key findings. The number of randomized controlled trials (RCTs) was plotted according to the year of publication to illustrate trends over time; Mann-Kendall trend test was performed to determine if the trend was significant. Additionally, characteristics of RCTs were summarized and described. Journal 5-year impact factors were collected and summarized descriptively; although initially intended for correlation analyses, these were not pursued due to collinearity among variables.

## Ethical Review

The study was granted an exemption from ethical review by the University of the Philippines Manila Research Ethics Board (UPMREB) (UPMREB 2025-0476-EX).

## RESULTS

A total of 6,366 records were identified from Medline (n = 2,531) and Embase (n = 3,835). After removing duplicates and ineligible records, 6,128 records were screened, excluding 5,541 records. Common reasons for the exclusion were (1) the study was not conducted in the Philippines—even if Filipino participants were involved, and (2) the study design did not meet our eligibility criteria, such as being observational, non-randomized, or quasi-experimental in nature. Full-text retrieval was attempted for 587 reports, but three were unavailable, leaving 584 for full-text assessment. Among these, 193 studies were excluded because they were abstract papers/conference proceedings (n = 109), not conducted in the Philippines (n = 35), and not RCTs (n = 20). An additional 26 records were identified from Acta Medica Philippina. Ultimately, 391 studies met the inclusion criteria and were included in the review (Figure 1).

Most of the RCTs found (n = 359, 91.8%) were published in international journals, with a small proportion (n = 32, 8.1%) appearing in local publications. Funding was primarily provided by pharmaceutical companies (n = 184, 47.1%), followed by mixed source (n = 61, 15.6%), non-government organizations (n = 37, 9.5%), government (n = 24, 6.1%), international organizations (n = 20, 5.1%), and self-funding (n = 6, 1.5%) (Table 1).

Nearly 40% of RCTs were conducted in single-center settings (n = 156, 39.9%), with multi-regional (n = 149, 38.1%) and multi-center (n = 70, 17.9%) studies also common (Table 1).

Most studies targeted patients with diseases or comorbidities (n = 225, 57.5%), although healthy populations (n = 165, 42.2%) were also included. Adults were the focus of 59.1% of trials (n = 231), while pediatric (n = 124, 31.7%) and mixed-age groups (n = 36, 9.2%) were less common. Research areas were led by vaccine-preventable diseases (n = 93, 23.8%), followed by malnutrition (n = 35, 9.0%), oncological (n = 27, 6.9%), endocrine (n = 25, 6.4%), dermatologic (n = 23, 5.9%), cardiovascular (n = 22, 5.6%), and neurologic/psychiatric (n = 19, 4.9%) conditions. Special topics included tuberculosis, COVID-19, and dental research (each ≤ n = 6, 1.5%) (Table 1).

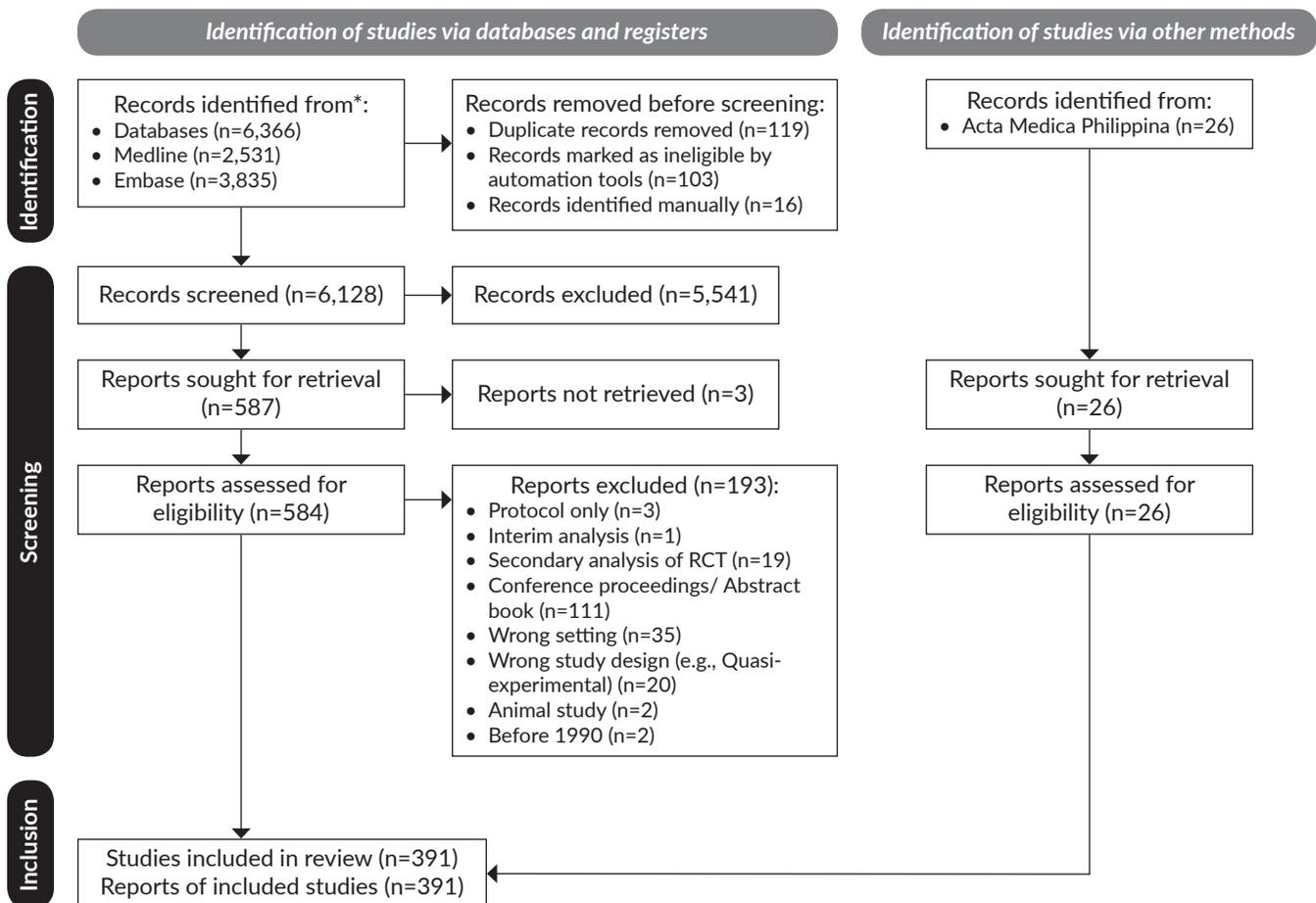


Figure 1. PRISMA diagram.

**Table 1.** Characteristics of Published RCTs

Characteristics	Number of published RCTs in the Philippines N=391, n (%)	Characteristics	Number of published RCTs in the Philippines N=391, n (%)
<b>Journal type</b>		<b>Study population</b>	
International	359 (91.8)	With disease/comorbidity	225 (57.5)
Local	32 (8.1)	Healthy	165 (42.2)
<b>Source of funding</b>		Not indicated	1 (0.3)
Pharmaceutical	184 (47.1)	<b>Age group of study population</b>	
Mixed source	61 (15.6)	Adult (18 years old and above)	231 (59.1)
Non-government organization	37 (9.5)	Pediatric (Less than 18 years old)	124 (31.7)
Government	24 (6.1)	Mixed	36 (9.2)
International organization	20 (5.1)	<b>Research area</b>	
Self-funded	6 (1.5)	Infectious diseases	114 (28.6)
Funding not disclosed	59 (15.1)	Vaccine-preventable diseases	93 (23.8)
<b>Type of RCT</b>		Tuberculosis	6 (1.5)
Two-arm parallel	253 (64.7)	COVID-19	5 (1.3)
Multi-arm parallel	102 (26.1)	Parasitic	10 (2.6)
Cluster	16 (4.1)	Malnutrition	35 (9.0)
Factorial	9 (2.3)	Oncological	27 (6.9)
Cross-over	8 (2.0)	Endocrine	25 (6.4)
Others	3 (0.8)	Dermatologic	23 (5.9)
<b>Location of RCT sites</b>		Cardiovascular	22 (5.6)
Single center, within the Philippines	156 (39.9)	Neurologic and psychiatric	19 (4.9)
Multi-center, within the Philippines	70 (17.9)	Prematurity and related conditions	15 (3.8)
Multi-center, across South East Asia	16 (4.1)	Obstetric and Gynecologic	15 (3.8)
Multi-center, beyond South East Asia	149 (38.1)	Public/community health	15 (3.8)
<b>Setting</b>		Ophthalmologic	13 (3.3)
Hospital	214 (54.2)	Pulmonary	13 (3.3)
Community	108 (27.6)	Gastrointestinal	13 (3.3)
Clinic	56 (14.3)	Surgical	11 (2.8)
Mixed	4 (1.0)	Musculoskeletal	10 (2.6)
Online	2 (0.5)	Renal	6 (1.5)
Unspecified	7 (1.8)	Urological	6 (1.5)
<b>Type of intervention*</b>		Dental	5 (1.3)
Pharmacological*	262 (67.0)	Autoimmune	4 (1.0)
Complementary/Alternative medicine*	59 (15.1)	<i>* In case of multi-component interventions, the main intervention being tested in the trial was used as basis for categorizing.</i>	
Educational	27 (6.9)	<i>* Pharmacological interventions were pharmaceutical drugs or medicinal products. Complementary and alternative medicine was defined as intervention beyond traditional pharmaceutical products and may include treatments like herbal medicine, acupuncture, massage therapy, or dietary supplements.</i>	
Behavioral	18 (4.6)		
Surgical	17 (4.3)		
Medical device/technology	5 (1.3)		
Dietary	3 (0.8)		

The RCTs included in this review were published in journals with a median 5-year impact factor of 3.70 (IQR: 2.0–5.8).

Figure 2 illustrates the distribution of randomized controlled trials (RCTs) conducted in the Philippines and published online from 1990 to 2022. It reveals a gradual increase in published RCTs over time, with relatively low annual counts in the early years, ranging from 2 (0.51%) in 1990 to 11 (2.81%) in 2005. A more noticeable rise began in the late 2000s, with annual publications reaching 14 (3.57%) in 2009 and surpassing 10 consistently by the early 2010s. The most significant growth occurred after 2015, with peaks observed in 2019 (30, 7.65%), 2020 (30, 7.65%), and

2021 (46, 11.73%). A Mann–Kendall trend test confirmed a significant positive trend between year and number of publications ( $\tau_b = 0.844, p < 0.001$ ).

Among the included studies, the University of the Philippines (UP) Manila (including Philippine General Hospital and National Institutes of Health) was the leading institution in terms of number of RCTs with 117 publications (21.1%), followed by the Research Institute for Tropical Medicine (RITM) with 76 (13.7%). Most RCTs were conducted in the National Capital Region (98%), but a few were conducted outside the NCR, such as De La Salle University-Dasmariñas in Region IV (14, 2.5%) and Chong Hua Hospital in Region VII (4, 0.7%) (Table 2).

**Table 2.** Number of Publications per Local Institution

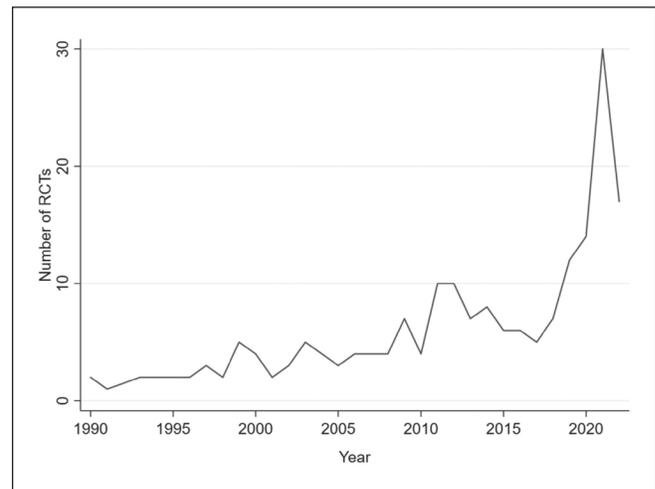
Institution	Region	n (%)
University of the Philippines Manila (including PGH and NIH)	NCR	117 (21.1)
Research Institute for Tropical Medicine	NCR	76 (13.7)
University of Santo Tomas	NCR	36 (6.5)
St Luke's Medical Center	NCR	31 (5.6)
Department of Science and Technology	NCR	14 (2.5)
De La Salle University	IV	14 (2.5)
University of the Philippines Diliman	NCR	12 (2.2)
University of the East Ramon Magsaysay Memorial Medical Center	NCR	11 (2.0)
Makati Medical Center	NCR	9 (1.6)
Mary Chiles General Hospital	NCR	8 (1.4)
Lung Center of the Philippines	NCR	8 (1.4)
Asian Hospital and Medical Center	NCR	8 (1.4)
The Medical City	NCR	8 (1.4)
Department of Health	NCR	7 (1.3)
Jose R. Reyes Memorial Medical Center	NCR	7 (1.3)
Cardinal Santos Medical Center	NCR	7 (1.3)
Manila Doctors Hospital	NCR	7 (1.3)
San Lazaro Hospital	NCR	5 (0.9)
Dr. Jose Fabella Memorial Hospital	NCR	5 (0.9)
Philippine Children's Medical Center	NCR	5 (0.9)
Metropolitan Medical Center	NCR	5 (0.9)
Philippine Heart Center	NCR	4 (0.7)
National Kidney and Transplant Institute	NCR	4 (0.7)
Nutrition Center of the Philippines	NCR	4 (0.7)
Chong Hua Hospital	VII	4 (0.7)
Veterans Memorial Medical Center	NCR	4 (0.7)
Peregrine Eye and Laser Institute	NCR	4 (0.7)
Asian Eye Institute	NCR	4 (0.7)
Sanofi-Aventis Philippines	NCR	4 (0.7)
Wyeth Nutrition Philippines	NCR	4 (0.7)

Among the studies found in this review, the University of the Philippines Manila leads with 57 primary authorships (14.6%), followed by the Research Institute for Tropical Medicine (RITM) with 44 (11.3%) and the University of Santo Tomas with 14 (6.5%) (Table 3). Notably, foreign institutions accounted for 185 primary authorships (47.3%).

The 10 most frequently cited RCTs were generally large, multi-center trials addressing high-burden conditions. They primarily focused on cardiovascular disease prevention and management (e.g., anticoagulation and cholesterol-lowering therapies), infectious diseases (COVID-19, dengue, tuberculosis, and HPV), cancer therapeutics (non-small-cell lung cancer and hepatocellular carcinoma), and autoimmune disease (systemic lupus erythematosus).

**Table 3.** Number of Primary Authorships per Local Institution

Institution	Region	N=391, n (%)
University of the Philippines Manila (including PGH and NIH)	NCR	57 (14.6)
Research Institute for Tropical Medicine	NCR	44 (11.3)
University of Santo Tomas	NCR	14 (6.5)
Department of Science and Technology	NCR	12 (3.6)
St Luke's Medical Center	NCR	8 (2.0)
Jose R. Reyes Memorial Medical Center	NCR	7 (1.8)
University of the Philippines Diliman	NCR	5 (1.3)
University of the East Ramon Magsaysay Memorial Medical Center	NCR	5 (1.3)
Nutrition Center of the Philippines	NCR	4 (1.0)
Department of Health	NCR	3 (0.8)
Leonard Wood Memorial	VII	3 (0.8)
Asian Hospital and Medical Center	NCR	3 (0.8)

**Figure 2.** Published RCTs in the Philippines from 1990 to 2022.

The most cited study is 'Rivaroxaban with or without aspirin in stable cardiovascular disease' published in *The New England Journal of Medicine* in 2017, with 2,299 citations.<sup>5</sup> This is followed by the study 'Efficacy and safety of belimumab in patients with active systemic lupus erythematosus' published in *The Lancet* in 2011, with 2,095 citations.<sup>6</sup> More recent contributions include the COVID-19 treatment trial 'Molnupiravir for oral treatment of COVID-19 in nonhospitalized patients' published in 2021 in *The New England Journal of Medicine*, with 1,644 citations.<sup>7</sup> (Table 4).

The phase 3 dengue vaccine trial published in the year 2014 in *The Lancet* had 1,128 citations.<sup>8</sup> The Delamanid trial for multidrug-resistant tuberculosis published in the year 2012 in *The New England Journal of Medicine* had 916

Table 4. Top 10 frequently Cited RCTs

Title	Journal	Citations	Year published
<i>Rivaroxaban with or without aspirin in stable cardiovascular disease</i>	The New England Journal of Medicine	2299	2017
<i>Efficacy and safety of belimumab in patients with active systemic lupus erythematosus: a randomised, placebo-controlled, phase 3 trial</i>	The Lancet	2095	2011
<i>Molnupiravir for oral treatment of COVID-19 in nonhospitalized patients</i>	The New England Journal of Medicine	1644	2021
<i>Clinical efficacy and safety of a novel tetravalent dengue vaccine in healthy children in Asia: a phase 3, randomised, observer-masked, placebo-controlled trial</i>	The Lancet	1128	2014
<i>Cholesterol lowering in intermediate-risk persons without cardiovascular disease</i>	The New England Journal of Medicine	1015	2016
<i>Delamanid for multidrug-resistant pulmonary tuberculosis</i>	The New England Journal of Medicine	916	2012
<i>First-line erlotinib versus gemcitabine/cisplatin in patients with advanced EGFR mutation-positive non-small-cell lung cancer: analyses from the phase III, randomized, open-label, ENSURE study</i>	Annals of Oncology	746	2015
<i>Safety, immunogenicity, and efficacy of quadrivalent human papillomavirus (types 6, 11, 16, 18) recombinant vaccine in women aged 24-45 years: a randomised, double-blind trial</i>	Lancet	617	2009
<i>SIRveNIB: selective internal radiation therapy versus sorafenib in Asia-Pacific patients with hepatocellular carcinoma</i>	Journal of Clinical Oncology	588	2018
<i>Detection and dynamic changes of EGFR mutations from circulating tumor DNA as a predictor of survival outcomes in NSCLC patients treated with first-line intercalated erlotinib and chemotherapy</i>	Clinical Cancer Research	526	2015

citations.<sup>9</sup> Oncology-related studies, including trials on EGFR-targeted therapies for lung cancer (*Annals of Oncology*, 746 citations, 2015; *Clinical Cancer Research*, 526 citations, 2015), further demonstrate the country's contributions to cancer research.<sup>10,11</sup> Additionally, the SIRveNIB trial on hepatocellular carcinoma treatment, published in *The Journal of Clinical Oncology* in 2018, with 588 citations, highlights advancements in liver cancer therapies relevant to the Asia-Pacific region.<sup>12</sup> (Table 4)

## DISCUSSION

This study describes the Philippines' contribution to improving health through clinical trials. It explores trends, research focus, and institutional involvement, offering insights into the country's clinical trial landscape and its role in evidence-based healthcare.

The number of RCTs conducted in the Philippines and published in moderate to high impact journals, a low- to middle-income country, has shown an upward trend over the years. This growth reflects increasing research capacity, greater recognition of evidence-based medicine, and improved access to funding and international collaborations.

The observed rise in RCT publications in the Philippines reflects the broader global increase in trial activity over the past three decades. A recent bibliometric analysis of PubMed-indexed RCTs reported nearly 250,000 RCT publications worldwide between 1990 and 2020, with an average annual growth rate of about 7–8%.<sup>13</sup> Our findings indicate that RCTs in the Philippines have grown in line

with global trends, although the absolute numbers remain relatively small. Compared with high-income countries, the output is still limited; however, the steady increase points to progress in clinical research infrastructure, regulatory support, and academic engagement.<sup>1</sup>

Online published clinical trials done in the Philippines are primarily led by key institutions such as the University of the Philippines (UP), through the UP-National Institutes of Health and the Philippine General Hospital, and RITM. Only a limited number of regional institutions conduct and publish clinical trials, creating a geographic disparity in research output. This situation is reflected in a commentary of Eala et al., who observed that most oncologic trials are concentrated in Manila.<sup>14</sup>

A notable observation from the bibliometric data is the significant role played by foreign institutions in authorship claims, accounting for nearly half of all primary authorships. While this reflects strong international collaboration, it raises concerns about local research leadership and the need for stronger domestic capacity to conduct and publish RCTs.<sup>1,15</sup> Additionally, the funding landscape of RCTs suggests an over-reliance on pharmaceutical companies, which fund nearly half of the studies. In contrast, government funding remains low, limiting the scope of independent public health research.

The focus of clinical trials in the Philippines appears to align with the country's current healthcare needs. A significant proportion of studies address infectious diseases, particularly tuberculosis and vaccine-preventable illnesses. However, there remains a limited number of trials dedicated

to non-communicable diseases such as cancer, cardiovascular conditions, and endocrine disorders, highlighting potential gaps in research priorities and the need for broader investigation into these chronic health concerns.

Clinical research in the Philippines continues to be largely centered on single-center trials, limiting the generalizability of findings.<sup>16</sup> Expanding collaboration among local institutions could enhance research quality and impact, while fostering mentorship programs may help build research capacity and strengthen the country's clinical trial landscape.<sup>15</sup>

The bibliometric analysis also highlights limitations in research dissemination. While a significant proportion of studies are published in high-impact international journals, local journals account for only a small fraction of the total publications found online. An attempt was made to look for RCTs in the local database Herdin, but the RCTs indexed were not accessible online. This suggests a need for strengthening national research dissemination platforms to enhance the visibility of Filipino-led research.

This study has several limitations. First, the counts of RCTs per institution represent only the distribution of trials that met our eligibility criteria and were retrievable from the included databases; they should not be interpreted as comprehensive measures of institutional research productivity. Second, while the bibliometric analysis describes trends and characteristics of published trials, it did not assess methodological quality, and thus the findings cannot directly inform on trial rigor or risk of bias. Third, the search was restricted to publications from 1990 onward, in English, and available online, which may have excluded earlier trials and those published in non-indexed sources. Fourth, the review was limited to published RCTs; unpublished trials and those in local specialty journals that were circulated primarily in print were not captured, which likely led to an underestimation of the total number of RCTs conducted in the Philippines. Finally, this study demonstrates key challenges in conducting RCTs in the Philippines, including research centralization, limited government funding, and the underrepresentation of chronic diseases in clinical trials. Addressing these gaps requires a multi-faceted approach that strengthens institutional collaborations, increases public funding, and expands research initiatives beyond the National Capital Region (NCR). Moving forward, sustained investment in capacity-building programs and greater collaboration between local and international institutions will be critical to ensuring the continued growth and global impact of clinical research in the Philippines.

## CONCLUSION

This study highlights the evolving landscape of RCTs in the Philippines, with a steady increase in research output over the years. The majority of institutions that published the RCTs were in the National Capital Region, led by the UP Manila and RITM. The majority of primary authors had

affiliations with foreign institutions. Strengthening national research dissemination platforms and fostering regional collaborations will be essential in advancing the Philippines' contribution to global clinical research.

## Data Availability Statement

Data is available upon request to the authors.

## Statement of Authorship

All authors certified fulfillment of ICMJE authorship criteria.

## Author Disclosure

All authors declared no conflicts of interest.

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## APPENDIX

### Search strategy

#### MEDLINE (Search done: March 2023)

((("randomized controlled trial"[Publication Type] OR "controlled clinical trial"[Publication Type] OR "randomized"[Title/Abstract] OR "placebo"[Title/Abstract] OR "drug therapy"[MeSH Subheading] OR "randomly"[Title/Abstract] OR ("trial"[Title/Abstract] OR "groups"[Title/Abstract])) NOT ("animals"[MeSH Terms] NOT "humans"[MeSH Terms])) AND (Filipino OR Philippine\* OR "Philippines"))

#### EMBASE (Search done: March 2023)

((('randomized controlled trial'/de OR 'controlled clinical trial'/de OR random\*:ti,ab,tt OR 'randomization'/de OR 'intermethod comparison'/de OR placebo:ti,ab,tt OR (compare:ti,tt OR compared:ti,tt OR comparison:ti,tt) OR ((evaluated:ab OR evaluate:ab OR evaluating:ab OR assessed:ab OR assess:ab) AND (compare:ab OR compared:ab OR comparing:ab OR comparison:ab)) OR (open NEXT/1 label):ti,ab,tt OR ((double OR single OR doubly OR singly) NEXT/1 (blind OR blinded OR blindly)):ti,ab,tt OR 'double blind procedure'/de OR (parallel NEXT/1 group\*):ti,ab,tt OR (crossover:ti,ab,tt OR 'cross over':ti,ab,tt) OR ((assign\* OR match OR matched OR allocation) NEAR/6 (alternate OR group OR groups OR intervention OR interventions OR patient OR patients OR subject OR subjects OR participant OR participants)):ti,ab,tt OR (assigned:ti,ab,tt OR allocated:ti,ab,tt) OR (controlled NEAR/8 (study OR design OR trial)):ti,ab,tt OR (volunteer:ti,ab,tt OR volunteers:ti,ab,tt) OR 'human experiment'/de OR trial:ti,tt) NOT (((random\* NEXT/1 sampl\* NEAR/8 ('cross section\*' OR questionnaire\* OR survey OR surveys OR database OR databases)):ti,ab,tt) NOT ('comparative study'/de OR 'controlled study'/de OR 'randomised controlled':ti,ab,tt OR 'randomized controlled':ti,ab,tt OR 'randomly assigned':ti,ab,tt) OR ('cross-sectional study' NOT ('randomized controlled trial'/de OR 'controlled clinical study'/de OR 'controlled study'/de OR 'randomised controlled':ti,ab,tt OR 'randomized controlled':ti,ab,tt OR 'control group':ti,ab,tt OR 'control groups':ti,ab,tt)) OR ('case control':ti,ab,tt AND random\*:ti,ab,tt NOT ('randomised controlled':ti,ab,tt OR 'randomized controlled':ti,ab,tt)) OR ('systematic review':ti,tt NOT (trial:ti,tt OR study:ti,tt)) OR (nonrandom\*:ti,ab,tt NOT random\*:ti,ab,tt) OR 'random field\*':ti,ab,tt OR ('random cluster' NEAR/4 sampl\*):ti,ab,tt OR (review:ab AND review:it NOT trial:ti,tt) OR ('we searched':ab AND (review:ti,tt OR review:it)) OR 'update review':ab OR (databases NEAR/5 searched):ab OR ((rat:ti,tt OR rats:ti,tt OR mouse:ti,tt OR mice:ti,tt OR swine:ti,tt OR porcine:ti,tt OR murine:ti,tt OR sheep:ti,tt OR lambs:ti,tt OR pigs:ti,tt OR piglets:ti,tt OR rabbit:ti,tt OR rabbits:ti,tt OR cat:ti,tt OR cats:ti,tt OR dog:ti,tt OR dogs:ti,tt OR cattle:ti,tt OR bovine:ti,tt OR monkey:ti,tt OR monkeys:ti,tt OR trout:ti,tt OR marmoset\*:ti,tt) AND 'animal experiment'/de) OR ('animal experiment'/de NOT ('human experiment'/de OR 'human'/de)))) AND (philippines:ti,ab,tt OR filipino:ti,ab,tt) AND [1990-2022]/py

#### Acta Medica Philippina (Search done: March 2023)

Search: Clinical Trial