Online Supplement

The Current Landscape of COPD-Related Clinical Trials Registered on the World Health Organization's International Clinical Trials Registry Platform: A Comprehensive Analysis of Study Characteristics and Publication Status

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Table S1 The Primary Registries in the WHO Registry Network

Primary registry	Website
ClinicalTrials.gov	https://clinicaltrials.gov/
Australian New Zealand Clinical Trials Registry (ANZCTR)	https://www.anzctr.org.au/
Brazilian Clinical Trials Registry (ReBec)	http://www.ensaiosclinicos.gov.br/
Chinese Clinical Trial Register(ChiCTR)	https://www.chictr.org.cn/
Clinical Research Information Service (CRiS) of Republic of Korea	https://cris.nih.go.kr/cris/info/introduce.do?search_lang=E&lang=E
Cuban Public Registry of Clinical Trials (RPCEC)	https://rpcec.sld.cu/en
Clinical Trials Registry-India (CTRI)	https://ctri.nic.in/Clinicaltrials/login.php
EU Clinical Trials Register (EU-CTR)	https://www.clinicaltrialsregister.eu/ctr-search/search
German Clinical Trials Register (DRKS)	http://www.germanctr.de/
ISRCTN	https://www.isrctn.com/
Iranian Registry of Clinical Trials (IRCT)	https://www.irct.ir/
Japan Primary Registries Network (JPRN)	https://jrct.niph.go.jp/
Pan African Clinical Trial Registry (PACTR)	https://pactr.samrc.ac.za/
The Netherlands National Trial Register (NTR)	https://www.trialregister.nl/trials
Sri Lanka Clinical Trials Registry (SLCTR)	https://www.slctr.lk/
Tai Clinical Trials Registry(TCTR)	https://www.clinicaltrials.in.th/
Lebanese Clinical Trials Registry (LBCTR)	https://lbctr.moph.gov.lb/
Peruvian Clinical Trial Registry (REPEC)	https://ensayosclinicos-repec.ins.gob.pe/en/

Table S2 Key Fields Extracted from the Clinical Trial Records

Field	Source
Trial ID	ICTRP
Study title	
Retrospective flag	
Recruitment status	
Primary sponsor	
Date of registration	
Register source	
Trial phase	
Enrolment sample size	
Condition	
Intervention	
Funding source	
Gender	
Study design	
Countries of recruitment	
Source of support	
Secondary ID	
Number of centers	Primary registration website
Number of arms	
Primary purpose	
Start date	
Completion date	
Results posted date	
Results posted	

Table S3 A Specific Search Strategy to Retrieve the Publications of Clinical Trials

Step	Search site
I. We retrieved bibliographic information utilized Secondary Source ID [si] field in PubMed and match the publications using the secondary source ID with the included COPD clinical trial ID.	PubMed
II. For the included COPD clinical trials not matched in Step I, we conducted batch searches in PubMed using the clinical trial ID.	
III. If publications associated with the clinical trials were disclosed on the clinical rials registry websites, we extracted the PubMed ID (PMID) or Digital Object Identifier (DOI) for each publication.	Clinical rials registry websites
IV. For the clinical trials with no publications found though Step I-III, we conducted additional searches by entering their IDs and titles on Google website. If the papers were not indexed with the trial ID, we further determined whether they were publications associated with the searched clinical trials based on the names of principle investigator.	Google

Table S4 The Number of Eligible Trials Found in 15 Registries

Primary registry	N
ANZCTR	88
ChiCTR	68
clinicalTrials.gov	1748
CRIS	2
CTRI	64
EU-CTR	197
German Clinical Trials Register	25
IRCT	96
ISRCTN	130
JPRN	117
NTR	11
PACTR	5
REBEC	8
REPEC	6
TCTR	12

ANZCTR: Australian New Zealand Clinical Trials Registry; ChiCTR: Chinese Clinical Trial Register; CRIS: Clinical Research Information Service; CTRI: Clinical Trials Registry-India; EU-CTR: EU Clinical Trials Register; IRCT:Iranian Registry of Clinical Trials; JPRN:Japan Primary Registries Network;NTR:Netherlands National Trial Register; PACTR:Pan African Clinical Trial Registry; REBEC: Brazilian Clinical Trials Registry;REPEC:Peruvian Clinical Trial Registry;TCTR: Tai Clinical Trials Registry

Table S5 Factors Associated with Publication Status of Completed COPD-related Interventional Clinical Trials in the Univariate analysis

Characteristic	Category	OR（95%CI）	P value
Retrospective registration	Yes	reference	
	No	1.12(0.92-1.35)	0.257
Sample size	≤50	reference	
	51–100	1.27(1.00-1.61)	0.053
	101-200	1.68(1.27-2.22)	0.000
	201-500	2(1.50-2.68)	0.000
	>500	5.57(3.81-8.16)	0.000
	Unknown/missing		
Gender	both	reference	
	Female	0.48(0.11-2.16)	0.342
	Male	0.48(0.32-0.73)	0.001
	Unknown/missing	0.48(0.20-1.15)	0.101
Intervention model	crossover	reference	
	Parallel	1.29(1.05-1.6)	0.018
	Single group	0.77(0.58-1.02)	0.072
	Factorial	0.91(0.37-2.24)	0.843
	Sequential	0.50(0.08-3.01)	0.448
	Unknown/missing	0.96(0.55-1.66)	0.875
Randomized	Yes	reference	
	No	0.57(0.42-0.76)	0.000
	Unknown/missing	0.67(0.5-0.91)	0.010
Blind	Open	reference	
	Single blind	1.62(1.21-2.17)	0.001
	Double blind	1.38(1.11-1.71)	0.003
	Triple blind	2.3(1.45-3.64)	0.000
	Quadruple blind	3.18(2.19-4.64)	0.000
	unspecified blind	1.81(0.33-9.96)	0.494
	Unknown/missing	1.06(0.74-1.53)	0.745
Number of arms	1	reference	
	2 or more	1.61(1.27-2.05)	0.000
	Unknown/missing	1.38(0.54-3.53)	0.497
Primary Purpose	Treatment	reference	
	Supportive Care	0.84(0.58-1.21)	0.347
	Basic Science	0.8(0.54-1.17)	0.251
	Prevention	0.73(0.45-1.18)	0.204
	Diagnostic	0.79(0.48-1.32)	0.373
	Health Services Research	1.14(0.65-2.00)	0.640
	Other	1.12(0.78-1.62)	0.531

	Unknown/missing	0.78(0.24-2.58)	0.688
Phase	Phase 1	0.22(0.14-0.33)	0.000
	Phase 1/Phase 2	0.27(0.11-0.66)	0.004
	Phase 2	0.33(0.23-0.49)	0.000
	Phase 2/Phase 3	0.48(0.2-1.15)	0.101
	Phase 3	reference	
	Phase 4	0.4(0.27-0.58)	0.000
	Other	0.25(0.12-0.56)	0.001
	Unknown/missing	0.4(0.29-0.55)	0.000
Multi-center	Yes	reference	
	No	0.56(0.46-0.68)	0.000
	Unknown/missing	0.54(0.39-0.74)	0.000
Funder	Industry	reference	
	Nonindustry	0.94(0.79-1.12)	0.493
	Unknown/missing	1.64(0.32-8.47)	0.558
Study duration (mo.)		1.01(1-1.01)	0.003

CI:confidence interval, OR:odds ratio.

Table S6 Factors Associated with Time Lag (months) from Trial Completion to Publication in the Univariate Analysis

Characteristic	Category	Estimate(Se)	P value
Retrospective registration	Yes	reference	
	No	-2.18(1.38)	0.115
Sample size	≤50	reference	
	51–100	0.09(1.83)	0.961
	101-200	1.45(1.97)	0.461
	201-500	2.16(1.98)	0.277
	>500	-1.28(1.85)	0.487
	Unknown/missing		
Gender	both	reference	
	Female	12.24(12.30)	0.320
	Male	5.95(3.51)	0.090
	Unknown/missing	24.22(7.55)	0.001
Intervention model	crossover	reference	
	Parallel	-1.22(1.51)	0.421
	Single group	-4.22(2.24)	0.060
	Factorial	15.57(7.65)	0.042
	Sequential		
	Unknown/missing	1.85(4.10)	0.652
Randomized	Yes	reference	
	No	-1.04(2.45)	0.671
	Unknown/missing	-2.06(2.32)	0.375
Blind	Open	reference	
	Single blind	0.94(2.09)	0.651
	Double blind	4.52(1.38)	0.005
	Triple blind	-0.01(2.80)	0.997
	Quadruple blind	2.71(2.14)	0.205
	unspecified blind	-3.18(10.74)	0.767
	Unknown/missing	0.95(2.81)	0.737
Number of arms	1	reference	
	2 or more	0.13(1.91)	0.946
	NA	-6.87(7.00)	0.326
Primary Purpose	Treatment	reference	
	Supportive Care	-4.99(2.73)	0.068
	Basic Science	5.74(2.86)	0.045
	Prevention	3.04(3.71)	0.413
	Diagnostic	-1.59(3.82)	0.678
	Health Services Research	-6.82(4.01)	0.089
	Other	-1.79(2.52)	0.479
	Unknown/missing	31.44(8.69)	0.000

Phase	Phase 1	9.57(2.78)	0.001
	Phase 1/Phase 2	14.40(6.85)	0.036
	Phase 2	6.73(2.36)	0.004
	Phase 2/Phase 3	-4.82(5.49)	0.381
	Phase 3	reference	
	Phase 4	-0.74(2.27)	0.744
	Other	7.27(6.05)	0.230
	Unknown/missing	-0.57(1.76)	0.745
Multi-center	Yes	reference	
	No	-2.71(1.31)	0.038
	Unknown/missing	-2.95(2.45)	0.230
Funder	Industry	reference	
	Nonindustry	-6.08(1.25)	0.000
	Unknown/missing	17.46(9.50)	0.066
Study duration (mo.)		-0.20(0.04)	0.000

NA, not available, the median of time to publication was not reached.