

Biomedical Theses and Dissertations Landscape from a National and International Perspective: A Case Study on Chronic Myelogenous Leukemia

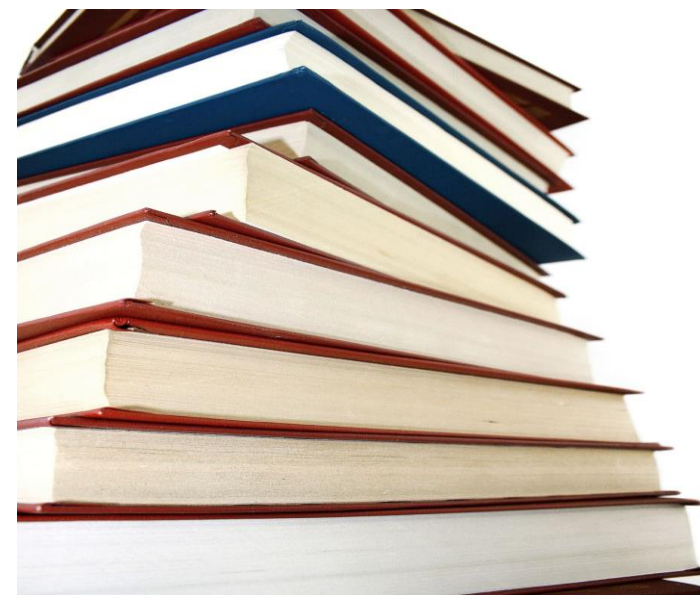
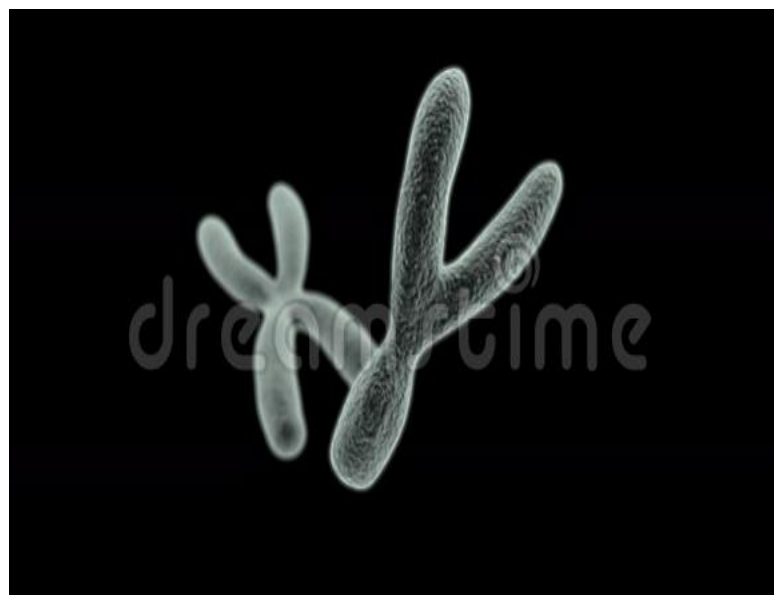


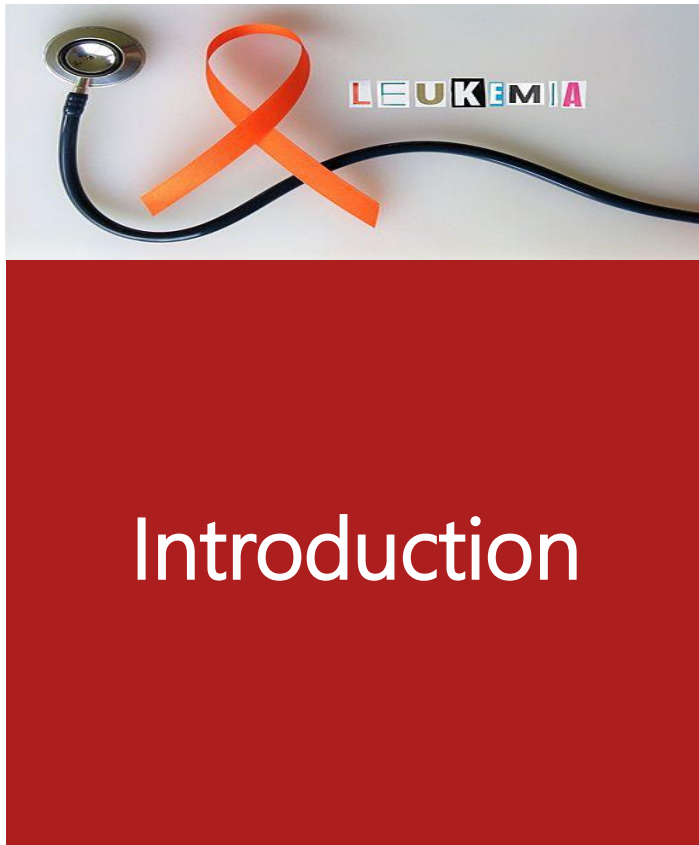
Sangeeta Narang Vineeta Dhyani Asween Marco

AIIMS, New Delhi

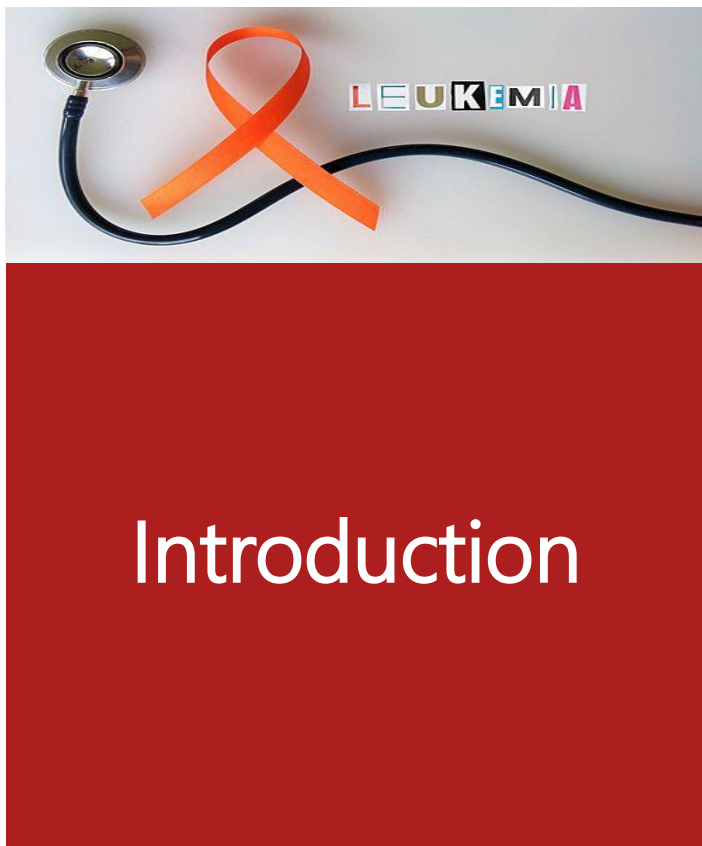


Theses on Chronic Myelogenous Leukemia (CML)





- CML is a type of blood cancer that affects bone marrow and blood cells.
- It is formed by a translocation between parts of chromosome 9 and 22 in a single bone marrow cell during cell division.
- This mutated chromosome 22 is called Philadelphia (Ph) chromosome (BCR-ABL fusion gene) that produces abnormal protein tyrosine kinase.
- Symptoms - weight loss, tiredness, fever
- Diagnosis: Blood Test



- Chronic myeloid leukemia (CML) is also known as chronic myelogenous leukemia, chronic granulocytic leukemia and chronic myelocytic leukemia
- Hematologists and oncologists are specialists who treat people with CML and other types of blood cancer.
- Most CML patients are treated with oral drug therapy
- Since the introduction of tyrosine kinase inhibitor therapy in 2001, CML has been transformed from a life-threatening disease to a manageable chronic condition for most patients.
- People are living longer with CML and experiencing fewer treatment side effects

Source: Leukemia & Lymphoma Society

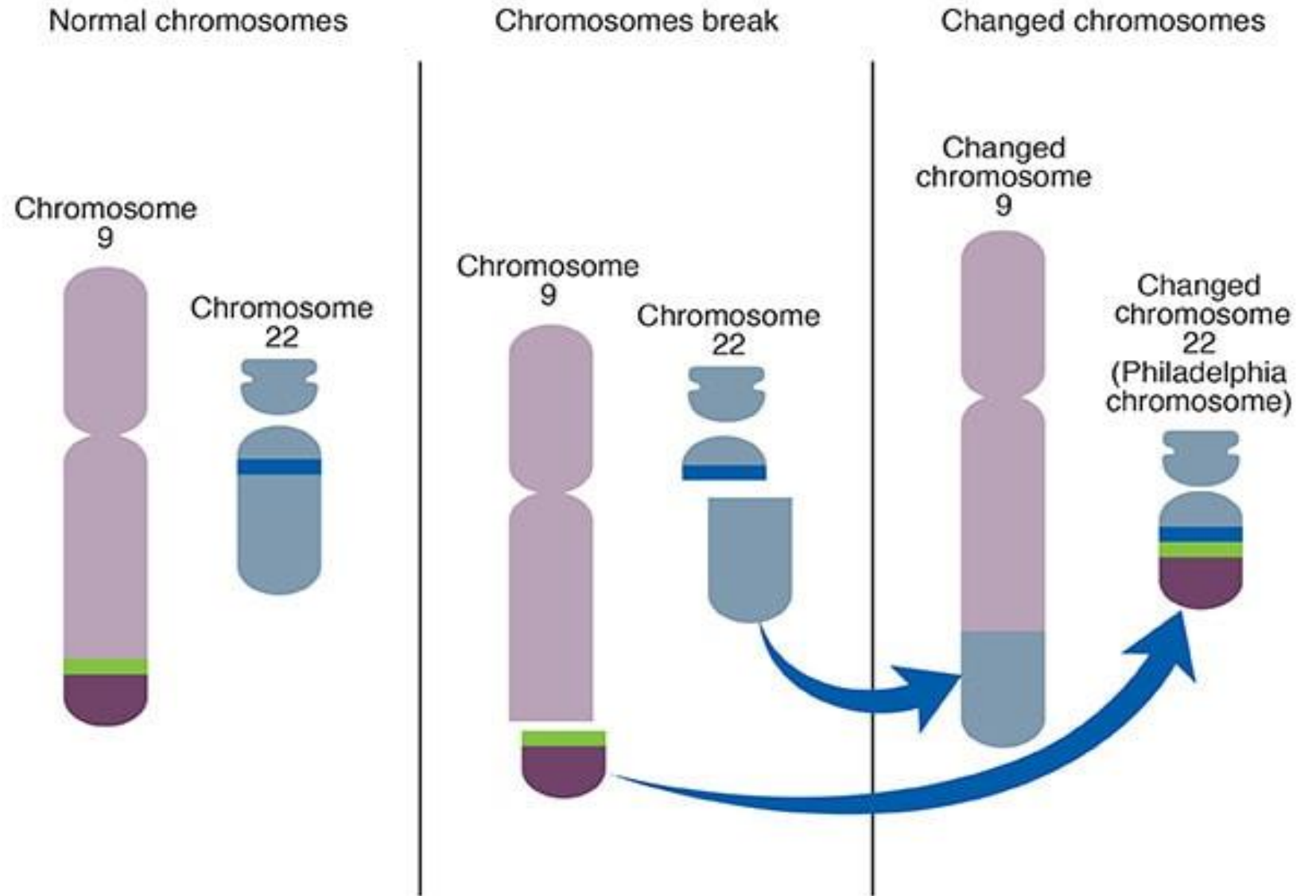


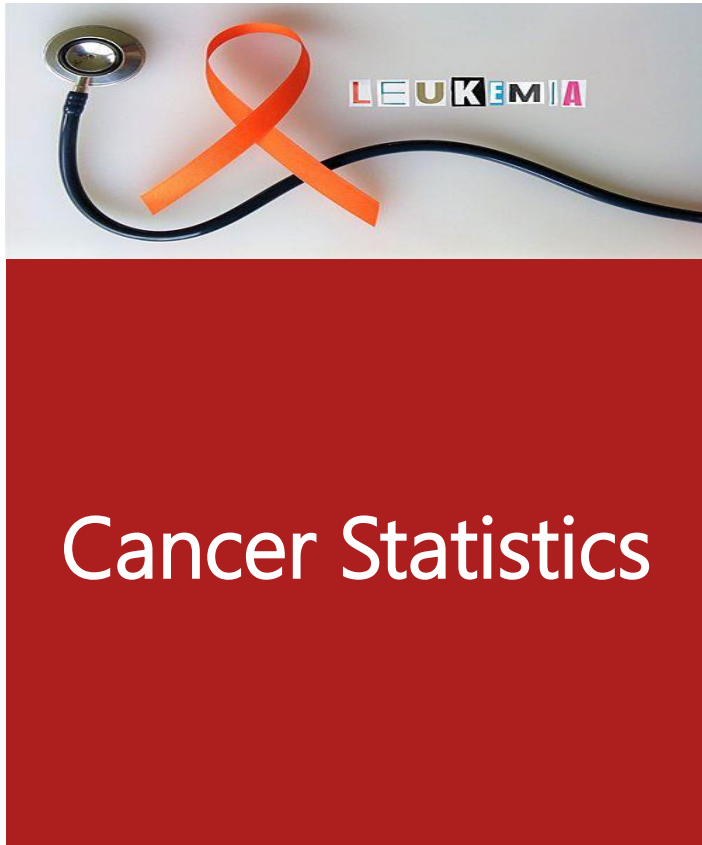
Definition

According to Merriam-Webster Medical Dictionary, Chronic Myelogenous Leukaemia (CML), is an abnormal increase in mature and immature granulocytes (as neutrophils, eosinophils, and myelocytes), especially in the bone marrow and blood.



Cause of Disease





- CML incidence distribution varies with age, gender, and regions.
- The annual incidence of CML in India is 0.8 to 2.2 per 100,000 population (Ganeshan P. & Kumar L)
- Globally, the annual incidence of CML varies from 0.4/100,000 persons to 1.75/100,000 persons in different countries (Lin et al.)



Biomedical Theses and Dissertations

- Theses and Dissertations are valuable scholarly output produced by students pursuing higher education in universities.
- They serve as a vital source of information for student researchers in deciding on a research topic, objectives, methodologies or relate findings leading to the refinement of their study and help scientists in enhancing their research.
- Biomedical theses contribute to science and human health.
- Helps in understanding disease cause, diagnosis, prevention and treatment.



Research gap

- There are several institutes in the country where students enrol for higher studies, conduct research and submit thesis to get a degree in their field of study.
- Unfortunately, the theses submitted by students in universities, or their metadata records, particularly in medical colleges of India, remains inaccessible, and the majority of scientific communities are unaware of the potential the dissertations have in their learning and research.

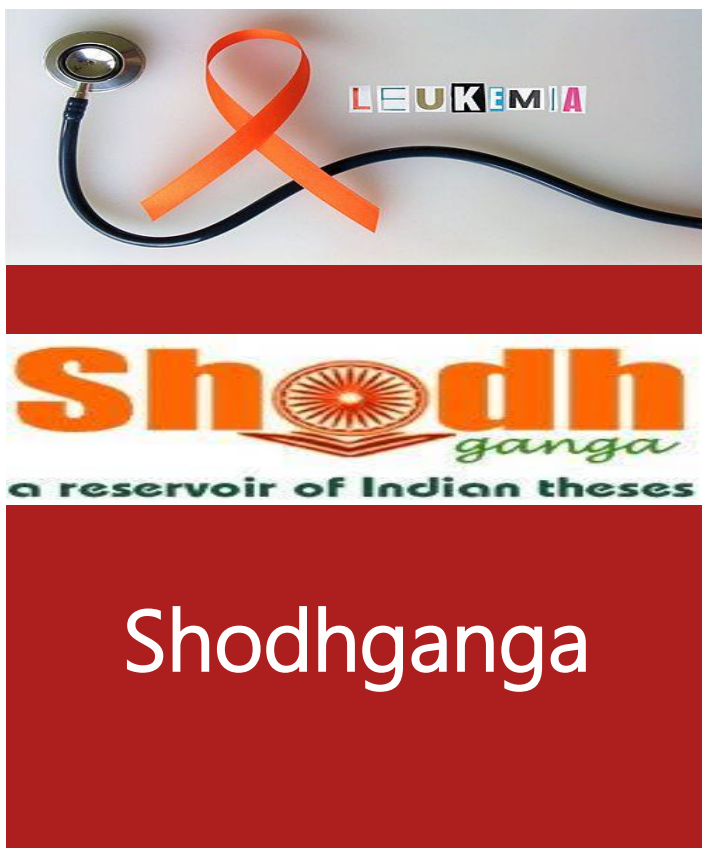


Methodology

- Search for CML theses were conducted on the ShodhGanga and OATD.org repositories
- Relevant theses details were recorded in the Google Spreadsheet
- Search Strategy
title:("Chronic Myeloid Leukemia")OR
title:("CML")
- Data was collected in the month of August 2023



- Provide search to theses and dissertations from around the globe
- Metadata harvested from over 1100 universities and research institutions.
- Index constitute over 6.5 million records.
- Limit search through disciplines, languages and countries.



- Developed by INFLIBNET, a thesis reservoir from the country.
- Established in the year 2011 where many state and central universities' provide their students' theses and share records in this repository.
- Accessible to the entire scholarly community in open access.



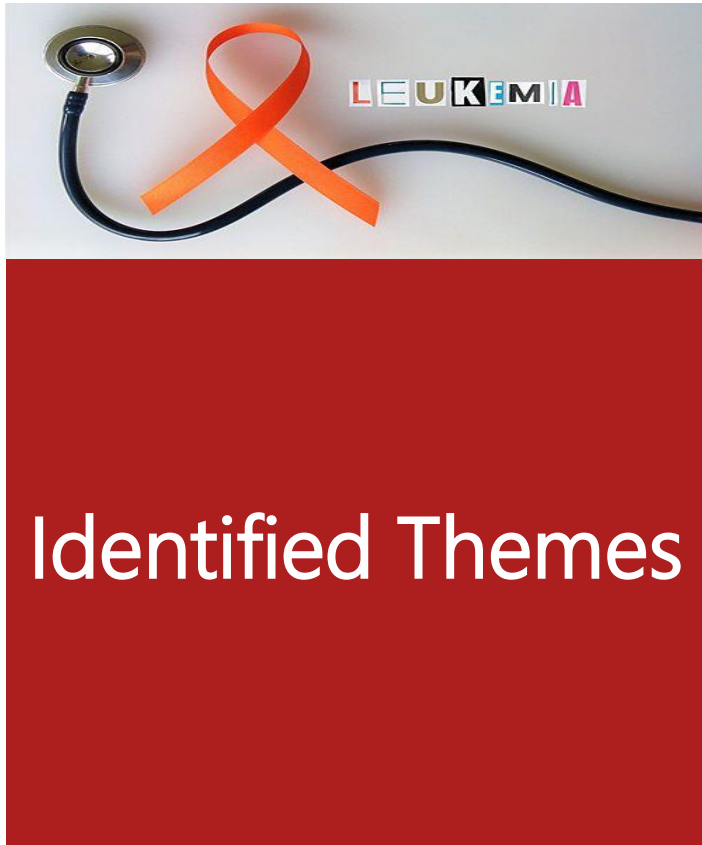
Objectives

- Identify theses and dissertations on Chronic Myelogenous Leukemia from the OATD.org and Shodganga platforms
- Record the identified ETDs by University, Country, Year of Publication, Language and Theme
- Analyse the quantitative aspects of the identified CML-ETDs, including the growth rate, publication trends, and geographical distribution



Purpose

- Provide valuable insights into the current state of research in the CML nationally and internationally
- Develop increased interest in blood cancer research
- Support cancer prevention and control
- Improved patient care management and acceleration of research
- Enable detection of cancers at early stage



- Pathogenesis and molecular mechanisms- genetic and molecular factors
- Diagnosis and Detection
- Treatment and Therapy- Treatment options- TKIs, Stem cell transplantation, Novel Targeted Therapies- efficacy, side effects and long term outcomes of different approaches
- Drug Resistance and Relapse- mechanism of drug resistance
- Monitoring and Prognosis
- Quality of Life and Survivorship



Conundrum

- What causes mutation? What causes drug resistance? Does variations in genetic morphology across countries influence drug treatment?



- It affects quality of life of patients and their families
- Burden on health care
- Drugs are expensive- financial and social concerns
- Drug resistance common
- Relapse and remission of disease
- Continuous monitoring of patients
- Earlier treatment were Interferon alfa and other drugs
- 3 phases of CML-Chronic, Accelerated and blast crisis phase
- Complete blood count (CBC) is frequently conducted



Benefit of students research

- Help us in understanding the research methods employed in CML research and facilitate innovations
- Improved graduate education and scholarship
- Better results on therapy management, treatment, diagnosis, prophylaxis, management, control and patient care
- Enhance knowledge on drug dynamics, procedures
- Creation of opportunities for collaboration and knowledge sharing among researchers, institutions, and librarians
- Clinicians may find it useful for identifying potential gaps or discover under- researched areas within the field of CML to guide students for future research and directions



Librarians' Role

- Provide research support services
- Enrich collections on CML
- Guide/Facilitate research in particular direction
- Enhance the discoverability and accessibility of ETDs on CML including metadata enrichment, subject indexing and development of curated collections

OBSERVATIONS



Citation Details

Download Citation BibTeX

Please use this link for
citation<http://hdl.handle.net/10603/358442>

Title of the Thesis

Evaluation of Environment Mediated Innate Drug Resistance
in Leukemia

Name of the Researcher

Hamenth Kumar P

Name of the Guide

Vikram Mathews and Eunice Sindhuvi E

Completed Year

2019

Name of the Department

Department of Medical

Name of the University

The Tamil Nadu Dr. M.G.R. Medical University
Created and maintained by INFLIBNET CentreItems in Shodhganga are licensed under Creative Commons Licence Attribution-
NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0).

Shodhganga@INFLIBNET

Please use this identifier

Title: Evalua

Researcher: Hame

Guide(s): Vikram

Keywords: Acute
Enviro
Extrac
Leuke

University: The T

Completed
Date: 2019Abstract: Bone marrow micro-environment is a reservoir and sanctuary for the maintenance, survival and the behavior of the
hematopoietic stem cells. Malignant myeloblasts rearchitects the bone marrow micro-environment for a deleterious symbiotic



Results 1-50 of 13597 (Search time: 0.007 seconds).

[previous](#) [1](#) [2](#) [3](#) [4](#) [...](#) [272](#) [next](#)

Item hits:

Upload Date	Title	Researcher	Guide(s)
2-May-2022	Multimodality approaches to elucidate drug resistance mechanisms in chronic myeloid leukemia CML	Shah, Krupa P.	Shah, Neelam G.and Rawal Rakesh M.
25-May-2022	Identification and in vitro evaluation of natural inhibitors of bcr abl for the treatment of chronic myeloid leukemia cml	Phani Krishna Parcha	Baskaran, R.
28-Dec-2022	A study of bcr abl fusion gene in Acute Lymphoblastic Leukemia and Chronic Myeloid Leukemia and its correlation with clinical features and prognosis	Sharma, Kavyanjali	Usha
28-Mar-2017	Rational protein engineering at the subunit interfaces and b cell epitopes improve the therapeutic potential of escherichia coli asparaginase ii used for the treatment of acute lymphoblastic leukemia	Mehta, Ranjit Kumar	Sonawane, A
30-Jan-2018	Efficacy of cytogenetic and molecular markers in clinical management of chronic myeloid leukemia patients	Patel, Hiral S.	Patel, Prabhudas S.
28-Mar-2019	To investigate the role of TGFand#946; SMAD Pathway in Chronic Myeloid Leukemia	Yogender Shokeen	Neeta Raj Sharma
20-Mar-2018	Significance of cytogenetic studies in chronic myeloid leukemia	M, Brahmabhatt Manisha	Patel, Prabhudas S
12-Apr-2017	Cytogenetic and Haematological response studies of Interferon Therapy in patients with Chronic Myeloid Leukemia	Hariharan S	Ravindran Ankathil
24-May-2022	Systems biology approach to study chronic myeloid leukemia a stem cells disorder	Himanshu Kumar	Varadwaj, Pritish Kumar

Biotechnology 139

Toxicity 139

Engineering and Technology 128

Life Sciences, Microbiology, Biotech... 113

Zoology 113

[next >](#)

Year Completed

2000 - 2023 8438

1900 - 1999 1117

Language

English 12412

English US 926

-1 123

Other 36

Others 33

[next >](#)

Total Count : 24

ID	Title	Researcher	Guide(s)	Department	University	Year
1	Targeted anticancer agents structural bioinformatics approach to overcome imatinib resistance in chronic myeloid leukemia	Vivek Kumar Singh	Mohane Coumar, S.	Centre for Bioinformatics	Pondicherry University	2017
2	Development of resistance to Imatinib a tyrosine kinase inhibitor in chronic myeloid leukemia cell line K562 Role of COX 2 and MDR1	Aruna Sree, Mk	Reddanna, P	Department of Animal Sciences	University of Hyderabad	2007
3	To investigate the role of TGFand#946; SMAD Pathway in Chronic Myeloid Leukemia	Yogender Shokeen	Neeta Raj Sharma	Department of Biotechnology	Lovely Professional University	
4	Targeted drug delivery to the bone marrow for the treatment of chronic myeloid Leukemia	Upadhyay, Pratik Harekrushna	Sheth, Navin R	Department of Pharmaceutical Science	Saurashtra University	2014
5	Identification and in vitro evaluation of natural inhibitors of bcr abl for the treatment of chronic myeloid leukemia cml	Phani Krishna Parcha	Baskaran, R.	Department of Biochemistry and Molecular Biology	Pondicherry University	2019
6	The role of plasma imatinib drug levels and intracellular Hoct 1	Madhu Kumar	Sharma, Pratibha	Department of Zoology	University of Rajasthan	2014

B	C	D	E	F	G	H	I	J	K	L	M
Title	Name of the University/public	Country	Publication Year	URL	Department	Degree	Ab. Lang	Repository Name	Record Id/	Research category-Abstract b	
combined treatment strategies to target quiescent	Universität Heidelberg	Germany	2015	http://www.ub.uni-heidelberg.de/handle/123456789/12345	Fac. of Bio Sciences	PhD	Eng	heid-diss	oai:archiv.ub.uni-heidelberg.de:123456789	Molecular Study	Analytical
novel antagonists of the GRB2 SH2 domain	California State University San Diego	US	2019	http://hdl.handle.net/10211.3/208923		MS	Eng	calstate	handle:10211.3/208923	Molecular	Analytical
agonists of the SH2 domain of GRB2 decreases	California State University San Diego	US	2020	http://hdl.handle.net/20.500.12680/fn107		MS	Eng		https://scholarworks.calstate.edu/handle/10211.3/208923	Molecular	Analytical
ation of hemopoietic stem cells in chronic myeloid leukemia	University of British Columbia	Canada	1992	http://hdl.handle.net/2454/12345	Pathology	PhD	Eng	ubc		Molecular Study	Analytical
genetic studies in chronic myeloid leukemia (CML)	University of British Columbia	Canada	1984		Medical Genetics	PhD		ubc			
etic mutations and differential gene expression	Jawahar Lal Nehru Technological University	India	2017	http://shodhganga.inflibnet.ac.in/handle/123456789/12345		MS	Eng		oai:shodhganga.inflibnet.ac.in:10603/148		
g Drug-resistance in Chronic Myeloid Leukemia	University of Helsinki	Finland	2015	http://hdl.handle.net/10138/231375		Masters				molecular study	Analytical
CTGF in chronic myeloid leukemia stem cells	University of California – San Diego	US	2015	http://www.escholarship.org/uc/item/123456789	BIOLOGICAL SCIENCES	MS	ENG	California		molecular study	-
BCL2 family genes in chronic myeloid leukemia	University of California – San Diego	US	2012	http://www.escholarship.org/uc/item/123456789	Biomedical Sciences	PHD	ENG	SAN DIEGO		molecular study	GENTIC
siological and Metabolic Properties of Blast	University of Rochester	US	2016	http://hdl.handle.net/1802/30563		PhD	ENG	rochester	handle:1802/30563	Metabolism	PHYSIO
Drug Resistance in Chronic Myeloid Leukemia	U of Massachusetts : Medical School	US	2016	http://escholarship.umassmed.edu/handle/123456789/12345	Molecular, Cell and Developmental Biology	PhD	ENG	umass-med	oai:escholarship.umassmed.edu:123456789	Drug Resistance	Therapeutic
particles for nanotheranostics in leukemia –	Universidade Nova de Lisboa	Portugal	2018	https://www.rcaap.pt/detail.jsp?id=oai:run.unl.pt:123456789			ENG	rcaap	oai:run.unl.pt:123456789	Diagnostic	Nanoparticles
of mechanism of disease resistance and peptide	University of Marburg	Germany	2011	http://archiv.ub.uni-marburg.de/diss/z2011/00123456789		PhD	ENG	marburg-diss	oai:archiv.ub.uni-marburg.de:123456789	THERAPEUTICS	Drug resistance
ed Medicine Support System for Chronic Myeloid Leukemia	University of Adelaide	Australia	2018	http://hdl.handle.net/2440/117837					handle:2440/117837	Prognostic and predictive Modeling	
s of Action of Kinase Inhibitors in Chronic Myeloid Leukemia	University of California – San Diego	US	2013	http://www.escholarship.org/uc/item/123456789	Pharmaceutical Sciences	PHD	ENG			MOLECULAR/ THERAPEUTIC	
s of RAS/MAPK Signaling by BCR-ABL1 in Chronic Myeloid Leukemia	University of California – San Diego	US	2017	http://www.escholarship.org/uc/item/123456789	Biomedical Sciences	PHD	ENG	california		MOLECULAR	
reatment Design for Chronic Myeloid Leukemia	University of Minnesota	US	2018	http://hdl.handle.net/10138/231375	Industrial and Systems Engineering	PhD		umn	handle:11299/200165		
treatment options for patients with chronic myeloid leukemia	Charles University of Prague	Czech	2016	http://hdl.handle.net/2454/12345	Haematology	PhD	Czech	charles-prague	handle:2016/12345	clinical study	Drug resistance
ation of novel therapeutic targets in chronic myeloid leukemia	University of British Columbia	Canada	2015	http://hdl.handle.net/2454/12345	Medical Genetics	PhD	eng	ubc	handle:2454/12345	molecular study	
uripotent Stem Cells (iPSC) in Chronic Myeloid Leukemia (CML) : Modeling	University of Strasbourg	France	2022	http://www.theses.fr/2022123456789	Immunology	PhD	french	star-france	star-france	molecular study	stem cell
ceptor bound protein-2 (GRB2) expands myeloid leukemia	California State University San Diego	US	2017	http://hdl.handle.net/10211.3/188604		MS	ENG	calstate		molecular study	
nt of a liposomal formulation for peptide delivery	Universidade do Minho	Portugal	2013	http://hdl.handle.net/1822/29422		Masters		minho-thes	handle:1822/29422	molecular study	
utations in chronic myeloid leukemia patients	Oregon Health Sciences University	US	2007	http://digitalcommons.ohsu.edu/etd/830		PhD		ohsu	oai:digitalcommons.ohsu.edu:etd-1829		
gies for Targeted Chronic Myeloid Leukemia Therapy	University of Utah	US	2013	http://content.lib.utah.edu/handle/123456789/12345	Pharmacology & Therapeutics	PhD	ENG		oai:utah.edu:123456789	molecular study	
e of cytogenetic studies in chronic myeloid leukemia	Gujarat University	India	2010	http://shodhganga.inflibnet.ac.in/handle/123456789/12345	Life Science	phd	ENG	inflibnet	http://shodhganga.inflibnet.ac.in/handle/123456789/12345	molecular study	
molecular Pathways in Cancer Stem Cells of Chronic Myeloid Leukemia	U of Massachusetts : Medical School	US	2011	https://escholarship.umassmed.edu/handle/123456789/12345	Medicine	PhD	ENG	umass-med	oai:escholarship.umassmed.edu:123456789	molecular study	
molecular Mechanisms for Maintenance of Cancer Stem Cells	U of Massachusetts : Medical School	US	2012	https://escholarship.umassmed.edu/handle/123456789/12345	Medicine	PhD		umass-med	oai:escholarship.umassmed.edu:gsbs_diss/614		
response to imatinib among chronic myeloid leukemia patients	University of Nairobi	Kenya	2010	https://escholarship.umassmed.edu/gsbbs_diss/614				nairobi	oai:localhost:11295/60001		
ntal and occupational factors associated with chronic myeloid leukemia	University of Nairobi	Kenya	2014	http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/25880					oai:localhost:11295/60001	causative	
iology and Pharmacology of Chronic Myeloid Leukemia	University of Debrecen	Hungary	2014	http://hdl.handle.net/2437/200839				debrecen	debrecen		
erminants of Disease Persistence and Overt Offspring	University of California – San Francisco	US	2014	http://www.escholarship.org/uc/item/123456789	Biomedical Sciences			california	california:qt8xv839jk		
ive Effectiveness Analysis of Patients Newly Initiated on Imatinib	University of North Carolina	US	2014	https://cdr.lib.unc.edu/record/uuiid:90e41dbb-2e3f-46ce-88d0-000119f4e370				unc			



Data Availability





Observations

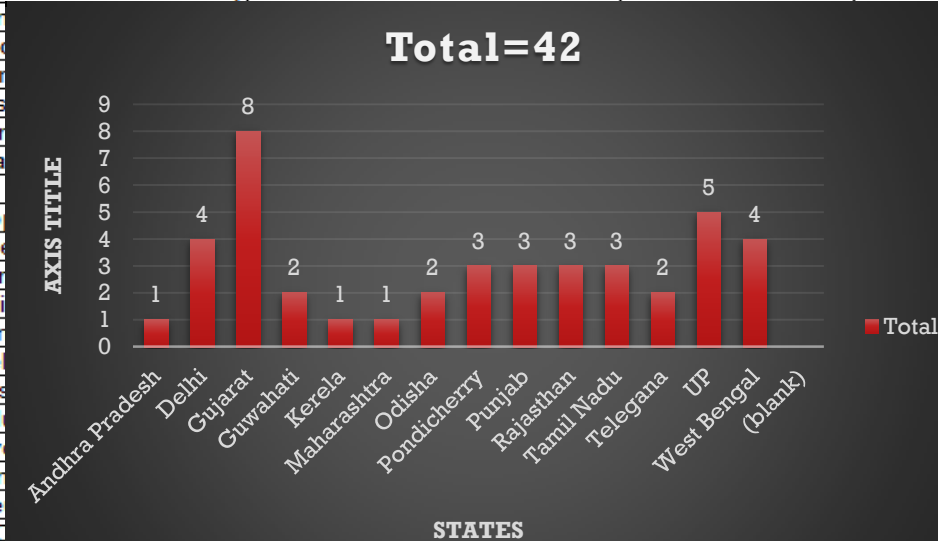
- OATD.org= 219

Total Number of Records	Relevant Records	Duplicate	Irrelevant
228	219	3	13

- Shodhganga= 50

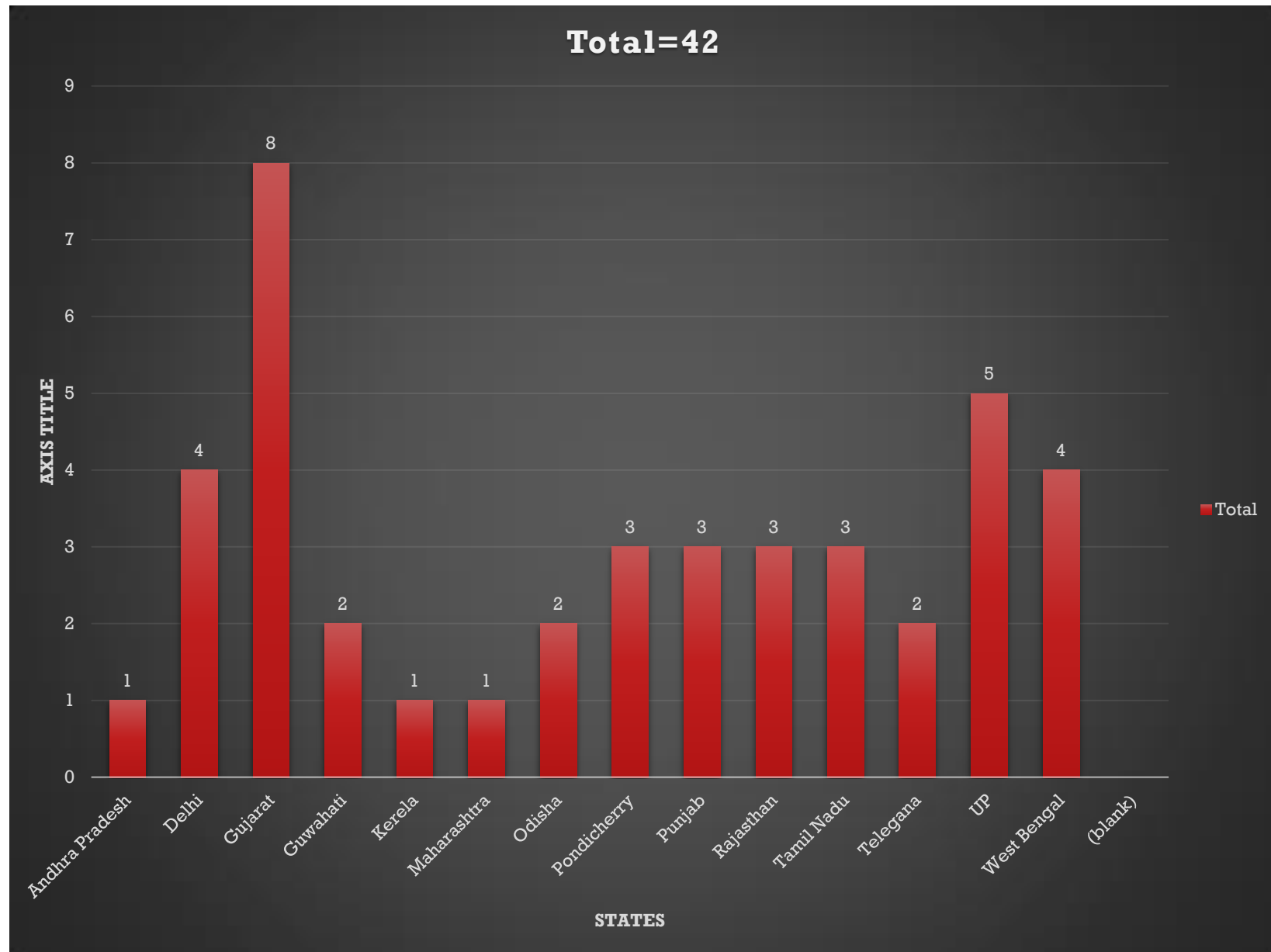
Total Number of Records	Relevant Records	Duplicate	Irrelevant
45	42	1	2

A	B	C	D	E	F	G	H
S.No	Title	University	State	Year(Completed)	Persistent Identifier		
1	Multimodality approaches to elucidate drug resistance mechanisms in	Gujarat University	Gujarat	2016	http://hdl.handle.net/10603/377723		
2	Identification and in vitro evaluation of natural inhibitors of bcr abl for th	Pondicherry Uni	Pondicherry	2019	http://hdl.handle.net/10603/382089		
3	Significance of cytogenetics and molecular markers in management of	Gujarat University	Gujarat	2022	http://hdl.handle.net/10603/488906		
4	A study of bcr abl fusion gene in Acute Lymphoblastic Leukemia and t	Banaras Hindu University	UP	2021	http://hdl.handle.net/10603/432776		
5	Antiproliferative effects of 15 lipoxygenase metabolites on chronic mye	University of Hyderabad	Telegana	2005	http://hdl.handle.net/10603/25877		
6	Rational protein engineering at the subunit interfaces and b cell epitop	KIIT Uni	Orissa	2014	http://hdl.handle.net/10603/142671		
7	Efficacy of cytogenetic and molecular markers in clinical management	Gujarat University	Gujarat	2017	http://hdl.handle.net/10603/190489		
8	To investigate the role of TGFand#946; SMAD Pathway in Chronic My	Lovely Professional Universit	Punjab	NA	http://hdl.handle.net/10603/235683		
9	Significance of cytogenetic studies in chronic myeloid leukemia	Gujarat University	Gujarat	2010	http://hdl.handle.net/10603/197161		
10	Cytogenetic and Haematological response studies of Interferon Therap	Uni. of Kerela	Kerela	1968	http://hdl.handle.net/10603/145495		HISTORICAL IP
11	Multimodality approaches to elucidate drug resistan			2016	http://hdl.handle.net/10603/377723		
12	Systems biology approach to study chronic myeloid			2017	http://hdl.handle.net/10603/381600		
13	Modulation of cellular uptake of imatinib in chronic r			2022	http://hdl.handle.net/10603/410686		
14	Study of genetic alterations in the disease progress			2016	http://hdl.handle.net/10603/378994		
15	Study of microenvironment mediated chemoresistan			2016	http://hdl.handle.net/10603/481164		
16	Genomic profiling of blast cells from different clinica			2022	http://hdl.handle.net/10603/391296		
17	Histone Demethylases in Myeloid Leukemia			2020	http://hdl.handle.net/10603/427586		
18	Apoptosis regulators as targets for induction of apo			2022	http://hdl.handle.net/10603/440788		
19	Bioequivalence and Safety Evaluation of Imatinib m			2016	http://hdl.handle.net/10603/221499		
20	Molecular characterization and prognostic significan			2010	http://hdl.handle.net/10603/401902		
21	Study on correlation of tyrosine kinase inhibitor resi			NA	http://hdl.handle.net/10603/291472		
22	Role of cytogenetic studies in acute myeloid leuker			2010	http://hdl.handle.net/10603/35177		
23	SWI SNF remodeler plasticity in human acute Mye			2019	http://hdl.handle.net/10603/361767		
24	Targeted anticancer agents structural bioinformatics			2017	http://hdl.handle.net/10603/284352		
25	The role of plasma imatinib drug levels and intracell			2014	http://hdl.handle.net/10603/74327		
26	A study of chromosomal abnormalities in acute my			2002	http://hdl.handle.net/10603/129858		
27	Development of resistance to Imatinib a tyrosine kin			2007	http://hdl.handle.net/10603/103724		
28	Manipulation of Redox status of chronic Myeloid Le			2014	http://hdl.handle.net/10603/171684		
29	Clinical Significance of Micrnas as Biomarker in C			2021	http://hdl.handle.net/10603/435028		
30	Investigation into anti cancer activity of D Limonene			2020	http://hdl.handle.net/10603/334000		
31	Study of Combination Inhibitor Molecules against both Histone Deacet	Amrita Vishwa Vidyapeethar	Tamil Nadu	2022	http://hdl.handle.net/10603/432325		
32	Multifunctional protein nanomedicine constructs to overcome CML dru	Amrita Vishwa Vidyapeethar	Tamil Nadu	2014	http://hdl.handle.net/10603/226032		
33	Targeted drug delivery to the bone marrow for the treatment of chronic	Saurashtra University	Gujarat	2014	http://hdl.handle.net/10603/128940		
34	Comprehensive analysis of chromosomal abromalities in some acute a	Panjab University	Punjab	1994	http://hdl.handle.net/10603/88387		
35	Expression Pattern of Apoptotic and Proliferation Related Proteins in C	Jamia Hamdard University	Delhi	2006	http://hdl.handle.net/10603/38302		
36	Role of genetic mutations and differential gene expression profiling in c	Jawaharlal Nehru Technolog	Andhra Pradesh	2016	http://hdl.handle.net/10603/148112		
37	Identification of key signalling pathways in chronic myeloid leukemia s	Manipal Uni, Jaipur	Rajasthan	2017	http://hdl.handle.net/10603/180350		
38	Study of cytochrome p450 cyps and glutathione s tranferases gsts po	Chhatrapati Sahuji Maharaj U	UP	2009	http://hdl.handle.net/10603/264856		
39	Development and evaluation of dasatinib loaded polymeric gold nanopa	Indian Institute of Technolog	UP	2019	http://hdl.handle.net/10603/435186		
40	Karyotypic and Molecular Genetic studies in Indian Patients with Chro	Tamil Nadu Dr. M.G.R. Medi	Tamil Nadu	1994	http://hdl.handle.net/10603/491755		
41	Identification and characterization of natural inhibitors of BCR ABL for	Pondicherry University	Pondicherry	2017	http://hdl.handle.net/10603/246237		
42	In vitro study of anti cancerous activity of Nerium oleander L and Zinqil	University of Rajasthan	Rajasthan	2014	http://hdl.handle.net/10603/105733		

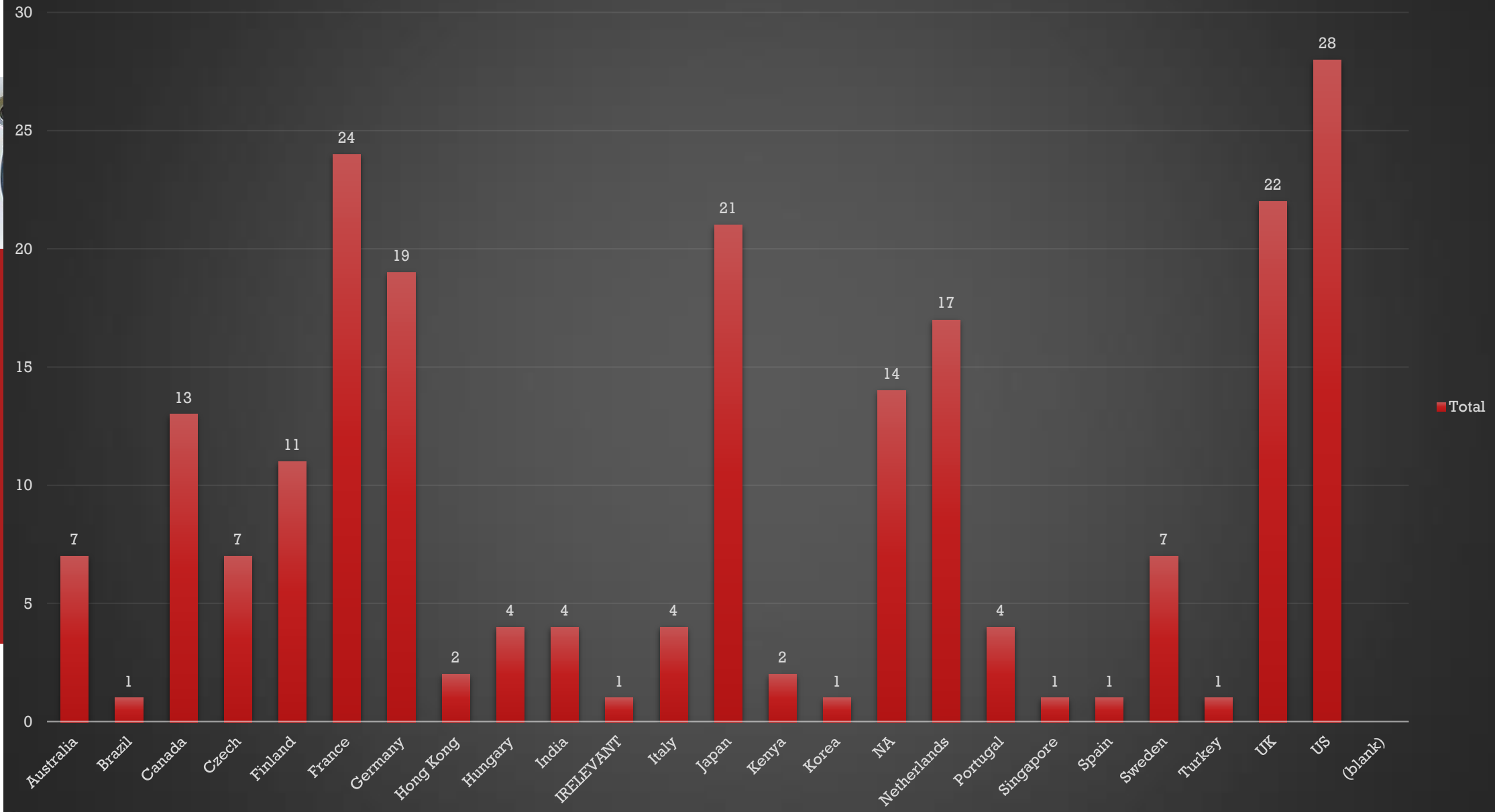




Geographical Distribution

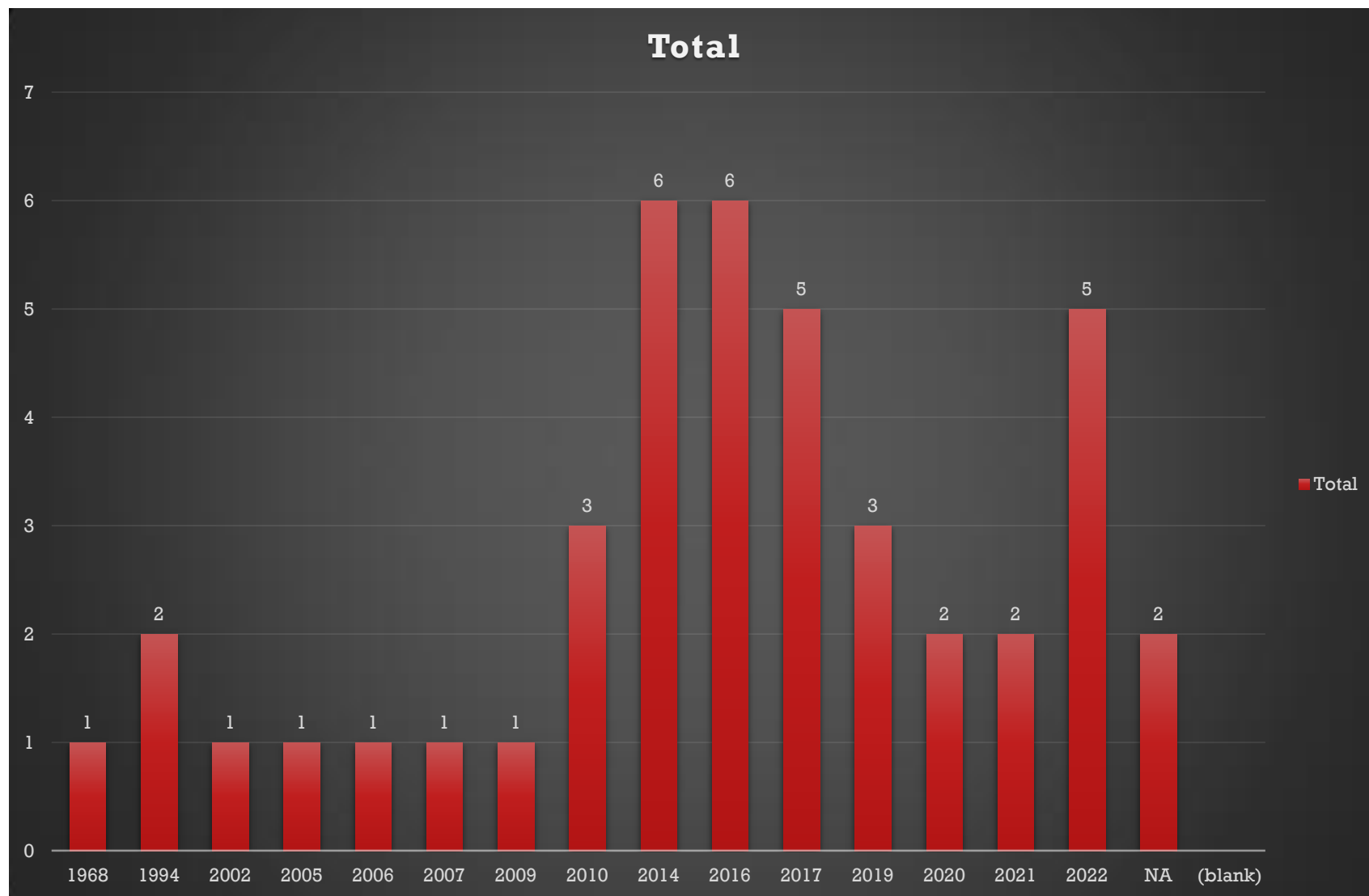


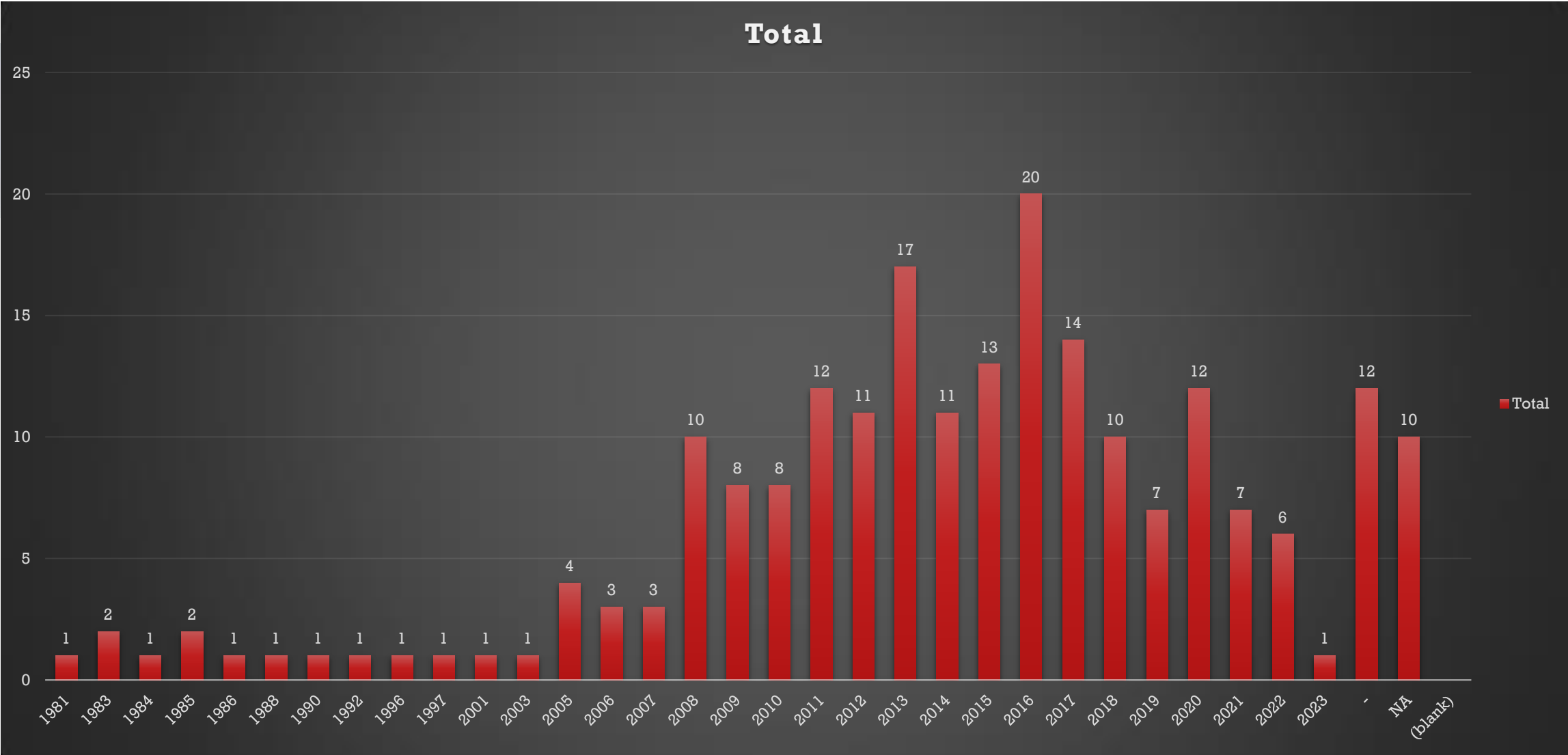
Total

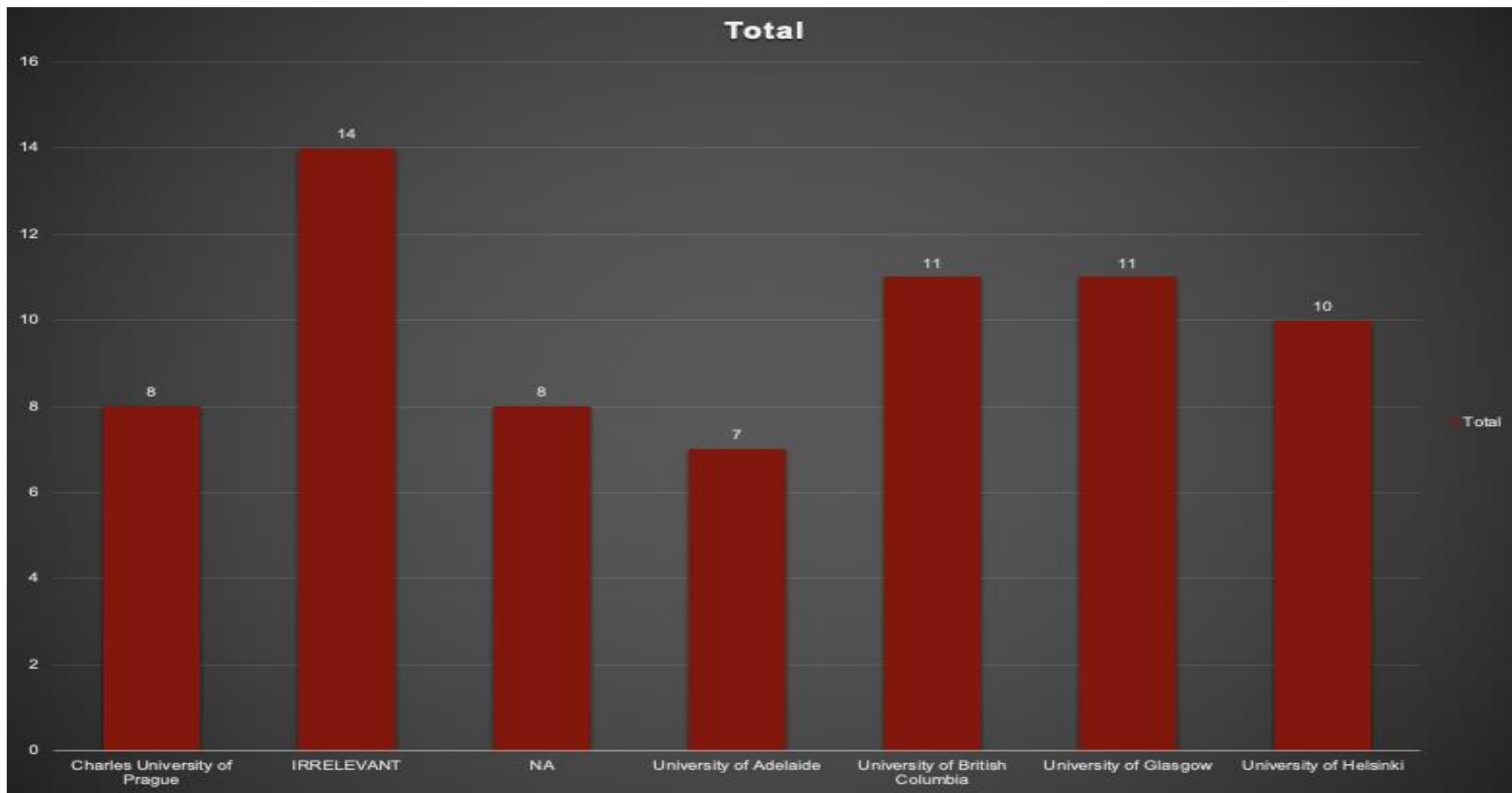




Distribution by Year

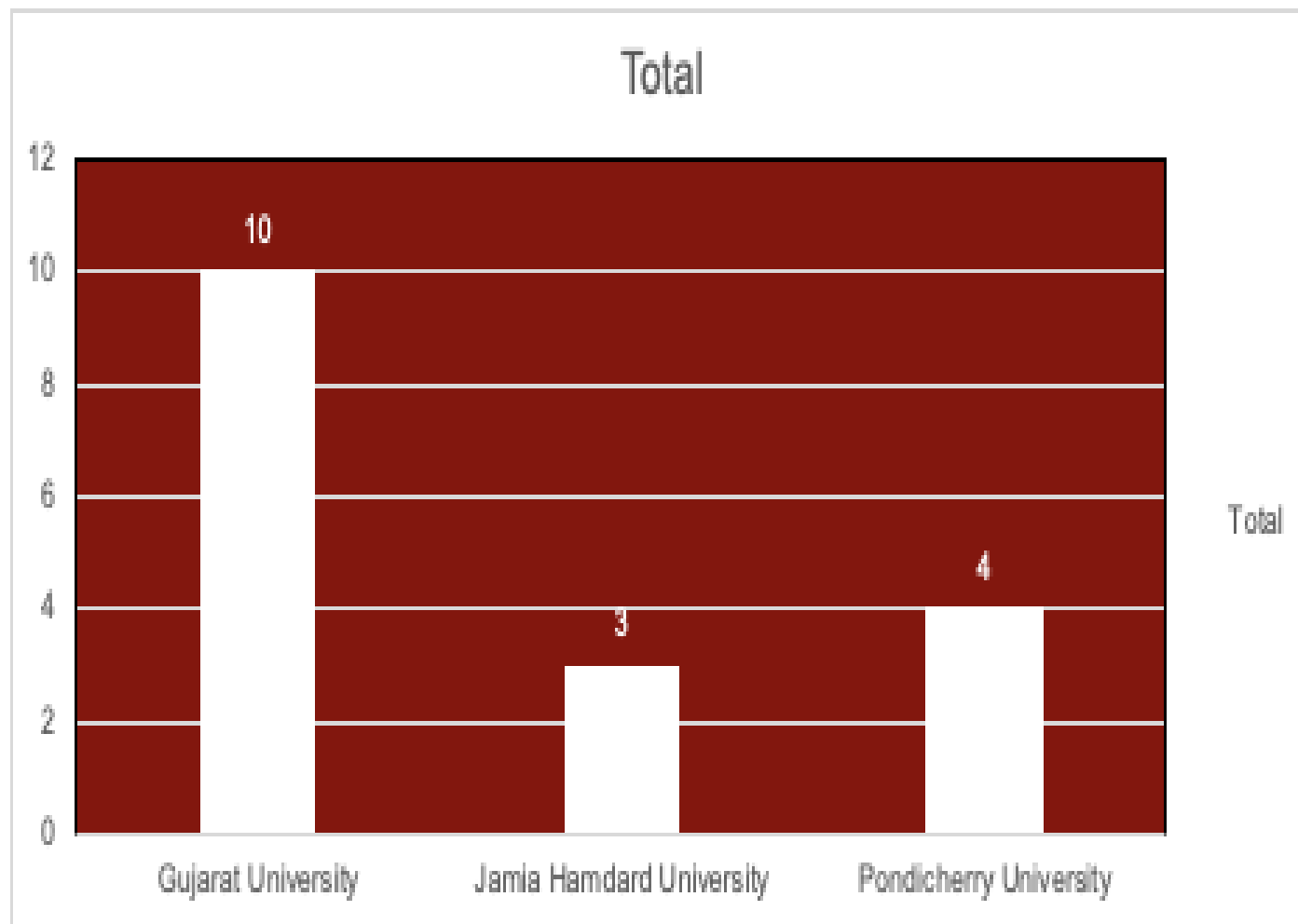








Indian Universities





Results

- Difficult to extract department name from metadata records from OATD.org
- Duplicate Thesis
- Search for CML displayed many ALL theses in the Shodganga repository
- Many theses titles do not include 'Chronic Myeloid Leukemia'



Suggestions

- UGC has necessary policies in place for universities to maintain their institutional output, research integrity
- NMC requires to design similar guidelines for medical colleges



Limitations

- Theses being an initial step of students research, its validation, quality and applicability into clinical practice can't be confirmed.



Conclusion

- We attempted to identify the relevant ETDs concerning CML from OATD and Shodganga
- Given some limitations, theses enrich our knowledge of cancer and renew therapeutic strategies
- Contribute to Health Literacy
- Promote standards for good practice and ethics
- Support research to identify enabling drivers and barriers
- Accelerate progress in biomedical sciences



REFERENCES

- Power, B. D., White, A. J., & Sefton, A. J. (2003). Research within a medical degree: The combined MB BS–PhD program at the University of Sydney. *Medical Journal of Australia*, 179(11), 614–616. <https://doi.org/10.5694/j.1326-5377.2003.tb05719.x>
- Abdi S, Pizzolato D, Nemery B, Dierickx K. Educating PhD Students in Research Integrity in Europe. *Sci Eng Ethics*. 2021 Jan 27;27(1):5. doi: 10.1007/s11948-021-00290-0. PMID: 33502635
- Mulvany MJ. Biomedical PhD education--an international perspective. *Basic Clin Pharmacol Toxicol*. 2013 May;112(5):289-95. doi: 10.1111/bcpt.12063. Epub 2013 Apr 6. PMID: 23461869.
- Williams RA. Spinning plates and juggling balls. Project managing your PhD. *EMBO Rep*. 2013 Apr;14(4):305-9. doi: 10.1038/embor.2013.17. Epub 2013 Mar 5. PMID: 23459203; PMCID: PMC3615666.
- Minciacchi, V. R., Kumar, R., & Krause, D. S. (2021). Chronic Myeloid Leukemia: A Model Disease of the Past, Present and Future. *Cells*, 10(1), 117. <https://doi.org/10.3390/cells10010117>
- Osman AEG, Deininger MW. Chronic Myeloid Leukemia: Modern therapies, current challenges and future directions. *Blood Rev*. 2021 Sep;49:100825. doi: 10.1016/j.blre.2021.100825. Epub 2021 Mar 16. PMID: 33773846; PMCID: PMC8563059.
- India State-Level Disease Burden Initiative Cancer Collaborators. The burden of cancers and their variations across the states of India: the Global Burden of Disease Study 1990–2016. *Lancet Oncol*. 2018 Oct;19(10):1289–1306. doi: 10.1016/S1470-2045(18)30447-9. Epub 2018 Sep 12. Erratum in: *Lancet Oncol*. 2018 Oct 3;: PMID: 30219626; PMCID: PMC6167407.
- Ganesan, P., & Kumar, L. (2017). Chronic Myeloid Leukemia in India. *Journal of Global Oncology*, 3(1), 64–71. <https://doi.org/10.1200/JGO.2015.002667>
- Lin Q, Mao L, Shao L, Zhu L, Han Q, Zhu H, Jin J, You L. Global, Regional, and National Burden of Chronic Myeloid Leukemia, 1990–2017: A Systematic Analysis for the Global Burden of Disease Study 2017. *Front Oncol*. 2020
- GBD 2016 Cancer Collaborators Global, regional, and national cancer incidence, mortality, years of life lost, years lived with disability, and disability-adjusted life-years for 29 cancer groups, 1990 to 2016: a systematic analysis for the Global Burden of Disease study. *JAMA Oncol*. 2018

Thank You

Knowledge Conquers Cancer