



Indian Journal of Public Health Research & Development

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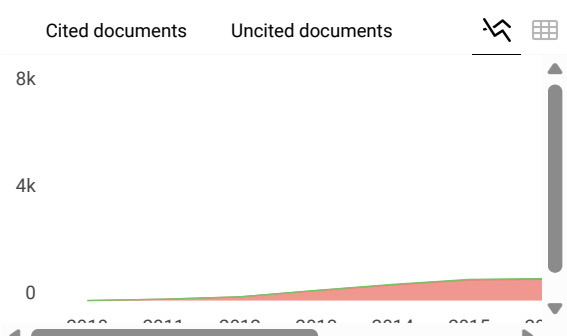
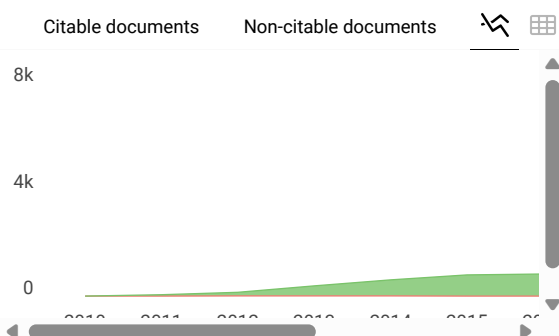
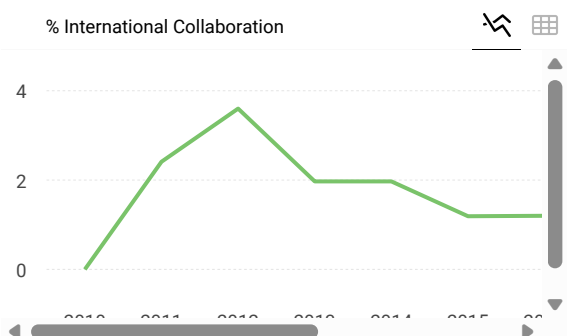
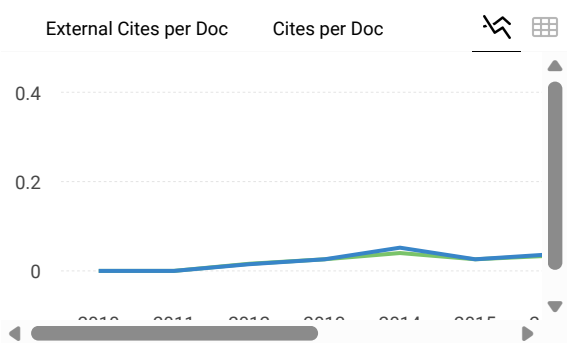
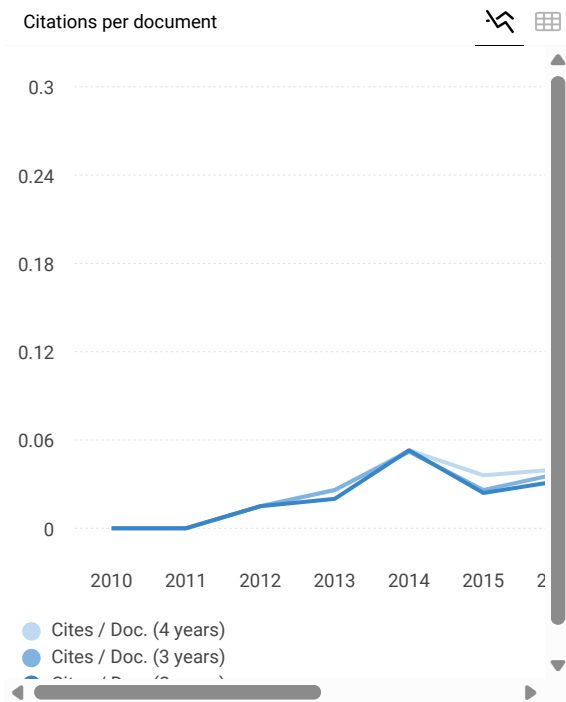
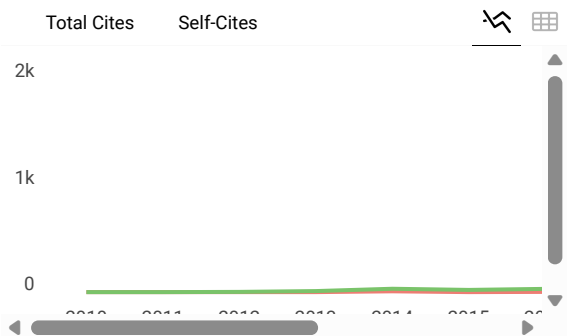
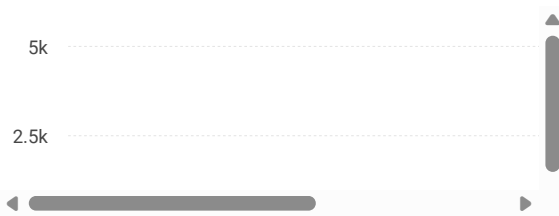
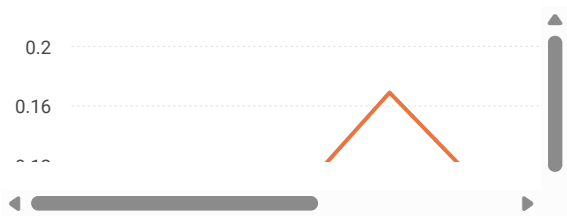
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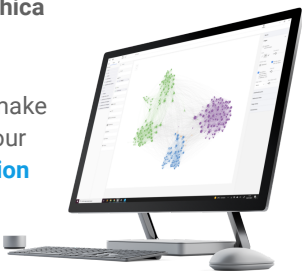
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<https://www.elsevier.com/solutions/scopus/how-scopus-works/content>

Best Regards, SCImago Team

D **Dr. Javed Ali Soomro** 11 months ago

I want to know about Azahari, H., Abdullah, MR., Musawi Maliki ABH, Eswaramoorthi , V. , Juahir, HZ., Musa, RM,Khairi Zawi, who wrote a research paper in Indian Journal of Public Health Research

reply

T **Tasnim** 2 years ago

Dear team.

I have 3 papers which were published in Indian Journal of public health research

reply



Melanie Ortiz 2 years ago

SCImago Team

Dear Tasnim, thanks for your participation! Best Regards, SCImago Team

D Dr. Nktel Faaz 2 years ago

Hi dear sir

Please can you provide me with Cite score of (Indian Journal of Public Health Research and Development) for the year (2019) when the journal was in scopus coverage

My regard

reply



Melanie Ortiz 2 years ago

SCImago Team

Dear Dr. Nktel,

Thank you for contacting us. The CiteScore is available only until 2018:

<https://www.scopus.com/sourceid/19700188435>

Best Regards, SCImago Team

M Mohammed 2 years ago

Dear person in charge,

I do have a question about the journal.

when SJR says that the journal coverage is discontinued in 2019, dose papers published in 2019 are included in Scopus coverage or not?

Many thanks in advance

reply



Melanie Ortiz 2 years ago

SCImago Team

Dear Mohammed,

thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you contact Scopus support:

https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/

Best Regards, SCImago Team

T Tasdidaa Shamsi 2 years ago

Hello, why do journals get discontinued from Scopus please.

Thank you.

reply



Melanie Ortiz 2 years ago

SCImago Team

Dear Tasdida,

thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you contact Scopus support:

https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/

Best Regards, SCImago Team

E **eus** 3 years ago

Hello Scimago Team, can I publish my journal in other country's journal independently, without my University's name? I'm from Indonesia by the way.

Thnx

reply



Melanie Ortiz 3 years ago

SCImago Team

Dear Sir/Madam, thank you very much for your comment. Unfortunately, we cannot help you with your request, we suggest you contact the journal's editorial staff so they could inform you more deeply about this matter. Best Regards, SCImago Team

H **Hariyono** 3 years ago

my article has been published in the period of June 2020 but has not been indexed on scopus, please explain

reply

J **Jannes Bastian** 3 years ago

hello scimago team

I want to ask about articles that have been published at IJPHRD in September 2019. Are they still included in the Scopus index? because at that time there was no bridge "discontinued in scopus"

Thankyou

reply



Melanie Ortiz 3 years ago

Dear Jannes,
thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you contact Scopus support:
https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/
Best Regards, SCImago Team

S **Saman Agad Hashim Al-Maliki** 3 years ago

Dear Journal Manager,

I wish to submit an original research article entitled 'Association of Health Literacy and Other-diabetes Related Factors with Glycemic Control in Adults with Type 2 Diabetes Mellitus, in Basrah, Iraq', but firstly i would like to know about the publication fees, and is my article's title is compatible with your journal?

Sincerely,

Saman Agad Hashim Al-Maliki,
UPM, Malaysia.

reply



Melanie Ortiz 3 years ago

Dear Saman,
thank you for contacting us.
We are sorry to tell you that SCImago Journal & Country Rank is not a journal. SJR is a portal with scientometric indicators of journals indexed in Elsevier/Scopus.
Unfortunately, we cannot help you with your request, we suggest you visit the journal's homepage (See scope and fees, if there are any) or contact the journal's editorial staff , so they could inform you more deeply.
Best Regards, SCImago Team

R **Rajathi Rajendran** 3 years ago

Can someone give me the web address for checking journal indexing status

Dr.Rajathi.R

reply



Melanie Ortiz 3 years ago

Dear Dr.Rajathi.R,

Thank you for contacting us. You can check the current index status in Scopus database

directly: www.scopus.com

Best Regards, SCImago Team

R **Rajeshwari** 3 years ago

When did the journal of public health research and development got discontinued from scopus...what is the status of the paper which got acceptance letter in the month of may2020

reply

C **chandravathany Devadason** 1 year ago

Please let me know why International journal of Public health research and development removed from scopus. I sent a paper to that journal. please state the index and score



Melanie Ortiz 1 year ago

SCImago Team

Dear Chandravathany,
thank you very much for your comment. We suggest you contact Scopus support:
https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/ub/scopus/
Best Regards, SCImago Team



Melanie Ortiz 3 years ago

SCImago Team

Dear Rajeshwari,

Thank you very much for your comment.

All the metadata have been provided by Scopus /Elsevier in their last update sent to SCImago, including the Coverage's period data. The SJR for 2019 was updated on June 2020, 11. We suggest you consult the Scopus database directly to see the current index status as SJR is a static image of Scopus, which is changing every day.

For further information, please contact Scopus support:

https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/

Best Regards, SCImago Team

H **HARMANDEEP SINGH** 3 years ago

Your site is showing that this journal is discontinued in SCOPUS. But Scopus search is still showing this journal. Kindly tell how exactly can we know the current status of journal in SCOPUS?

reply

R **Raed Mohammed Ali Al_daoar** 3 years ago

Dear

I it show in Scopus indexed is still in Scopus kindly go through the following link

<https://www.scopus.com/sourceid/19700188435>



Melanie Ortiz 3 years ago

SCImago Team

Dear Harmandeep,

Thank you for contacting us.

Please, see the Scopus Coverage years here:

<https://www.scopus.com/sourceid/21100201512>

Best Regards, SCImago Team



Desiyani Nani 3 years ago

Why I can't find my article with the DOI number of my article listed and also why it hasn't appeared on my Scopus account?

DOI Article: 10.37506 / v10 / i12 / 2019 / ijphrd / 192095

reply



Melanie Ortiz 3 years ago

SCImago Team

Dear Desiyani,

thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you contact directly with Scopus support:

https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/

Best Regards, SCImago Team



Melanie Ortiz 3 years ago

SCImago Team

Dear Desiyani,

thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you contact directly with Scopus support:

https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/

Best Regards, SCImago Team

S **Suraj** 3 years ago

My friend told me that this journal is not indexed under Scopus from 2020.

Kindly confirm the same and what will happen to the articles published in 2020 , will they be considered as Scopus Indexed ??

reply

A **Asaad** 3 years ago

This true it's becoming out of scopus



Melanie Ortiz 3 years ago

SCImago Team

Dear Suraj,
thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you to contact directly with Scopus support:
https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/
Best Regards, SCImago Team

D **Dr.Abdul Majeed hatroush Wadi** 3 years ago

Dear sir
I am Dr.Abdul Majeed hatroush Wadi like to publish my research in your Journal
Thank you

reply



Melanie Ortiz 3 years ago

SCImago Team

Dear Abdul,
thank you for contacting us.
We are sorry to tell you that SCImago Journal & Country Rank is not a journal. SJR is a portal with scientometric indicators of journals indexed in Elsevier/Scopus.
Unfortunately, we cannot help you with your request, we suggest you to visit the journal's homepage (See submission/author guidelines) or contact the journal's editorial staff , so they could inform you more deeply.
Best Regards, SCImago Team

A **Alaa Al-Darraji** 3 years ago

Dears SCimago team
before three years I do not write my University but one letter like M. but now I wrote it Missan University. could you please tell me what is my records in your system. Thank you

Kind Regards
Assist. Prof. Alaa Al-Darraji

reply

A **Ali** 3 years ago

I want to join this magazine



Melanie Ortiz 3 years ago

SCImago Team

Dear Ali,

thank you for contacting us.

We are sorry to tell you that SCImago Journal & Country Rank is not a journal. SJR is a portal with scientometric indicators of journals indexed in Elsevier/Scopus.

Unfortunately, we cannot help you with your request, we suggest you to visit the journal's homepage or contact the journal's editorial staff, so they could inform you more deeply.

Best Regards, SCImago Team



Melanie Ortiz 3 years ago

SCImago Team

Dear Alaa,

thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you to contact directly with Scopus support:

https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/

Best Regards, SCImago Team

A **Ali Anok njum** 3 years ago

I published my article previously in 15 th International Conference on Immunology

July 05- 07 , 2018 Vienna , Austria, when

You published this article i don't know

This problem

Why you're journal don't make pulgarism

I want E-mail that submits this article for your journal

Also I need name of person that pay for you to publish this article

Because I need make legal call against the person that pay for you But requires signature from all authors before publishing any article and require pulgarism before publication of article

But your journal is no original

reply

A **Ali Njum** 3 years ago

Dear miss

My article Role of inflammatory cytokines and immune reactive molecules in pathogenesis of Streptococcus agalactiae in aborted women

published before in 2018 in

Journal of Clinical Trials

<https://www.longdom.org/archive/jctr-volume-8-issue-4-year-2018.html>

Also show in link

<https://www.longdom.org/open-access/role-of-inflammatory-cytokines-and-immune-reactive-molecules-in-pathogenesis-of-streptococcus-agalactiae-in-aborted-wome.pdf>

You must delete this article from your journal because your journal published in 2019

بتار

H **haidar alsaedi** 3 years ago

Magazine site not working ??

reply



Melanie Ortiz 3 years ago

SCLmago Team

Dear Haidar,

thank you for contacting us. It seems it's working correctly. Best Regards, SCLmago Team

M **Mohammad AL _ja'afreh** 3 years ago

i want to join

reply

Y **Yani** 3 years ago

It's been 3 months after i transferred the money for manuscript handling charges but there is no response from the journal editor. I have sent many emails and tried to call by phone, still no response.

Is there any problem with this journal?

reply

R **Robin** 3 years ago

I got acceptance but I am confused to publish there as I am unable to visit there website for last 2 weeks. Dis you get any response?

A **Ali Anok Njum** 3 years ago

im Ali Anok Njum I have article was published in your journal in titled This article was published in conference Role of inflammatory cytokines and immune reactive molecules in pathogenesis of Streptococcus agalactiae in aborted women

15 th International Conference on Immunology

July 05- 07 , 2018 Vienna , Austria with only my name I need to delete other authors in my article that published in your journal and remain only my name in your journal and I can pay any cost required for me



Melanie Ortiz 3 years ago

SCImago Team

Dear Ali,
thank you for contacting us.
We are sorry to tell you that SCImago Journal & Country Rank is not a journal. SJR is a portal with scientometric indicators of journals indexed in Elsevier/Scopus.
Unfortunately, we cannot help you with your request, we suggest you to contact the journal's editorial staff , so they could inform you more deeply.
Best Regards, SCImago Team



Melanie Ortiz 3 years ago

SCImago Team

Dear Yani, thank you very much for your comment. Unfortunately, we cannot help you with your request, we suggest you to contact the journal's editorial staff again so they could inform you more deeply. Best Regards, SCImago Team

E **erina sudaryati** 3 years ago

i want to joint

reply

L **Lamhot Naibaho** 3 years ago

Dear somebody who is incharge here,

I would like to know the impact factor of this journal, and please let me know how to read or know the impact factor of a journal.

Best regard,
Lamhot Naibaho.

reply



Melanie Ortiz 3 years ago

SCImago Team

Dear Lamhot, SCImago Journal and Country Rank uses Scopus data, our impact indicator is the SJR. Check our web to locate the journal. We suggest you to consult the Journal Citation Report for other indicators (like Impact Factor) with a Web of Science data source. Best Regards, SCImago Team

S **Samer** 3 years ago

I send APC for publishing article since 23 Dec 2019, get no response from editor, what happen?
is this journal still valid or something wrong happen, no response , no e mail.
I ask scimago team about the journal , can you help me, thanks

reply



Melanie Ortiz 3 years ago

SCImago Team

Dear Samer,
thanks for contacting us.
Sorry to tell you that SCImago Journal & Country Rank is not a journal. SJR is a portal with scientometric indicators of journals indexed in Elsevier/Scopus.
Unfortunately, we cannot help you with your request, we suggest you to contact the journal's editorial staff again, so they could inform you more deeply. Best Regards,
SCImago Team

L **La Ode Alifariki, S.Kep,Ns.,M.Kes** 3 years ago

There is no confirmation from journal editors regarding my articles. I have transferred the publication fees and I'm expecting response from editors

reply

B **Bayu Saputera** 3 years ago

I got confirmation after 12-15 months after paying the publication fee

A **ahmed** 3 years ago

did you received any response tell now ?

R **Rully Hevrialni** 3 years ago

I want to join

reply



Melanie Ortiz 3 years ago

SCImago Team

Dear Rully,
thank you for contacting us.
Sorry to tell you that SCImago Journal & Country Rank is not a journal. SJR is a portal with

scientometric indicators of journals indexed in Elsevier/Scopus.

Unfortunately, we cannot help you with your request, we suggest you to visit the journal's homepage or contact the journal's editorial staff , so they could inform you more deeply.

You can see the updated journal's information just above .

Best Regards, SCImago Team

H **How can I join?** 4 years ago

I need this research

Critical Thinking Activites involve Sufficient english language classroom material effects students physiological and biologically

حيدر حاتم فالح عبد النبي العجرش

indian journal of public health research

reply



Melanie Ortiz 3 years ago

SCImago Team

Dear user,

thank you for contacting us.

Sorry to tell you that SCImago Journal & Country Rank is not a journal. SJR is a portal with scientometric indicators of journals indexed in Elsevier/Scopus.

Unfortunately, we cannot help you with your request, we suggest you to contact the journal's editorial staff , so they could inform you more deeply. Best Regards, SCImago Team

S **Saif Ali** 4 years ago

I send an Email to IJPHRD FOR CORRECTION .

reply



Melanie Ortiz 4 years ago

SCImago Team

Dear Saif, thanks for your participation! Best Regards, SCImago Team

E **Eslam** 4 years ago

Is IJPHRD still Scopus covered until this moment? And is there any speculation about will it continue to be covered by Scopus next year or not?

reply



Melanie Ortiz 4 years ago

SCImago Team

Dear Eslam, thank you very much for your comment, unfortunately we cannot help you with your request. We suggest you to consult the Scopus database directly. Remember that the SJR is a static image of a database (Scopus) which is changing every day. Best regards, SCImago Team

M **Mostafa El-Demiry MD , PhD** 4 years ago

PLEASE INFORM ME ABOUT THE impact factor of the Indian Journal of Public Health Research and Development

reply



Melanie Ortiz 4 years ago

SCImago Team

Dear user, SCImago Journal and Country Rank uses Scopus data, our impact indicator is the SJR. Check our page to locate the journal. We suggest you consult the Journal Citation Report for other indicators (like Impact Factor) with a Web of Science data source. Best Regards, SCImago Team

A **aliya arsyad** 4 years ago

I want to join
alyaleha@pasca.unhas.ac.id

reply



Melanie Ortiz 4 years ago

SCImago Team

Dear user, thanks for your participation! Best Regards, SCImago Team

D **dhany** 4 years ago

I heard from my colleague that this journal can accept the articles without peer-review process after pay the publication fee invoice in 1-2 days commencing from submission.

reply

M **Mostafa El-Demiry MD , PhD** 4 years ago

kindly , inform me about
the impact factor of Indian Journal of Public Health Research and Development

A **Ani** 4 years ago

I want to join

reply

S **SUDHA** 4 years ago

GIVE THE MAIL ID OF SCOPUS

reply

S **SUDHA** 4 years ago

HOW TO CONTACT SCOPUS. PLS PROVIDE MAIL ID

reply

S **SUDHA** 4 years ago

HOW TO CONTACT SCOPUS. PLS PROVIDE MAIL ID

reply



Elena Corera 4 years ago

SCImago Team

Dear Sudha,
thank you very much for your comment. We suggest you contact Scopus
https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/
Best Regards,
SCImago Team



suprapto 4 years ago

I want to join

reply

U **UMMI KALSUM SUPARDI** 4 years ago

dear friends,
i want to join

reply

M **Mellia fransiska** 5 years ago

Dear admin,
how to join this journal?

reply



Elena Corera 5 years ago

SCImago Team

Dear Mellia,

thank you very much for your comment. Unfortunately, we cannot help you with your request, we suggest you contact journal's editorial staff so they could inform you more deeply. You can find contact information in SJR website <https://www.scimagojr.com>

Best regards,
SCImago Team

H **Harun achmad** 5 years ago

We want to join

reply

D **Dr.Rasha** 5 years ago

Please some one tell me if this journal publishing researches about Hyperdation of computer science and Bioinformatics in data security

reply



Elena Corera 5 years ago

SCImago Team

Dear Dr. Rasha, we suggest that you review the scope of the journal. Best Regards,
SCImago Team

M **Mutaz Alkhnifsawi** 5 years ago

Hi

What is the impact factor of the journal please?

Best

reply



Elena Corera 5 years ago

Dear Mutaz, SCImago Journal and Country Rank uses Scopus data, our impact indicator is the SJR. Check our page to locate the journal. We suggest you consult the Journal Citation Report for other indicators (like Impact Factor) with a Web of Science data source. Best Regards, SCImago Team

S Suheridn 5 years ago

I want to join.

reply

L Luqman Nur Hakim 5 years ago

I want to join

luqman.nur.hakim-2017@fkm.unair.ac.id

reply



Elena Corera 5 years ago

Dear Luqman,

thank you for your interest. If you want to submit the journal you should get in touch with the journal editorial staff.

Best regards,
SCImago Team

A Ahmed 5 years ago

Dear friend,
would you please tell me if this journal going to be canceled from Scopus coverage and does the Quartile rank refer to that , i.e Q4 journals will be canceled soon please clear this issue how can i know that the journal will be canceled from Scopus coverage. because i need to submit my papers to some journals which have Q4, and afraid to be canceled before publish my papers

thank you

reply



Elena Corera 5 years ago

Dear Ahmed, we suggest you contact Scopus to solve your questions. SJR and SCImago have no authority over the inclusion or exclusion of journals. Best Regards, SCImago Team

E **Erma Pradnyani** 5 years ago

i want to join

reply

W **where** 5 years ago

where you want to join

E **Erma Pradnyani** 5 years ago

i want to join

reply

E **Erma Pradnyani** 5 years ago

putu.erma.pradnyani-2017@fkm.unair.ac.id

reply

E **Erma Pradnyani** 5 years ago

r

reply

Leave a comment

Name

Email

(will not be published)

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reCAPTCHA
Privacy - Terms

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The users of Scimago Journal & Country Rank have the possibility to dialogue through comments linked to a specific journal. The purpose is to have a forum in which general doubts about the processes of publication in the journal, experiences and other issues derived from the publication of papers are resolved. For topics on particular articles, maintain the dialogue through the usual channels with your editor.

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Chronic Complication Profiles of T2DM in Endocrine Outpatient Clinic, Dr Soetomo General Hospital, Surabaya

Mutia Nabila Nur Afra¹, Agung Pranoto², Yan Efrata Sembiring³

¹Bachelor Student, Faculty of Medicine, University of Airlangga, Surabaya, Indonesia, ²Professor, Metabolic Endocrinology Department, Dr. Soetomo Hospital, Surabaya, Indonesia, ³Consultant, Thoracic Cardiac and Vascular Surgery Department, Dr. Soetomo Hospital, Surabaya, Indonesia

Abstract

Background: Nowadays, the number of diabetic complications is still increasing each year. There are some factors that affect the early appearance of diabetic complications. By knowing these factors, doctors and patients will pay attention and prevent the early appearance. Therefore, diabetic patients will reduce the risk of death. **Objectives:** The study aimed to determine the most frequently occurring profile of diabetic macroangiopathy and microangiopathy in people with type 2 diabetes mellitus. **Method:** Descriptive qualitative with a cross-sectional design. **Results:** Patients who are most commonly diagnosed type 2 diabetes mellitus with diabetic complications are in the age group 46 – 55 year (32%), male (50.6%), high school educated (59.9%), private employees (36.6%), average of HbA1c level is 8.68%, controlled HbA1c (54.5%), and duration of type 2 diabetes mellitus with no data on duration (56.9%). The shown complications are single microangiopathy (30.6%), single macroangiopathy (22%), microangiopathy and macroangiopathy combination (9.4%), multiple microangiopathies (2.7%) and multiple macroangiopathies (2.7%). The microangiopathy complications are retinopathy (22.6%), nephropathy (22.1%), and neuropathic diabetic (10.3%) while the most macroangiopathy complications are coronary heart disease (19.2%), peripheral circulatory complication (14.8%), and stroke (11%).

Keywords: Macroangiopathy and microangiopathy, common diabetic complication's profile, Diabetes Mellitus Type 2

Introduction

The number of people with diabetes in the world is 463 million, with 10,681,400 of them from Indonesia. This places Indonesia is the 7th position of

countries with the most diabetic people in the world.² Hyperglycemia is associated with abnormalities in endothelial dysfunction and also becomes an

indication of microangiopathies and macroangiopathies.

If hyperglycemia is properly controlled by maintaining a normal HbA1c level, the incidence of diabetes mellitus complications can be reduced.³

Diabetic chronic complications can be grouped as either macroangiopathy or microangiopathy. In macroangiopathy, coronary heart disease, peripheral artery disease, and ischemic stroke. Meanwhile, in microangiopathy, there are 3 kinds of complications: diabetic retinopathy, diabetic nephropathy, and diabetic neuropathy.

There are 4 pillars in treating diabetes mellitus type 2: education, nutritional therapy, physical activity, and pharmacology using HbA1c level for blood glucose control.⁵ These numbers are still rising. This study aims

Corresponding author:

Yan Efrata Sembiring, dr., Sp.B-TKV (K)

Address : Thoracic Cardiac and Vascular Surgery Department, Dr. Soetomo Hospital Jl. Mayjen Prof. Dr. Moestopo No. 6-8, Gubeng, Surabaya, Indonesia 60286, E-mail : yan-e-s@fk.unair.ac.id
Telephon number : +62(813)57309324

to identify the most common macroangiopathy and microangiopathy cases at Dr. Soetomo Hospital. This study aims to analyzing diabetic factors such as age, sex, last education, occupation, duration of type 2 diabetes mellitus (T2DM), and the most types of chronic complications that occur. This is the first research that analyzing diabetic factors in Dr. Soetomo Hospital to improve the diabetes treatment.

Materials and methods

This descriptive, qualitative, and cross-sectional design has a population of all patients diagnosed with T2DM with or without chronic diabetic complications. A non-probability sampling method with a consecutive sampling technique is used by taking several quota samples from the population until the quota is met.⁶

The minimum sample size that suggested for the descriptive study is equal to or more than 100 samples.⁷ Samples were taken at the Endocrine outpatient clinic in Dr. Soetomo from 255 patients who received treatments from July 2018 until July 2019, selected based on the inclusion and exclusion criteria.

The variables studied are age, gender, last education, occupation, average HbA1c level, duration of T2DM, and chronic diabetic complications such as coronary heart disease, stroke, diabetic foot, retinopathy, neuropathy, and nephropathy diabetic. The research used medical records as instruments. The data was subsequently analysed using the 23 version of SPSS and Microsoft excel. The collected data will be presented descriptively in the form of frequencies and percentages.

Results & Discussion

Table 1. Additional Data of Age and Gender

Variables	Category	Total of People with Complications		
		Macroangiopathy	Microangiopathy	Macroangiopathy and Microangiopathy
Age	17–25 Years	-	1	-
	26 – 35 Years	1	4	-
	36 – 45 Years	9	15	3
	46 – 55 Years	18	32	5
	56 – 65 Years	21	20	12
	≥66 Years	11	13	7
Gender	Male	36	39	12
	Female	24	46	15

Table 2. Data frequency of research variable

Variables	Category		Total	%
Age	17-25 years		1	0.6
	26-35 years		5	2.9
	36-45 years		27	15.7
	46-55 years		55	32.0
	56-65 years		53	30.8
	≥ 66 years		31	18.0
Sex	Man		87	50.6
	Woman		85	49.4
Last Education	Primary School		24	14.0
	Junior High School		16	9.3
	High School		103	59.9
	Higher Education		20	11.6
	Uneducated		5	2.9
	Others		4	2.3
Profession	Housewife		56	32.6
	Others		2	1.2
	Civil Servant		19	11.0
	Private Employees		63	36.6
	Unemployed		11	6.4
	Entrepreneur		21	12.2
HbA1c level	Controlled	HbA1c level <7% at <60 years	43	16.9
		HbA1c level <8% at ≥60 years	96	37.6
	Uncontrolled	HbA1c level >7% at <60 years	81	31.8
		HbA1c level >8% at ≥60 years	29	11.4
Duration of T2DM	≤5 years		48	18.8
	≤6 years		62	24.3
	No data		145	56.9
Type of complications	Complications profile	Single Macroangiopathy	56	22.0
		Single Microangiopathy	78	30.7
		Macroangiopathy and Microangiopathy	24	9.4
		Multiple Macroangiopathy	7	2.7
		Multiple Microangiopathy	7	2.7
		Without Complications	83	32.5
	Microangiopathy	Retinopathy diabetic	46	22.6
		Nephropathy diabetic	45	22.1
		Neuropathy diabetic	21	10.3
		Macroangiopathy	Coronary heart disease	39
		Peripheral circulatory complication	30	14.8
		Stroke	22	11.0

Based on Table 1, it was found that there are 55 people of mostly around 46 to 55 years old who had been diagnosed with chronic complications. Age is an important factor that affect the prevalence of diabetes and impaired glucose tolerance. According to WHO, if someone's age has reached 30 years old, the fasting blood glucose concentrations will be increase by 1-2mg%/year, and the blood sugar level 2 hours after eating will increase to 5-6-13 mg%⁸. This shows that age is related to diabetes prevalence. Furthermore, it's easier for this age group to become obese because their physical activity is decreasing. The number of insulin receptors that are ready to bind with insulin decrease, therefore affecting the decrease of GLUT-4 translocation rate.⁹ According to previous research, patients with macroangiopathy and microangiopathy mostly occur in patients aged 46-65 years old.¹⁰ The decrease of body functions, especially the pancreas, also occurs in this age group.¹¹

In terms of gender, there are almost the same numbers of man and woman respondents with chronic complications, 26 and 24 respectively. A previous research by Lathifa, also found such similarity while a research by Yuhelma found that diabetes mellitus mostly occurred in women. The later is due to women having a higher level of LDL or bad cholesterol and triglyceride than men. In women, the increasing higher lipid levels can be increase the risk of diabetes mellitus 3-7 times higher.¹³ In this research, men have slightly higher number of complications of diabetes than women. These conditions can be caused by several factors such as lifestyle, culture, smoking habits, exercise, stressors, and socio-economic conditions, much like those found in Dr. Soetomo's patients.

Our recent education data in patients who experience chronic complications showed that most respondents were educated up to Senior High School level while a research by Yuhelma showed that patient's last education was dominated by Junior High School level.¹³ Another research showed that respondents with higher education might be more knowledgeable about health, giving them higher awareness on how to maintaining their health.¹⁴ Therefore, it's concluded that recent educations is related to the appearance of chronic complications due to how patients pay attention to their health and how they maintain necessary treatment.

The collected data shows that chronic complications mostly occur in respondents who work as a private employees. Busy work life can affect people's dietary needs and reduce their physical exercise time, giving them a higher risk for diabetes. According to a previous study by Sitohang, people with chronic complications are mostly found in working groups¹⁶, This shows that physical activity is one of the most important pillars in the management of T2DM as it's related to improving insulin sensitivity for glucose to enter cells without insulin.¹⁸

HbA1c levels is a long-term glycemic control index for 2-3 months. In this study, there are 139 respondents (54%) with a controlled HbA1c level. At Dr. Soetomo Hospital, there are several conditions correlating to respondents with high HbA1c levels. The first is patients with severe conditions or patients after first hospitalization and later died. The second is patients with tumor and cancer at the time of their high HbA1c level but then after surgery the next HbA1c examination was done in the other health facilities. Lastly, other conditions such as patients who only did 1-time HbA1c examination because they didn't routinely come for the follow-ups. Diabetes treatment is a long-term treatment that requires patients to be obedient in coming for the next follow-ups. Patients' disobedience in following the course of the treatment and lack of lifestyle changes are some of the reasons why the HbA1c control target wasn't achieved.¹⁹

In this research, the collected data shows that the duration of type 2 diabetes mellitus was challenging to assess as shown by patient's inability to present this data. It's very difficult to detect when T2DM can occur due to the progressive nature of the disease meaning that new symptoms appear when the condition starts to worsen.

The next dominant data is 39 patients (15.3%) who were diagnosed with T2DM for 1 to 5 years. With the lack of public attention and the habit of underestimating this disease, most people are unaware of the typical symptoms of diabetes and they will start to treat it when the condition is already mild. In addition, when people are diagnosed with T2DM, the function of their pancreas will decrease $\pm\pm 50\%$. A few years before being diagnosed with T2DM or while in prediabetes condition, there might abnormalities in laboratory and

clinical findings that can contribute to a cardiovascular risk factor.¹⁸ People who had been suffering for 1 to 5 years from T2DM are susceptible to the quickening of this disease because some are not compliant with the treatment. Meanwhile, research by Lathif showed that the level of pathogenicity of the disease can be seen from the disease's duration, especially diabetes mellitus.¹² However, if the long-suffering condition is balanced with a healthy lifestyle and compliance to the treatment, the early appearance of chronic complications can be prevented and delayed.²¹

The collected data of complications profile is mostly dominated with single microangiopathy. Similarly, another previous research found the most common microangiopathy complication that occurs in patients is diabetic nephropathy.²²

The dominating type of complications in this research is diabetic retinopathy as found in 46 respondents (22.6%). Similar to a research by Suryathi, among 123 respondents, 74 patients (60.16%) were diagnosed with diabetic retinopathy.²³ This complication occurs due to a long hyperglycemic condition that can cause the increase of aldose reductase enzyme activities so that the production of polyols like sugar and alcohol in eye tissues, lens, blood vessels, and optic nerve increases. The characteristic of polyol is that it cannot pass through the basal membrane, making it accumulate in large quantities in the cell. In this condition, the accumulation of polyol can increase the osmotic pressure, which can cause several disorders such as morphological and functional disorders of cells. Several patients are unaware of this complication and only assume that this is a common eye disease symptom so that the onset of the complications process is often detected.^{24,25}

In addition to retinopathy, the next most complications is diabetic nephropathy with 45 respondents.

Similarly, a research by Edwina, it was found that the most dominant complications was diabetic nephropathy found in 42.6% of respondents.²² Nephropathy can be seen in microalbuminuria examination accompanied by glomerular filtration rate examination to assess patient's kidney function. Patients with a fast decreasing glomerular filtration rate may experience glomerulopathy and poor metabolic control. Retinopathy is also a clue to diagnosing nephropathy diabetic. Some people with

chronic complications are diagnosed with more than 1 complications.^{26,27}

According to table 1, there are 39 respondents diagnosed with coronary heart disease. The epidemiology of coronary heart disease shows that hyperinsulinemia or excessive insulin contributes to a higher cardiovascular risk. Based on Permana, 50 to 70 percent of people with diabetes mellitus have coronary atherosclerosis.³ People with diabetes have 4-8 times higher risk of congestive heart disease.²⁸

Another microangiopathy found is diabetic foot. According to previous research at Haji Adam Malik General Hospital in Medan, diabetic foot was common as it was found in 38% of respondents.²⁹

Table 1 shows that 22 respondents (11%) were diagnosed with stroke. According to the American Diabetic Association, patients with diabetes mellitus have a 1.5 times higher chance of having a stroke.³¹ The pathophysiology of this disease includes several conditions such as hypertension, dyslipidemia, heart disease, and hyperlipidemic conditions.³²

Based on the research data, the last complication is diabetic neuropathy with a total of 21 respondents. According to a previous study in Ciptomangunkusumo Hospital, diabetic neuropathy is the most commonly occurring in 54% of respondents.⁴ Similarly according to the International Diabetes Federation, the most commonly occurring complication in Indonesia is diabetic neuropathy with 17.6% respondents.² This is due to persistent hyperglycemia that can stimulate the production of oxidative free radicals which will damage the vascular endothelium and Nitrite Oxide and block the vasodilation process so that the blood flow to the nerves will decrease. Along with low myoinositol conditions in cells, this condition will lead to neuropathy. If the metabolic damage continues, the disease will trigger worse conditions such as irreparable ischemic and axons structural damage.^{35,36}

Conclusion & Acknowledgment

This research concluded that T2DM with diabetic complications is most commonly diagnosed in patients within

1. The age group of 46-55 year (55 respondents or 32%)
2. Similar prevalence of chronic complications in man and woman respondents, 87 (50.6%) and 85 (49.4%) respectively
3. Most common level of recent education is Senior High school with 103 respondents (59,9%)
4. Controlled HbA1c level is found in 139 respondents (54.5%) with the compositions of HbA1c levels <7% in 43 respondents aged < 60 years (16.9%) and HbA1c level <8% in 96 respondents (37.6%) aged >60 years with severe conditions. While the average of HbA1c level is 8.68%.
5. Most T2DM patients were unable to present data on illness duration (145 respondents or 56.9%).
6. With regards to complications, there are 78 respondents with single microangiopathy (30.6%), 56 respondents with single macroangiopathy (22%), 24 respondents with microangiopathy and macroangiopathy (9.4%), 7 respondents with multiple microangiopathies (2.7%) and 7 respondents with multiple macroangiopathies (2.7%).
7. The Most commonly occurring complications are retinopathy with 46 respondents (22.6%), nephropathy with 45 respondents (22.1%), and neuropathic diabetic (21 respondents or 10.3%). The occurrence of macroangiopathy complications are dominated by coronary heart disease with 39 respondents (19.2%), the peripheral circulatory complication with 30 respondents (14.8%), and stroke with 22 respondents (11%).

Conflict of Interest: There was no conflict of interest in this study

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