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Research Article

FORMULATION AND PHYSICAL CHARACTERISTICS OF DETAM II SOYBEAN (*GLYCINE MAX* (L.) MERR) TABLET WITH VARIOUS CONCENTRATION OF SILICON DIOXIDE AND MAGNESIUM STEARATE

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ABSTRACT

Objective: This research was conducted to obtain several formulation and evaluate the physical characteristics of the soybean *Glycine max* (L.) Merr Detam II variety tablets.

Methods: Detam II varieties of soybean (*G. max* (L.) Merr.) were cleaned and grinded into 30 mesh-sized powder. Weighed soybean powder and internal phase of excipients (based on the formula) mixed by a Y-cone mixer until homogeneous, and then continue with dry granulation process. Granules formed, then sieved into 16 mesh size, and then, the characteristics examined. Dried granules then mixed with magnesium stearate and silicon dioxide using a drum mixer and compressed into tablets. Physical characteristics of tablets measured at 0, 4, 7, 14, 21, and 28 days.

Results: Evaluation was done for particle size distribution, moisture content (MC), flow properties, weight uniformity, friability, hardness, and disintegration time. Dry granulation was the best method to improve the characteristics of soybean powder with poor compressibility, poor flowability, and hygroscopic. Flow properties of the granules became better for Formula II and III by adding the concentration of silicon dioxide. The formulas also showed the good uniformity of weight, size, MC, friability, and disintegration time. Reducing the lubricant until 0, 5% of the formula made differences in friability, hardness, and disintegration time better than another formula.

Conclusion: The result of this research indicates that differences in silicon dioxide and magnesium stearate composition of the formula can affect the physical characteristics of soybean (*G. max* (L.) Merr.) tablets.

Keywords: Soybean (*G. max* (L.) Merr), Detam II variety, Tablet, Dry granulation, Silicon dioxide, Magnesium stearate.

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INTRODUCTION

Free radicals are reactive and oxidize other molecules nearby such as proteins, DNA, lipids, and others. Free radicals can be inhibited by the presence of antioxidants. Antioxidants are substances that protect cells from free radical damage. Antioxidants interact and stabilize free radicals. Antioxidants are molecules that prevent the oxidation of other molecules. The human body has been able to produce an antioxidant commonly called endogenous antioxidant, but endogenous antioxidant alone is not enough and needed antioxidants from outside called exogenous antioxidants [1,2].

There are two sources of exogenous antioxidants, synthetic antioxidants, and natural antioxidants. One of the natural antioxidants is isoflavones or flavonoid derived from plant secondary metabolites [3,4]. Plants are rich in phenolic compounds and flavonoids which have been reported to exert multiple biological effects, such as antioxidant activities, free radical scavenging abilities, anti-inflammatory, and anticarcinogenic [5]. Flavonoids are a class of secondary metabolites which are found mainly in nuts and seeds, and one of them is the soybean plant [6].

Soybean *(Glycine max)* has became a source of important nutrients since ancient times. Soybeans are easily processed and manufactured into various kinds of food. Soybean (*G. max* (L.) Merr) Ijen varieties used with Vitamin C as a comparison reported to reduce levels of lead in the blood and liver of male mice [7]. Depend on soybean seeds color, it is divided into two types, yellow and black soybean. Black soybeans have almost same potential of nutrients and result than yellow soybeans and even have a higher functional properties [8].

Flavonoid content of black soybean is 6 times higher than yellow soybeans (total flavonoid content of yellow and black soybean is 0.41 and 2.57 mg equivalent to catechins/gram, respectively), and the antioxidant activity is 15 times higher (DPPH scavenging capacity of yellow and black soybeans is 1.40 and 17.58 mol equivalent per gram, respectively) [9].

Tablet was a dosage form made as a result of black soybean isolfavone optimization. Usually for the natural compound, included soybean has a high amount of moisture content (MC) that affects the flowability become poor, so the formulation will be the key to build the quality of the tablets. Granulation process was done by dry granulation technique to improve the flowability. Granulation is a technique used in the preparation of tablets, in which it involves particles enlargement by agglomeration [10].

Good flow properties needed, and the powder should be easily flows into the die first. [11]. The improvement also developed by changing the composition of glidant and disintegrant of the formula.

MATERIALS AND METHODS

Materials

The plant material used in this study is the soybean *(G. max* (L.) Merr.) Detam II varieties, certified taken from UPBS (Seed Resources Management Unit) Balitkabi (Research Institute for Legumes and Tuber), Malang, East Java in August 2016.

Chemicals used in this study are sodium starch glycolate (SSG) (Primojel®), polyvinylpyrrolidone (PVP) K-30 p.g, lactose anhydrous

p.g, silicon dioxide (Cab-O-Sil®), magnesium stearate p.g, and cellulose powder (Vitacel®).

Research tools

The tools used in this study were oven, blender, Retsch vibrator (D-42 759 Haan/Germany), a digital type analytical balance, drum mixer, tapping machine type PT TD200, MC tester, stative, single punch tablet machine (Yung Chuan Industrial Co., Ltd; Taiwan), disintegration time test equipment (disintegration tester, Erweka type of QC-21), Monsanto hardness tester instruments friability tester (rolling and impact durability tester, Erweka type TA 100/TA 200), Oscillating granulator, a standard funnel, stopwatch, pipette drops, and vial.

Methods

Preparation of (G. max (L.) Merr.) Detam II varieties powder

Soybean (*G. max* (L.) Merr.) Detam II varieties were cleaned and then dried directed to the air. Dry soybeans were grinded and homogenized using 30 mesh-sized Sieve into a fine powder. The powder was then stored in an eksikator.

Preparation of (G. max (L.) Merr.) Detam II varieties granules

Soybean and cellulose powder was weighed in the required amount, and then, mixed with a Y-cone mixer until homogeneous. Each anhydrous lactose, PVP K30, Plasdone S 630, and SSG were weighed based on the formula, and then, mixed until homogeneous. The amount of the excipient based on the formula in Table 1. The mixture then compressed into slug and sieved with 16 mesh Oscillating granulator into granules. Physical characteristics of granules were then examined.

Preparation of (G. max (L.) Merr.) Detam II varieties tablets

Dried granules were mixed with magnesium stearate and silicon dioxide using a drum mixer for 3 min. After the flowability was examined, granules then compressed into tablets. Tablet results had 13 mm diameter and 650 mg tablet weight. Physical characteristics of tablets were measured at time interval of 0, 4, 7, 14, 21, and 28 days.

Granules evaluation

MC

MC value could be expressed by the measurement of dry granules weight and terms good for that 3–5% MC. The MC was calculated with the following formula:

$$MC = \frac{Wa\text{-}Wb}{Wb} \times 100\%$$

Where Wa means wet granule weight and Wb is the weight of dry granule.

The particle size distribution

Siever was prepared from the biggest to the smallest pan in size range by placing the container below the others. The Retsch sieve then placed on the vibrator. After vibrated, then each pan weighed and documented. The target of this examination was obtain good particle distribution of granules and 10–20% fines.

Compressibility

Real density value determined by weighed amount of powder, then poured into a measuring glass until readable volume obtained (Vo). Weighed amount of granules putted on volumenometer and tapped, and constant volume obtained recorded as V1. Good compressibility range was 5–25%.

Flowability

Some granules inserted into the funnel which is closed in the bottom. After the funnel opened, the time required for the granules pass through the funnel and the angle of repose recorded. Maximum flow time of 100 g granule was 10 s, and the angle of repose must be inside the range of 25–40° based on Table 2.

Tablet evaluation

Weight uniformity

Weight uniformity test done by weighing 10 tablets one by one, and the average weight of each tablet calculated. The tablet acceptance value should not be greater than or equal to 15% based on the Indonesian Pharmacopoeia V [12].

Hardness

The hardness of the tablet was measured using a Monsanto hardness tester with 20 samples. Each tablet was placed one by one then rotated slowly and precisely until the tablet broke and showed the hardness value on the scale. Hardness requirement generally at least 4 kg.

Friability

Friability was measured using a friability tester. Samples taken as many as 10 tablets were randomly assigned to tablets with a weight above 650 mg. Tablet cleaned one by one and weighed using the analytical balance. The tablet is then inserted into the testing device with a rotation speed of 25 rpm for 4 min. Then, the tablet removed and cleaned from dust. The tablets were weighed and the friability calculated using the following equation:

$$\%\text{Friability} = \frac{Wa\text{-}Wb}{Wa} \times 100\%$$

Where Wa is tablet weight before rotated and Wb is the final tablet weight.

Disintegration time

Each tablet was inserted in the basket, and then, the friability tester was started at medium temperature 37±2°C. Disintegration time required for testing six tablets should not be ≥15 min.

RESULT AND DISCUSSION

Identification of soybean seed powder (*G. max* (L.) Merr) Detam II varieties

The organoleptic results of soybean (*G. max* (L.) Merr) powder Detam II varieties were a yellow with black spots coarse powder, slightly sweet, and have a distinctive odor of soybeans. 1 kg of crushed soybeans resulted 950 g soy powder and manufactured into tablets. Organoleptic results of the product shown in Figure 1. MC of the powders was also identified to determine the initial water content in soybean powder, and the amount obtained was 6.11%.

Granules evaluation

Particle size distribution

Particle size distribution showed that all of the formulas had the amount of fines below the requirements of 10–20% [13], but they have a normal size distribution with the major fraction is in the 300–600 ìm shown in Figure 2. particle size. The example of the particle size distribution curve was shown in Fig. 2 for Formula 1 until 3.

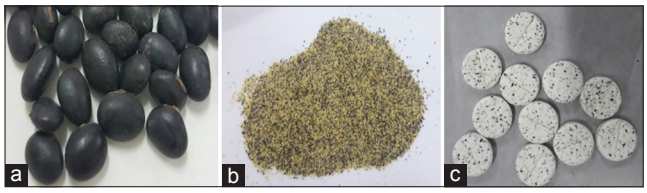

Fig. 1: (a) Soybean (*Glycine max L.* Merr) Detam II varieties seed, (b) soybean (*G. max* L. Merr) Detam II varieties powder, (c) soybean (*G. max* L. Merr) Detam II varieties tablet

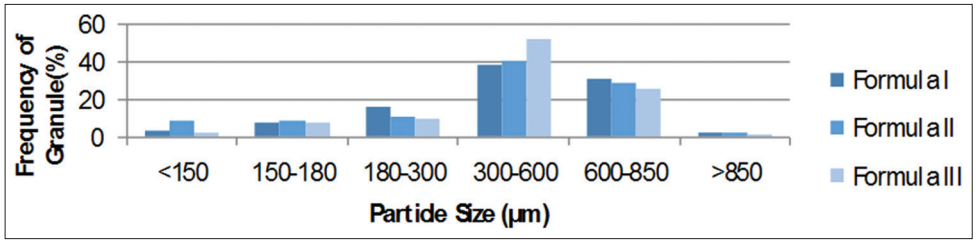

Fig. 2: Particle size distribution curve

Table 1: Formula Detam II varieties soybean tablet

Material	Function	Formula				
		I	II	III	VI	VII
Detam II black soybean powder	Active substance	200 mg	200 mg	200 mg	200 mg	200 mg
SSG	Disintegrant (%)	4	4	4	4	4
Magnesium stearate	Lubricants (%)	2	2	2	0.5	1
Polyvinylpyrrolidone (PVP K30)	Internal phase binder (%)	2	2	2	2	2
	External phase binder (%)	2	2	2	2	2
Silicon dioxide	Glidant (%)	0.1	0.5	1	1	1

SSG: Sodium starch glycolate

Table 2: Relationship of flow property and angle of reposes

Flow property	Angle of repose (°)
Excellent	25–30
Good	31–35
Fair - aid not needed	36–40
Passable - may hang up	41–45
Poor - must agitate, vibrate	46–55
Very poor	56–65
Very, very poor	>66

Table 3: MC of soybean seeds (*G. max* (L.) Merr) Detam II varieties

Wb average (g)	Wa average (g)	% MC
4.753	5.062	6.11

MC: Moisture content, *G. max: Glycine max*

Table 4: MC of granules

Formula	% MC
I	3.06
II	2.51
III	3.21
IV	2.56
V	3.13

MC: Moisture content

MC

The granules are taken as much as 5 g (replication 3 times for each formula) and tested moist content. Obtained results for the three formulas meet the requirements, which shown in Table 3 and Table 4. Under the terms, good moist content was between 3% and 5% [14].

Compressibility

All of the formula did not meet the requirement shown in Table 5 [15]. This condition could be due to lack of the amount of fines, so the small particles did not fill cavities between particles. Based on the compressibility value, it can caused the dense of tablet form became less.

Table 5: Compressibility of granules

Formula	% Compressibility	Requirement of compressibility of 5–25%
I	38.20	Did not meet the requirement
II	31.46	Did not meet the requirement
III	36.04	Did not meet the requirement
IV	33.85	Did not meet the requirement
V	38.19	Did not meet the requirement

Table 6: Flowability of granules

Formula	T (s)	Angle of repose (°)
I	11.3	41.30
II	8.57	38.44
III	7.50	34.56
IV	9.57	34.77
V	9.50	36.24

Flowability

Flowability of 100 g granules was good shown in Table 6, and most of all formula could flow not more than 10 s. The value of the angle of repose must be between 25° and 40° to show good flowability [15]. Formulas I, II, and III determined the improvement of glidant composition in the formula.

Formula III has better flowability than Formulas I and II. It can be caused due to the amount of silicon dioxide as glidant. Glidant amount in formula I as much as 0.1% is too small to help the poor flowability of Detam II varieties soybean granule in the formula.

Tablet evaluation

Organoleptic tablet soybean seeds (G. max (L.) Merr) varieties Detam II

The organoleptic test results of the soybean tablet obtained that the tablets are round white with black spots with a slightly sweet taste and a distinctive smell of soybeans.

Tablet weight uniformity

The uniformity test result of 10 unit tablets must be lower than 15%. Tablets from all of the formulas met the requirements

Table 7: Tablet weight uniformity

Formula	The average weight ± SD (g)	Requirements value (%)	Uniformity of weight value admission requirements ≤ 15% (Depkes RI, 2014)
I	0.6504±0.0133	0.03	Meet the requirements
II	0.6494±0.0103	0.02	Meet the requirements
III	0.6501±0.0183	0.04	Meet the requirements
IV	0.6480±0.0124	0.03	Meet the requirements
V	0.6434±0.0081	0.02	Meet the requirements

SD: Standard deviation

Table 8: Tablet hardness

Days	Formula	The average of hardness ± SD (kg)	Requirements of tablet hardness at least 4 kg (Troy, 2006)
0	I	1.35±0.34	Did not meet the requirement
	II	1.25±0.35	Did not meet the requirement
	III	1.6±0.32	Did not meet the requirement
	IV	4.12±0.10	Meet the requirement
	V	2.90±0.87	Did not meet the requirement
4	I	1.35±0.24	Did not meet the requirement
	II	1.05±0.16	Did not meet the requirement
	III	1±0.00	Did not meet the requirement
	IV	3.92±0.09	Did not meet the requirement
	V	2.45±0.50	Did not meet the requirement
7	I	1.3±0.35	Did not meet the requirement
	II	1.4±0.35	Did not meet the requirement
	III	1±0.00	Did not meet the requirement
	IV	2.15±0.53	Did not meet the requirement
	V	2.00±0.47	Did not meet the requirement
14	I	1.25±0.26	Did not meet the requirement
	II	0.875±0.21	Did not meet the requirement
	III	0.675±0.24	Did not meet the requirement
	IV	1.83±0.21	Did not meet the requirement
	V	1.58±0.44	Did not meet the requirement
21	I	1.45±0.37	Did not meet the requirement
	II	1.4±0.32	Did not meet the requirement
	III	1.3±0.48	Did not meet the requirement
	IV	2.15±0.24	Did not meet the requirement
	V	1.80±0.35	Did not meet the requirement
28	I	0.75±0.24	Did not meet the requirement
	II	1±0.00	Did not meet the requirement
	III	0.575±0.12	Did not meet the requirement
	IV	1.98±0.18	Did not meet the requirement
	V	1.35±0.27	Did not meet the requirement

SD: Standard deviation

shown in Table 7. Fair flowability helped the granule to enter the compression dies even there was a deviation also from target weight of 0.650 g.

Tablet hardness

Hardness of tablet was examined for all formulas with several intervals of sampling time and the result shown in Table 8. Hardness of tablet decreased time by time when it placed inside the climatic chamber with controlled condition in 40°C temperature and 75% RH. The formulation could not cover the hygroscopic properties of the active compound determined from decreasing value of tablet hardness.

Tablet friability

The requirement of maximum friability value was 1%. Friability of Formulas I and II did not meet the requirement on 14, 21, and 28 days, while the Formulas III and V did not meet the requirements since 7 and 4 days, respectively (shown in Table 9). High humidity can lead to break the particle bond, increased porosity, and affected changes in friability. It shown from hardness and friability data that improving the magnesium stearate amount as lubricant also gave the anti-bonding effect between particles. Finally it reduce the hardness and improve the friability of the tabets.

Disintegration time

Disintegration time of all formulas met the requirement which is <15 min. The result in Table 10 showed that higher hydrophobic excipients added in the external phase of the formula affect the disintegration time. The disintegration of tablets needed longer time resulted by improvement of hydrophobic external phase composition. Faster disintegration time could aid the absorption of drugs in the body.

CONCLUSION

Formulation of Detam II variety soybean tablets with several concentration of silicon dioxide and magnesium stearate was done in this research. Evaluation obtained some data about particle size distribution, MC, flow properties, weight uniformity, friability, hardness, and disintegration time. Soybean powder had poor compressibility, poor flowability, and hygroscopic properties, so dry granulation method was chosen to get tablet dosage form. Flow properties of the granules became better for Formulas II and III by adding the concentration of silicon dioxide as glidant. The formulas also showed a good uniformity of weight, size, MC, friability, and disintegration time. On the other hand, reducing the lubricant composition until 0.5% of the formula made differences in friability,

Table 9: Tablet friability

Days	Formula	Average friability ± SD (%)	Friability requirements should not be >1% (USP 37 NF 32, 2014)
0	I	0.40±0.22	Meet the requirements
	II	0.43±0.42	Meet the requirements
	III	0.54±0.19	Meet the requirements
	IV	0.10±0.02	Meet the requirements
	V	0.27±0.02	Meet the requirements
4	I	0.25±0.08	Meet the requirements
	II	0.22±0.12	Meet the requirements
	III	0.67±0.09	Meet the requirements
	IV	0.51±0.03	Meet the requirements
	V	1.93±0.28	Did not meet the requirements
7	I	0.44±0.11	Meet the requirements
	II	0.86±0.34	Meet the requirements
	III	3.24±0.95	Did not meet the requirements
	IV	0.25±0.08	Meet the requirements
	V	1.47±0.58	Did not meet the requirements
14	I	1.34±0.25	Did not meet the requirements
	II	1.46±0.44	Did not meet the requirements
	III	4.51±1.90	Did not meet the requirements
	IV	0.26±0.07	Meet the requirements
	V	1.47±0.06	Did not meet the requirements
21	I	4.89±0.34	Did not meet the requirements
	II	3.39±0.48	Did not meet the requirements
	III	5.22±0.62	Did not meet the requirements
	IV	0.15±0.02	Meet the requirements
	V	2.04±0.37	Did not meet the requirements
28	I	2.85±0.61	Did not meet the requirements
	II	2.89±0.93	Did not meet the requirements
	III	4.29±0.55	Did not meet the requirements
	IV	0.56±0.26	Meet the requirements
	V	3.18±0.42	Did not meet the requirements

Table 10: Disintegration time

Days	Formula	Average disintegration time (minutes)	Requirement of disintegration time <15 min (USP 37 NF 32, 2014)
0	I	7’28’’	Meet the requirements
	II	5’59’’	Meet the requirements
	III	9’07’’	Meet the requirements
	IV	5’15”	Meet the requirements
	V	5’35”	Meet the requirements
4	I	7’52’’	Meet the requirements
	II	5’21’’	Meet the requirements
	III	4’48’’	Meet the requirements
	IV	4’55”	Meet the requirements
	V	4’03”	Meet the requirements
7	I	5’05’’	Meet the requirements
	II	4’31’’	Meet the requirements
	III	3’46’’	Meet the requirements
	IV	4’50”	Meet the requirements
	V	4’58”	Meet the requirements
14	I	6’01’’	Meet the requirements
	II	5’09’’	Meet the requirements
	III	4’35’’	Meet the requirements
	IV	3’58”	Meet the requirements
	V	4’09”	Meet the requirements
21	I	5’34’’	Meet the requirements
	II	4’48’’	Meet the requirements
	III	6’51’’	Meet the requirements
	IV	5’04”	Meet the requirements
	V	6’04”	Meet the requirements
28	I	6’23’’	Meet the requirements
	II	5’27’’	Meet the requirements
	III	7’41’’	Meet the requirements
	IV	6’38”	Meet the requirements
	V	6’05”	Meet the requirements

hardness, and disintegration time better than another formula. Too much lubrication affected the antibonding effect that increases the friability and reduces the crushing strength of the tablet. The other important problem of soybean powder that must be solved was the hygroscopic characteristic that reduces the physical characteristics of tablets. Formulation of Detam II varieties soybean tablet must

be consider about the amount of adsorbent and humidity value of production room.

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Pharmacology, Toxicology and Pharmaceutics
- Pharmaceutical Science
- Pharmacology

PUBLISHER

Asian Journal of Pharmaceutical and Clinical Research

H-INDEX

49

PUBLICATION TYPE

Journals

ISSN

09742441, 24553891

COVERAGE

2009-2018, 2020-2021

SCOPE

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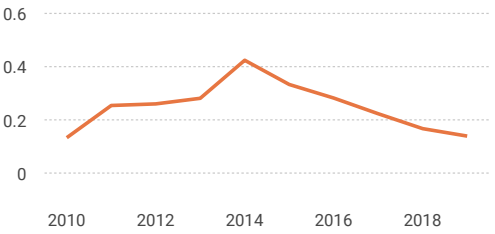
SJR



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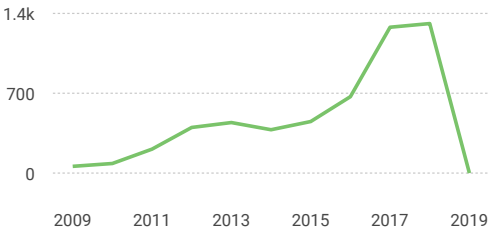

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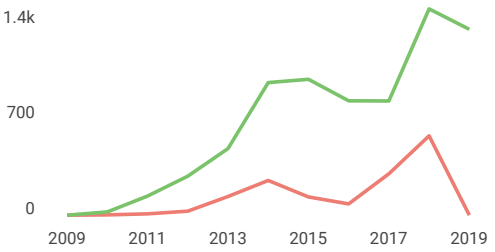

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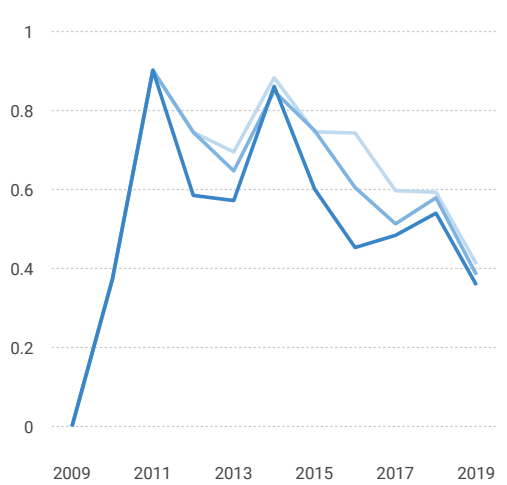

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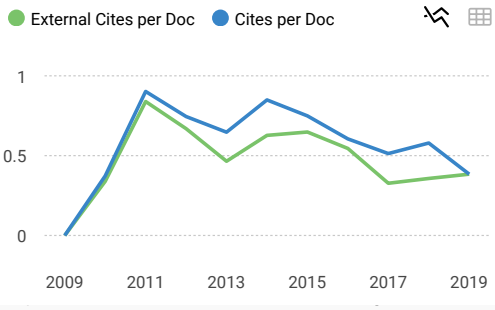
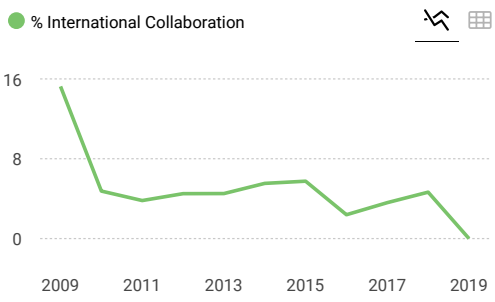


% International Collaboration



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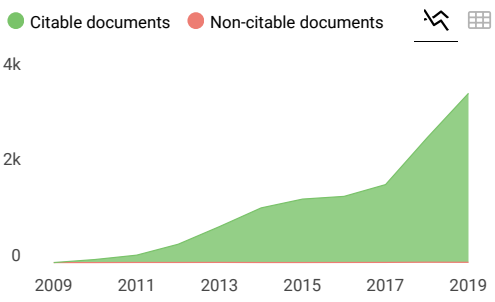

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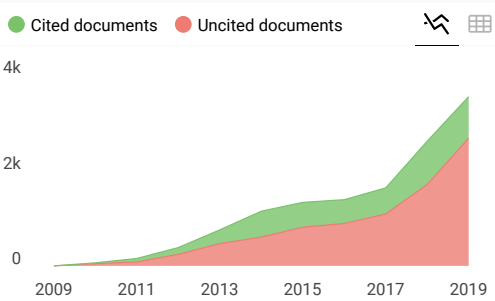
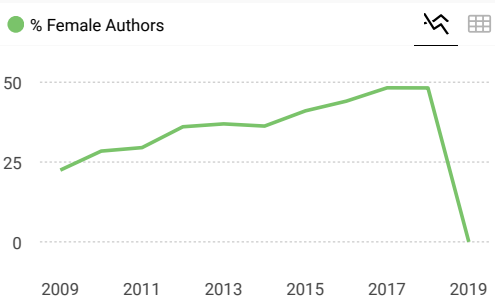
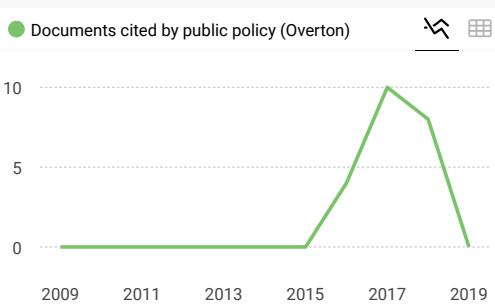


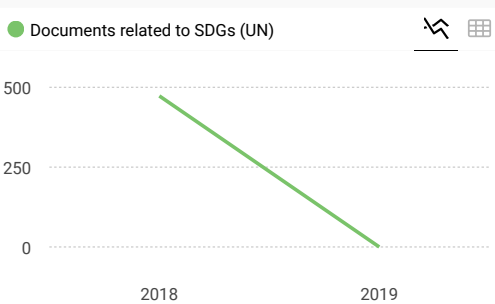
% Female Authors



Documents cited by public policy (Overton)



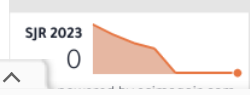
Documents related to SDGs (UN)



Asian Journal of Pharmaceutical and Clinical...

Not yet assigned quartile

SJR 2023



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B **Bimala Subba** 3 years ago

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I have humble request SCImigo team, to remove this journal from your list.

Dr. Bimala Subba
Central Department of Chemistry, TU, Kirtipur, Nepal

reply

SCImago Team

Melanie Ortiz 3 years ago

Dear Dr. Bimala,
thank you for your comment.
Our data source is Scopus, SCImago doesn't participate in the journal's selection. SCImago has no authority to include or exclude SJR journals. We just show the data provided in the latest update by Scopus. Please contact Scopus Support regarding this matter here:
https://service.elsevier.com/app/answers/detail/a_id/14883/kw/scimago/supporthub/scopus/
Best Regards, SCImago Team

N **Nivetha** 3 years ago

Does Asian Journal of Pharmaceutical and Clinical Research comes under UGC list.

reply

B **Bimala Subba** 3 years ago

This journal is listed in the predatory list as a predatory publisher. They do not have legal proof against this blame. Try to avoid publication with this kind of journal. your afford will be useless for your academic carrier.

SCImago Team

Melanie Ortiz 3 years ago

Dear Nivetha,
Thank you for contacting us.
Unfortunately, we cannot help you with your request.
Best Regards, SCImago Team

S **swati singh** 3 years ago

Sir,
Does the Asian Journal of Pharmaceutical and Clinical Research index in Scopus and Elsevier?

reply

SCImago Team

Melanie Ortiz 3 years ago

Dear Swati,
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 2020 has been released on 17 May 2021. 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.
Best Regards, SCImago Team

T

Thamara Melo 4 years ago

Dear Scimago Team,
Does the Asian Journal of Pharmaceutical and Clinical Research still coverage by Scopus and Elsevier 2020?

reply

SCImago Team

Melanie Ortiz 4 years ago

Dear Thamara,
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 released on 11 June 2020. 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.
Best Regards, SCImago Team

S

Sagar 4 years ago

Dear sir, every year SJR ranking is updated on june. There is no any update for AJPCR on June 2020. Will there be no update in future??

reply

SCImago Team

Melanie Ortiz 4 years ago

Dear Sagar,

Thank you for contacting us. The SJR for 2019 is available just above.

Best Regards, SCImago Team

G

GAF 5 years ago

Dear journal Editor

Why can't I found my published paper on google scholar search? My paper is published on january 2020 volume 13.

Thanks

reply

SCImago Team

Melanie Ortiz 5 years ago

Dear GAF,

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

S

smitharaj.m 5 years ago

plz let me knw the asian journal of pharmaceutical sciences and clinical research.....cums under ugc list

reply

SCImago Team

Melanie Ortiz 5 years ago

Dear Sir,
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

V

Vinendra 5 years ago

What is the impact factor of AJPCR in 2018?
Please share

reply

SCImago Team

Melanie Ortiz 5 years ago

Dear Vinendra, 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

R

Ratih 5 years ago

Dear Scimago Team,
Does the Asian Journal of Pharmaceutical and Clinical Research still coverage by Scopus until 2019? Because I have opened the Scopus.com, it mentioned that this journal isn't coverage by scopus anymore. But in SCimago web, it mentions that the coverage is stil on going. What's that mean?

reply

SCImago Team

Melanie Ortiz 5 years ago

Dear Ratih, thank you very much for your comment. SJR has been updated on June 1, 2019. Each year Scopus provides us an update database and, according to that new information, indicators are calculated. Annual data updating can change journal's information. We're sorry for the inconvenience. Best Regards, SCImago Team

A **Abdullah Khan** 5 years ago

Dear sir, Asian Journal of Asian Journal of Pharmaceutical and Clinical Research is still indexed in SCOPUS or discontinued?

reply

SCImago Team

Melanie Ortiz 5 years ago

Dear Abdullah, 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

A **Asmaa mohammed** 5 years ago

Dear Elena,
Till now, Asian Journal of Pharmaceutical and Clinical Research present in SJR (2009-ongoing)
However, This journal is canceled in scopus source list 2019
I need to konw that this journal is present or cancelled

reply

SCImago Team

Melanie Ortiz 5 years ago

Dear user, thank you very much for your comment. SJR has been updated on June 1, 2019. Each year Scopus provides us an update database and, according to that new information, indicators are calculated. Unfortunately, we cannot provide data from previous years. We're sorry for the inconvenience. Best Regards, SCImago Team

Z **zaib** 6 years ago

Does Asian Journal of Pharmaceutical and Clinical Research is a fake journal?

reply

S **Sultan Alshahrani** 6 years ago

Does AJPCR have impact factor? Thanks

reply

M **Manoj Kumar Mudigubba** 6 years ago

Asian journal of pharmaceutical and clinical research is Elsevier indexed journal?

reply

Elena Corera 6 years ago

SCImago Team

Dear Manoj,

thank you for your request, all the journals included in SJR are indexed in Scopus. Elsevier / Scopus is our data provider.

Best Regards,
SCImago Team

A

Amn 6 years ago

Dear Elena
Do you advice me to publish my paper in which journal:
Indian journal of pharmaceutical sciences or
Asian journal of pharmaceutical and clinical research?
I want a journal powered by scopus now and for the next year.
Thanks

reply

S

Sangmesh 6 years ago

What is the difference between Simago and scopus

reply

Elena Corera 6 years ago

SCImago Team

Dear Sangmesh, Scopus is a bibliographic database of scientific journals, the most comprehensive in the world. SCImago Journal & Country Rank is a platform in which scientometric indicators of journals included in Scopus and countries are displayed. Best Regards, SCImago Team

A

Ashwani 6 years ago

Is Asian Journal of Pharmaceutical and Clinical Research is a scopus indexed journal?

reply

Elena Corera 6 years ago

SCImago Team

Dear Ashwani, all the journals included in the SJR are indexed in Scopus. Elsevier / Scopus is our data provider. Best Regards, SCImago Team

T

Tamara Amelia 6 years ago

we are beginner and want to publish our observation. We are interesting to publish it in this journal. could you tell us the price to publish in your journal? Thank you

Best regards,
Tamara Amelia
Faculty of Pharmacy
Universitas Indonesia

reply

B **Bayu Ardiansah** 6 years ago

It is currently 100 USD (2018)

SCImago Team

Elena Corera 6 years ago

Dear Tamara, we suggest you locate the author's instructions on the journal's website.
Best Regards, SCImago Team

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Source details

Asian Journal of Pharmaceutical and Clinical Research

Years currently covered by Scopus: from 2009 to 2018
(coverage discontinued in Scopus)

Publisher: Asian Journal of Pharmaceutical and Clinical Research
ISSN: 0974-2441 E-ISSN: 2455-3891

Subject area: Pharmacology, Toxicology and Pharmaceutics: Pharmaceutical Science | Medicine: Pharmacology (medical) | Pharmacology, Toxicology and Pharmaceutics: Pharmacology

Source type: Journal

CiteScore 2017
0.6

SJR 2019
0.139

SNIP 2021
0.519

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CiteScore | CiteScore rank & trend | Scopus content coverage

CiteScore 2017

$$0.6 = \frac{1{,}617 \text{ Citations } 2014 - 2017}{2{,}773 \text{ Documents } 2014 - 2017}$$

Calculated on 01 May, 2018

CiteScore rank 2017

Category	Rank	Percentile
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Medicine Pharmacology (medical)	#179/238	24th
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