



UNIVERSITAS MUHAMMADIYAH PROF. DR. HAMKA FAKULTAS FARMASI DAN SAINS

Islamic Center, Jl. Delima II/IV Klender, Jakarta Timur 13460 Telp. (021) 8611070, Fax. (021) 86603233

www.uhamka.ac.id, www.ffa.uhamka.ac.id, Email: ffa@uhamka.ac.id

SURAT TUGAS NOMOR: 556 /FFS/LL/2024

Pimpinan Fakultas Farmasi dan Sains, Universitas Muhammadiyah Prof. DR. Hamka dengan ini memberi tugas kepada :

Nama : apt. Rahmah Elfiyani, M.Farm.

Jabatan : Dosen FFS UHAMKA

Alamat : Islamic Center Jl. Delima Raya II/ IV, Perumnas Klender – Jakarta Timur

Tugas : Mengikuti poster presenter pada kegiatan The 4th ICOPMAP Conjunction With PEaRLS dengan judul "**Lactic acid clay mask formulation with plasticizer variations**"

Waktu : Jum'at - Sabtu, 06 – 07 September 2024

Penyelenggara : Fakultas Farmasi Militer UNHAN RI

Lain-lain : Setelah melaksanakan tugas agar memberikan laporan kepada Dekan atau kepada yang memberi tugas.

Demikian surat tugas ini diberikan untuk dilaksanakan dengan sebaik-baiknya sebagai amanah dan ibadah kepada Allah Subhanahu Wata'ala

Jakarta, 04 September 2024

Dekan,



Dr. apt. Hadi Sunaryo, M.Si.



POSTER PRESENTATION



POSTER SCHEDULE

Link: <https://bit.ly/4thICOPMAPMainRoom>

Friday, 6 September 2024

Pharmaceutical Chemistry

NO	TIME	NAME	TITLE
1	17.00-17.30	Gilang Bhakti Nusantara	Development and Validation of Glimepiride Analysis Methods in Dried Blood Spots (DBS) Using High-Performance Liquid Chromatography for National Health Security
2		Musadat Furqon Baihaki	Development and Validation of an Analytical Method for Artesunate in Urine Using Ultra-High-Performance Liquid Chromatography-Mass Spectrometry to Support Health Resilience
3		Okta Nursanti	STUDY OF INSILICO COMPOUNDS IN HERB AS ANTIDIABETES INHIBITOR MECHANISM OF THE DIPEPTIDYL PEPTIDASE-4 (DPP-4) ENZYME
5		Tafriani sucianti nesha	Taro tuber colocasia esculenta: optimization of pectin extraction and pectin characteristics
6		Retno Lia Sari	Validation of Analysis Method for Ketoconazole Incorporated in Niosomal Gel Preparation

Pharmaceutical Technology

NO	TIME	NAME	TITLE
1	17.00-17.30	Miftakul munir	Technetium-99m (99mtc) labelled solid lipid nanoparticles: radiotracer for drug delivery across the blood-brain barrier via trigeminal pathway
2		Rahmah Elfiyani	Lactic Acid Clay Mask Formulation with Plasticizer Variations
3		Septiana Tri Pamungkas	Formulation of Drug Delivery System of Niosome Ketoconazole using Non-Ionic Surfactants
4		Tegar Mulya Rahayu	Formulation of Paper Shampoo Containing Aloe Vera Extract With Strawberry Fragrance

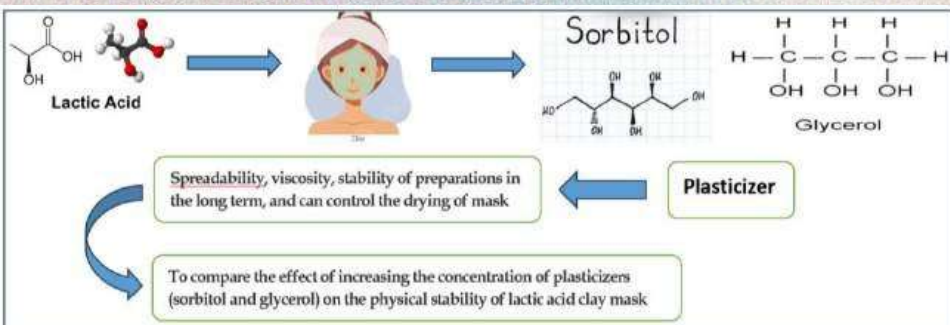
LACTIC ACID CLAY MASK FORMULATION WITH PLASTICIZER VARIATIONS

Rahmah Elfiyanti*, Yudi Srifiana, Feny Novriyanti, and Eka Diana Setyo Aprilianti

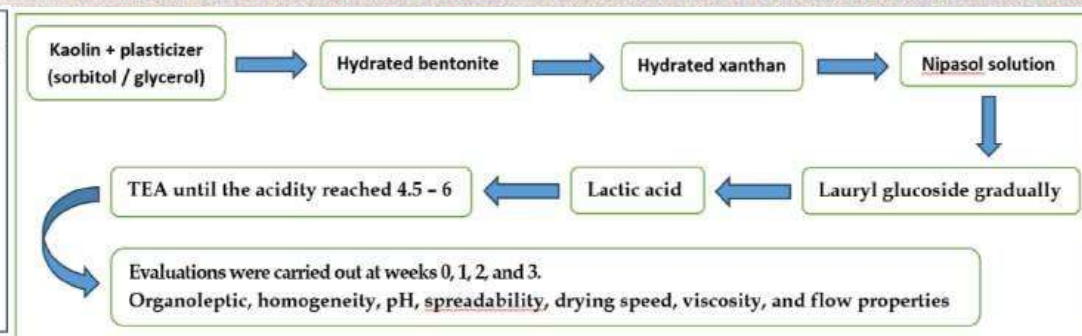
Department of Pharmaceutical Technology, Faculty of Pharmacy and Science, UHAMKA, Indonesia

*correspondence E-mail: rahmahelfiyani@uhamka.ac.id

INTRODUCTION



METHODS



RESULT

Table I. Physical stability of MCLAG

Evaluation	Time (week)	Glycerol (%)				
		0	2	3	4	5
pH value*	0	4.64 ± 0.04	4.82 ± 0.02	4.91 ± 0.02	4.97 ± 0.02	5.12 ± 0.06
	1	4.68 ± 0.03	4.89 ± 0.02	5.06 ± 0.08	5.24 ± 0.03	5.36 ± 0.04
	2	4.82 ± 0.04	5.17 ± 0.02	5.27 ± 0.02	5.38 ± 0.03	5.47 ± 0.04
	3	4.93 ± 0.03	5.22 ± 0.03	5.34 ± 0.04	5.44 ± 0.03	5.54 ± 0.05
	5	4.93 ± 0.03	5.22 ± 0.03	5.34 ± 0.04	5.44 ± 0.03	5.54 ± 0.05
Spreadability (cm)*	0	3.73 ± 0.03	3.49 ± 0.05	3.38 ± 0.03	3.24 ± 0.04	3.16 ± 0.03
	1	3.6 ± 0.03	3.34 ± 0.03	3.23 ± 0.03	3.14 ± 0.05	2.99 ± 0.02
	2	3.44 ± 0.04	3.22 ± 0.04	3.07 ± 0.02	2.98 ± 0.02	2.78 ± 0.01
	3	3.32 ± 0.02	3.11 ± 0.04	2.92 ± 0.04	2.78 ± 0.03	2.67 ± 0.03
	5	3.32 ± 0.02	3.11 ± 0.04	2.92 ± 0.04	2.78 ± 0.03	2.67 ± 0.03
Viscosity (cp)*	0	107.41 ± 0.21	108.11 ± 0.16	109.51 ± 0.34	110.50 ± 0.19	114.62 ± 0.31
	1	209.31 ± 0.36	220.73 ± 0.20	221.72 ± 0.21	231.60 ± 0.74	234.71 ± 0.13
	2	212.79 ± 0.77	233.03 ± 0.15	241.25 ± 0.27	246.20 ± 0.21	250.34 ± 0.23
	3	241.44 ± 0.15	251.59 ± 0.18	262.19 ± 0.12	274.39 ± 1.10	282.55 ± 0.62
	5	241.44 ± 0.15	251.59 ± 0.18	262.19 ± 0.12	274.39 ± 1.10	282.55 ± 0.62
Drying speed (minute)*	0	12.05 ± 0.40	12.68 ± 0.28	13.23 ± 0.03	13.71 ± 0.27	14.67 ± 0.33
	1	11.34 ± 0.05	11.68 ± 0.30	12.23 ± 0.03	12.63 ± 0.32	13.15 ± 0.04
	2	11.15 ± 0.02	11.37 ± 0.03	12.04 ± 0.04	12.24 ± 0.03	13.04 ± 0.03
	3	10.57 ± 0.02	11.25 ± 0.04	11.53 ± 0.03	12.10 ± 0.03	12.53 ± 0.04
	5	10.57 ± 0.02	11.25 ± 0.04	11.53 ± 0.03	12.10 ± 0.03	12.53 ± 0.04

*n = 3

Table II. Physical stability of MCLAS

Evaluation	Time (week)	Sorbitol (%)				
		0	2	3	4	5
pH value*	0	4.68 ± 0.02	4.87 ± 0.02	4.91 ± 0.03	4.98 ± 0.01	5.06 ± 0.02
	1	4.7 ± 0.01	4.89 ± 0.01	4.97 ± 0.02	5.05 ± 0.06	5.10 ± 0.01
	2	4.76 ± 0.02	5.08 ± 0.09	5.21 ± 0.05	5.33 ± 0.03	5.43 ± 0.01
	3	4.83 ± 0.04	5.09 ± 0.09	5.23 ± 0.06	5.36 ± 0.01	5.46 ± 0.01
	5	4.83 ± 0.04	5.09 ± 0.09	5.23 ± 0.06	5.36 ± 0.01	5.46 ± 0.01
Spreadability (cm)*	0	3.78 ± 0.09	3.62 ± 0.07	3.61 ± 0.02	3.55 ± 0.02	3.52 ± 0.01
	1	3.43 ± 0.06	3.42 ± 0.04	3.41 ± 0.05	3.37 ± 0.01	3.19 ± 0.12
	2	3.40 ± 0.01	3.26 ± 0.04	3.19 ± 0.01	3.17 ± 0.01	3.10 ± 0.02
	3	3.34 ± 0.02	3.25 ± 0.01	3.18 ± 0.01	3.17 ± 0.00	2.97 ± 0.05
	5	3.34 ± 0.02	3.25 ± 0.01	3.18 ± 0.01	3.17 ± 0.00	2.97 ± 0.05
Viscosity (cp)*	0	110.73 ± 0.31	112.87 ± 1.86	114.77 ± 0.93	115.06 ± 0.58	118.53 ± 1.10
	1	240.20 ± 0.20	250.67 ± 0.11	250.77 ± 0.68	252.33 ± 1.10	265.36 ± 1.06
	2	241.03 ± 0.68	261.13 ± 1.79	268.00 ± 7.03	272.03 ± 1.91	273.53 ± 0.01
	3	278.23 ± 0.03	278.48 ± 0.16	279.74 ± 0.46	280.83 ± 0.63	292.71 ± 0.27
	5	278.23 ± 0.03	278.48 ± 0.16	279.74 ± 0.46	280.83 ± 0.63	292.71 ± 0.27
Drying speed (minute)*	0	11.52 ± 0.07	12.59 ± 0.04	13.39 ± 0.15	14.18 ± 0.15	15.08 ± 0.11
	1	11.30 ± 0.17	12.47 ± 0.16	13.17 ± 0.17	13.79 ± 0.45	14.49 ± 0.1
	2	11.25 ± 0.14	12.36 ± 0.14	12.95 ± 0.32	13.40 ± 0.22	14.18 ± 0.06
	3	10.92 ± 0.36	12.08 ± 0.06	12.49 ± 0.08	13.10 ± 0.06	13.52 ± 0.07
	5	10.92 ± 0.36	12.08 ± 0.06	12.49 ± 0.08	13.10 ± 0.06	13.52 ± 0.07

*n = 3

CONCLUSION

The use of sorbitol and glycerol has the same effectiveness as a plasticizer in increasing the physical stability of lactic acid clay mask preparations.

ACKNOWLEDGEMENT

This research was funded by UHAMKA research institute (LEMLIT UHAMKA) batch 2 with No. contract 273/F.03.07/2022

REFERENCES

- Ahmad FJ, Ali J, Iqbal MK, Narang JK. Pharmaceutical Sciences Cosmetics. New Delhi : Pathshala. 2017
- El Enshasy HA, Ramzi AAA, Azzam A, Nor ZO, Roslinda AM, Ong ML, Ramlan A. Lactic acid applications in pharmaceutical and cosmeceutical industries. J. Chem. Pharm. Res., 2015; 7(10):729-735
- Chen MJ, Liu JR, Sheu JF, Lin CW, Chuang CL. Study on Skin care Properties of Milk Kefir Whey. Asian-Aust. J Anim Sci. 2006; 6(19):905-908

LACTIC ACID CLAY MASK FORMULATION WITH PLASTICIZER VARIATIONS

Rahmah Elfiyani*¹, Yudi Srifiana¹, Feny Novriyanti¹, and Eka Diana Setyo Aprilianti¹

¹ Department of Pharmaceutical Technology, Faculty of Pharmacy and Science, Universitas Muhammadiyah Prof. DR. HAMKA, Indonesia

*correspondence E-mail: rahmahelfiyani@uhamka.ac.id

ABSTRACT

Lactic acid is very beneficial for skin health because it can inhibit the growth of acne-causing bacteria, can moisturize, and is able to remove dead skin cells. This compound has the potential to be formulated in clay mask preparations. One of the components of a clay mask is a plasticizer which aims to increase long-term stability and control the drying of preparations. This study designs to compare the effect of sorbitol and glycerol as plasticizers on the physical stability of lactic acid clay masks. Clay masks of lactic acid were made with plasticizer concentrations of 0%, 2%, 3%, 4%, and 5%, then evaluated (organoleptic, homogeneity, pH, spreadability, viscosity, and flow properties) for 3 weeks. Furthermore, statistical analysis was done using two-way ANOVA and Friedman on the evaluation results with a p-value <0.05. Lactic acid clay mask with sorbitol has a range of pH values 4.68 – 5.46, spreadability 2.97 – 3.78 cm, drying speed 10.92 – 15.08 minutes, viscosity 110.73 – 292.71 cps, and thixotropic plastic flow properties. Whereas masks with glycerol had a pH value range of 4.64 – 5.54, spreadability 2.67 – 3.73 cm, drying speed 10.57 – 14.67 minutes, viscosity 107.417 – 282.550 cps, and thixotropic plastic flow properties. It can be concluded that the use of sorbitol and glycerol has the same effectiveness as a plasticizer in increasing the physical stability of lactic acid clay mask preparations.

Keywords: Clay mask; Glycerol; Lactic acid; Physical stability; Plasticizer; Sorbitol