



# International Journal of Multidisciplinary Research and Growth Evaluation.

## Formulation and Evaluation of Rotigotine Transdermal Patches

**D Srilatha<sup>1\*</sup>, Dr. CH Kantlam<sup>2</sup>, A Nithin<sup>3</sup>, Adil Hussain<sup>4</sup>, Animesh<sup>5</sup>, Ankush Biradar<sup>6</sup>, B Nithin Kumar<sup>6</sup>**

<sup>1</sup> Assistant Professor, Department of Pharmaceutics, Brilliant College of Pharmacy, Abdullapurmet Village, Hayathnagar, Rangareddy, Telangana, India

<sup>2</sup> Professor, Department of Pharmacy, Brilliant College of Pharmacy, Abdullapurmet Village, Hayathnagar, Rangareddy, Telangana, India

<sup>3-6</sup> Department of Pharmacy, Brilliant College of Pharmacy, Abdullapurmet Village, Hayathnagar, Rangareddy, Telangana, India

\* Corresponding Author: **D Srilatha**

---

### Article Info

**ISSN (online):** 2582-7138

**Volume:** 06

**Issue:** 04

**July - August 2025**

**Received:** 02-05-2025

**Accepted:** 03-06-2025

**Published:** 04-07-2025

**Page No:** 764-766

### Abstract

The Indonesian government is currently focused on improving the quality of Human Resources (HR), particularly in the fields of science and technology, to address the challenges of the Industrial Revolution 4.0. In response, the Ministry of Education, Culture, Research, and Technology (Kemendik budristek) launched the Merdeka Belajar-Kampus Merdeka (MBKM) policy through Permendikbud No. 3 of 2020, reinforced by Permendik budristek No. 53 of 2023. This policy encourages universities to develop flexible curricula, allowing students to take learning experiences outside their study programs for up to three semesters. One of the MBKM initiatives is the Teaching Assistant Program (Kampus Mengajar), where students contribute to strengthening literacy, numeracy, and technology application in partner schools, including those in remote areas.

This study analyzes the implementation of the Teaching Assistant Program at SD Negeri Masangankulon, Sidoarjo, focusing on improving the learning quality of 5th-grade students in subjects such as Bahasa Indonesia, Mathematics, Science and Social Studies (IPAS), and Civics (PKN). The research method includes participatory observation, learning mentoring, and competency-based evaluation. The results show an increase in student motivation, mastery of literacy and numeracy, and creativity in the learning process. Student participants also experienced improvements in pedagogical skills, environmental adaptation, and social awareness. The main challenges include technological infrastructure gaps in partner schools and the need for intensive mentoring by supervising lecturers.

This study recommends strengthening the program through: (1) pre-participation training for students, (2) collaboration with local education offices, and (3) the use of digital technology to support learning. With optimal implementation, the Teaching Assistant Program not only contributes to educational equity but also prepares students to become competent and character-driven future leaders.

**Keywords:** Adaptive Learning, Inclusive Education, Literacy and Numeracy, Teaching Assistant

---

### 1. Introduction

The government is currently focused on improving the quality of Human Resources (HR), particularly in science and technology. Universities play a crucial role in producing graduates capable of competing in the era of the Industrial Revolution 4.0, which has transformed mindsets in education (Sri Dewi Anggadini *et al.*, 2022) [4]. Since the launch of the Merdeka Belajar-Kampus Merdeka (MBKM) policy in 2020 through Permendikbud No. 3 of 2020, various innovative initiatives in campus environments have flourished. This policy was further strengthened by Permendikbudristek No. 53 of 2023 on Quality Assurance in Higher Education, which allows students to take learning experiences outside their study programs for up to three semesters (Ministry of Education, Culture, Research, and Technology, 2024). Through this program, students are encouraged to independently

acquire knowledge through direct practical experiences.

MBKM helps prepare students for global competition, enriches their knowledge, and allows them to explore disciplines beyond their fields of study (Sulistiyan *et al.*, 2021) <sup>[6]</sup>. The Merdeka Belajar-Kampus Merdeka (MBKM) offers eight types of activities for students, including: (1) student exchange programs, (2) thematic Community Service (KKN), (3) independent learning, (4) entrepreneurship development, (5) social action, (6) research activities, (7) industrial work training, and (8) teacher assistance programs in schools (Dikti, 2020). Among these options, the Ministry of Research, Technology, and Higher Education specifically facilitates the Teaching Assistant Program, known as Kampus Mengajar. The Teaching Assistant Program is an integral part of the MBKM curriculum (Saehana *et al.*, 2021). This program is designed to optimize student potential through partnerships with educational institutions. Students involved in the Teaching Assistant Program have three core responsibilities: 1) supporting numeracy learning, 2) facilitating literacy development, and 3) assisting in the application of technology in school environments (Sub Pokja Kampus Mengajar, 2021). Although diverse and complex, these responsibilities provide valuable opportunities to hone soft skills such as leadership, teamwork, empathy, and creative thinking—competencies highly beneficial for preparing students for the post-graduation workforce.

As a tangible contribution to national educational progress, Universitas Airlangga supports the Kemendikbud Teaching Assistant Program by involving students in teaching at various educational levels, including remote areas. This program aims to minimize educational disparities and connect schools with university developments. Supervising lecturers provide intensive mentoring through training and evaluation, enabling students to develop competencies while contributing to the education system (Unair, 2024).

Several studies have examined the implementation of the Teaching Assistant Program, including research by Diyan Nurhasanah and Nopianti (2019) <sup>[2]</sup> at SDN 48 Bengkulu Tengah. In their study, the researchers applied several intervention methods, such as: (1) direct teaching and learning activities, (2) mentoring in technology application at schools, and (3) assistance in educational administration. The findings revealed that the program successfully developed students' empathy for social issues, enhanced interdisciplinary collaboration skills, and strengthened the contribution of higher education institutions and students in supporting national development (Diyan Nurhasanah & Nopianti, 2019) <sup>[2]</sup>.

SD Negeri Masangankulon in Peterongan Village, Sukodono District, Sidoarjo Regency (accredited A) is a partner in implementing the Teaching Assistant Program. This community service activity involves teaching 5th-grade students in subjects such as Bahasa Indonesia, Javanese Language, Science and Social Studies (IPAS), Pancasila, Civics (PKN), and Mathematics, with an emphasis on literacy development and student creativity. The program is designed to foster leadership and independent learning among students while providing valuable educational experiences. It is hoped that this initiative will improve the quality of learning at SD Negeri Masangankulon, especially for all 5th-grade students targeted in this program.

## 2. Methods

The teaching assistant activities were conducted offline from

April 9, 2025, to May 21, 2025, with sessions held every Monday, Wednesday, Thursday, Friday, and Saturday. If there were holidays during this period, teaching activities were also suspended. The activities took place at SD Negeri Masangan Kulon, Jalan Peterongan, Masangan Kulon, Sukodono District, Sidoarjo Regency, East Java. The target teaching class was 5th grade, with 83 students. The activities carried out during the teaching assistant program at SD Negeri Masangan Kulon included:

1. Introduction to the teaching staff and all 5th-grade students.
2. Teaching materials prepared by the school through student activity sheets.
3. Delivering lessons according to the students' daily subject schedules.
4. Guiding students in completing exercises on the activity sheets.
5. Reviewing answers through joint discussions with students on their completed activity sheets.
6. Participating in all other school activities (outside the main teaching activities).

## 3. Results and Discussion

### 3.1 Results

The author conducted various activities during the teaching assistant program. One of these was academic activities, where the author assisted educators in classroom learning, including delivering teaching materials in an easily understandable manner and assigning tasks to test students' understanding. The author also introduced innovative teaching techniques, such as child-friendly methods, ice-breaking sessions, and motivating students to pursue higher education.

In non-academic activities, the author actively participated in flag ceremonies held every Monday morning. As part of the school's community service program, the author helped maintain student discipline during these ceremonies. Additionally, the author attended the flag ceremony commemorating National Education Day, followed by student performances showcasing the talents of outstanding students at SD Negeri Masangan Kulon. Thus, the author's role extended beyond teaching to include mentoring and supporting students' character and skill development.

### 3.2 Discussion

The author and teaching staff were responsible for delivering lessons professionally according to the scheduled subjects at SD Negeri Masangankulon. Every Monday morning, a flag ceremony was held from 7:00 AM to 7:30 AM, involving the entire school community. On Wednesdays and Saturdays, students participated in morning exercises from 7:00 AM to 7:30 AM, led by student instructors. These activities promoted physical health and served as a refreshing break. Every Friday morning, students cleaned the school environment, fostering a sense of responsibility for cleanliness.

The teaching assistant program began with introductions to all 5th-grade students (classes 5A, 5B, and 5C). Lessons were delivered using materials provided by the school, such as student activity sheets (LKS). The author was assigned to teach subjects according to the school's schedule, with approximately 6 hours of teaching per week in each class.

The subjects taught included Bahasa Indonesia, Javanese

Language, Science and Social Studies (IPAS), Pancasila, Mathematics, and P5. Among these, students showed the most enthusiasm for P5, while they struggled with Javanese Language, particularly in writing Javanese script. P5 was popular due to its diverse and less complex topics, whereas Javanese Language required patience and precision, with many unfamiliar terms rarely used in modern contexts.

Independent learning is essential for both students and educators, as it fosters a deeper understanding of subjects. However, implementing this approach requires patience and repetitive practice. Independent learning is closely tied to literacy culture, particularly in subjects like IPAS, Pancasila, and Bahasa Indonesia. Students must cultivate reading habits to grasp the material fully.

During the program, the author promoted independent learning to encourage literacy habits. This included assigning tasks for students to complete independently, encouraging questions about the material, reviewing lessons after school, practicing additional exercises beyond the activity sheets, and other literacy-building activities to enhance learning quality and character.

The author aimed to be a professional teaching assistant by introducing enjoyable learning methods to boost student motivation and performance. Through independent learning-based teaching, the author hopes to contribute to SD Negeri MasanganKulon, especially for 5th-grade students, by instilling habits they will remember beyond school.

#### 4. Conclusion

The Teaching Assistant Program significantly improved student understanding through additional guidance. Simultaneously, the author, as a teaching assistant, gained valuable experience in classroom management and collaboration with teachers. The program also enhanced communication and problem-solving skills, particularly in addressing students with varying comprehension levels. A more personalized approach increased student motivation and allowed for direct feedback on their difficulties.

#### 5. Thank-You Note

The author would also like to thank Mr. Dr. Ardi Kurniawan, M.Si, as the supervisor in the research internship course, Statistics Study Program, Airlangga University, for their assistance and support in the process of working on this research article.

#### 6. References

1. Anwar RN. Pelaksanaan Kampus Mengajar Angkatan 1 Program Merdeka Belajar Kampus Merdeka di Sekolah Dasar. *J Pendidik Kewirausahaan*. 2021;9(1):210-9.
2. Nurhasanah AD, Nopianti H. Peran Mahasiswa Program Kampus Mengajar Dalam Meningkatkan Kompetensi SDN 48 Bengkulu Tengah. *Peran Mhs Progr Kampus Mengajar*. 2019;166-73.
3. Saehana S, Ali M, Darsikin D, Nurgan N, Ratnaningtyas DI. Pelatihan Penggunaan Learning Management System (LMS) bagi Guru Sebagai Mitra Asistensi Mengajar Program MBKM Prodi Pendidikan Fisika FKIP Universitas Tadulako. *Bubungan Tinggi J Pengabd Masy*. 2021;3(4):441.
4. Anggadini SD, Surtikanti, Rahayu SK, Komala AR, Puspitawati L, Astuti WA. Persepsi Mahasiswa Atas Kegiatan Merdeka Belajar Kampus Merdeka (MBKM) Di Lingkungan Prodi Akuntansi Unikom. *J Pendidik*. 2022;23(1):64-76.
5. Stefanus P, Panatra V, Prasetya M, Tiatri S. Gambaran MBKM Asistensi Mengajar Di SMP X Kota Tangerang. *Serina Iv Untar*. 2022;481-8.
6. Sulistiyani E, Khamida, Soleha U, Amalia R, Hartatik S, Putra RS, *et al*. Implementasi Merdeka Belajar Kampus Merdeka (MBKM) pada Fakultas Kesehatan dan Non Kesehatan. *Edukatif J Ilmu Pendidik*. 2021;4(1):686-98.
7. Sumadi, Kusumaningrum S, Rahayu D. Implementasi Model Evaluasi Context, Input, Process, and Product (CIPP) dalam Program Asistensi Mengajar di SD Inpres 12 Kabupaten Sorong. *Mathema J Pendidik Mat*. 2023;5(1):26-8.
8. Suwanti V, Suastika IK, Ferdiani RD, Harianto W. Analisis Dampak Implementasi Program MBKM Kampus Mengajar Pada Persepsi Mahasiswa. *J Pendidik Pengajaran*. 2022;6(3):814.
9. Universitas Airlangga. Asistensi Mengajar. 2024 [cited 2024 July 3]. Available from: <https://mbkm.unair.ac.id/asistensi-mengajar/>
10. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. Profil Sekolah SD Negeri Masangan Kulon. 2025 [cited 2025 June 27]. Available from: <https://dapo.dikdasmen.go.id/sekolah/F33FEA76DEB9AB15A63E>