

COMPARISON OF MEDICAL EDUCATION SYSTEMS IN GERMANY AND SINGAPORE

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ABSTRACT

The research objectives were (1) to study medical education in Germany and Singapore, and (2) to examine the comparison of medical education between Germany and Singapore. The research method used is literature study research. This method is concerned with collecting data from literature (literature and digital literature) as well as internet searching or online searches through websites such as Google.

The research results show that: (1) The medical education system in Germany: (a) aims to form qualified, autonomous and independent doctors; (b) length of education 6 years and 3 months; (c) a unique education system, which is free and mention of a title that is different from other countries; (d) the curriculum refers to the 2002 Regulation of the Licensing of Doctors policy to produce doctors who have professional competence, scientific competence and social or personal competence; (e) the evaluation system concerns: institutional evaluation, systems (business processes), curriculum, and (f) its advantages, including: as a world-class education center. (2) The Medical Education System in Singapore, (a) aims to be the most innovative, best performing and trusted healthcare institution in the world; b) length of education 5 (five) years); (c) the peculiarities of the education system, including: adhering to a bilingual education system based on English in addition to ethnicity (Mandarin, Malay and Tamil); (d) curriculum, consisting of various models, such as system -based, case -based and discipline -based learning ; (e) the evaluation system consists of evaluation (assessment) for learning—standards, assessment for continuous learning, and assessment for integrating holistic learning; and (f) the advantages of the education system, namely: career opportunities as world-class doctors and having an international cooperation network.

Keywords: comparison of medical education systems, Germany and Singapore .

INTRODUCTION

INTRODUCTION

Education is the most basic need for mankind, all developed nations always prioritize the education sector as a primary need, as well as food and shelter needs. In order for the existence of a nation to continue to survive and even transform into a modern state, the main choice is to prioritize the education sector.

The existence of awareness that education is a strating point towards an advanced and independent society, it is necessary to organize education management from all aspects. One of the important points that must be paid attention to is the understanding of policy makers in order to make comparisons (comparisons) with various countries and take them as lessons learned . It is hoped that the results of comparative education in developed countries will be able to improve, improve and rearrange educational policies that have been implemented so far.

Higher education in the field of medicine that can be used as best practice by Indonesia is Germany and Singapore. The Federal Republic of Germany, Bundesrepublik Deutschland (German) or Federal Republic of Germany (English), is one of the countries in Europe which is the mecca of science and technology, this country is the belle of students from various countries. Around 13 percent, foreign students study in Germany because of various policies and conveniences. Likewise, Singapore (Republic of Singapore) although classified as a small country, is the center of various business, education and health activities. Singapore has become one of the centers of medical and health education in the world, even now the trend of Indonesian upper class society for medical tourism in Singapore is in first place, which is around 47 percent (<https://id.wikipedia.org/wiki> and <https://kebijakakanhealthindonesia.net/25>). Referring to this phenomenon, it is deemed necessary to conduct a study on "Comparison of Medical Education in Germany and Singapore" through the method of literature study.

Formulation of the problem

How is medical education in Germany and Singapore?

How does medical education compare between Germany and Singapore?

Objective

Studied medical education in Germany and Singapore

Examines the comparison of medical education between Germany and Singapore

METHOD

In a study entitled "Comparison of Medical Education in Germany and Singapore", using a literature study research method. This method is concerned with collecting data from literature (literature and digital literature) as well as internet searching or online searches through websites such as Google. (Milya Sari and Asmendri, 2020).

RESULTS AND DISCUSSION

Medical Education in Germany

Medical education goals

The general goal of medical education in Germany is "Medical education [must produce] a doctor who is scientifically and practically qualified in the field of medicine and is able to practice medicine independently and autonomously as well as take part in postgraduate education and continuing education" (Christoph Nikendei, et al; 2009: 591).

Length of time of education

In Germany, the regular length of time required to complete an undergraduate medical/general practitioner program is six years and three months (6 years and 3 months), which consists of three parts, namely: basic science (two years), clinical science (three years) and the remainder are late clinical stages. After studying General Medicine, in order to be able to practice and gain recognition in the medical profession, one must go through a state examination (staatsexamen) . In Indonesia it is referred to as the Student Competency Test for the Doctor or Dentist Profession Program (UKMPPD). If these 'certified' general practitioners wish to continue to the specialist level, then it will take another six years depending on the major chosen. (<https://suneducationgroup.com>).

The peculiarities of the education system

As in various countries, the entry requirements at the Faculty of Medicine are considered "severe" because they are related to strict academic abilities (the grades from high school must meet the criteria). For prospective students from abroad, it is highly recommended to master the German language because generally the learning process is in that country's language, although there are also universities that use the language of instruction in English. Language mastery is very important considering it can facilitate the learning process, therefore mastery must reach Level C1 (highest mastery score). The peculiarity of medical education in Germany is also related to exams where no grades are given on faculty exams, individual scores are given in the form of a Qualification Certificate, namely a state examination (staatsexamen) (Christoph Nikendei, et al (2009)).

Curriculum and learning system

In the publication of the Faculty of Medicine München (<https://www-med-tum>), it is stated that since 2011/2012 there has been a reform of the medical education curriculum, the main aim of which is to adapt teaching to the modern medical profession and new findings in medical didactics. The curriculum consists of the first section: the Nonclinical phase (Vorclinic): Continuous interdisciplinary lectures are carried out during the first three years, and the clinical phase of the "Clinical Practice" stage: among others: "basic health checks" guided by trained and certified tutors, as well as basic and essential skills, as well as "special examinations" taught by specialist doctors; before entering the Bedside Teaching practice stage (practice stage) with the term *Practicalches Jahr*, block apprentice. The specialty of the medical profession education there, medical students can choose between two choices of medical education models, namely Regelstudiengang and Modellstudiengang. If you choose the Regelstudiengang Model, the type of learning is divided into 2, namely: theory (Vorklinik) and practice (Clinic) And if you choose The study model is a learning model that combines theory and practice simultaneously from the early days of lectures. Both types have a study period of between 6.5 - 7.5 years, depending on whether the student is taking a degree or not. The targeted medical competence consists of three dimensions, namely: professional competence, scientific competence and social competence. Before the exam, medical students are required to attend ErsteHilfeKurs and Pflegepracticum classes. Erste Hilfe Courses are followed for 1-2 days outside of the lecture process. Pflegepracticum is carried out for ± 3 months in a hospital or health clinic without interrupting lecture hours. After going through all the stages they get a doctor alias "Arzt" without any degree. If you want to take the title "Dr.Med" (doctor medicinae/Doktor der Medizin) you have to take something called Doktorarbeit, and this process takes about one to two years, you can tuck in between lectures or taking their own time, so sometimes the term of medical study itself can still change depending on the student If you are continuing a specialist program, then doctors who want to continue to specialist level can register directly at the clinic or at the hospital who are as interested as people looking for work. Usually on the website every hospital has also prepared a list of what specialists are being offered, where in the hospital they will work as assistants (like Residents in Indonesia).

Educational evaluation system

Whereas based on the evaluation results of 37 Medical Faculties in Germany in March 2000, it shows that the evaluation system is carried out, among others: On the policy aspect by evaluating: institutional (institutional), systemic (business processes), and

curriculum, Evaluation system related to Assessment teaching quality and assessment of teacher performance (lecturers and professors). (Weber, 2001), Student evaluation system. There are three levels of state exams that will be passed before obtaining a doctor's degree in Germany; After studying four semesters and passing all exams, students are required to take part in *the first Staatsexamen* or commonly referred to as "Physikum". include proof that they have been doing *Famatur* for four months. After a full year in the *Practicalches Jahr phase*, we are required to take part in the third *Staatsexamen*, commonly called *the Hammerexamen*. The final exam to become a doctor. The evaluation of license to practice medicine is done through a state examination (staatsexamen).

Financing System

Germany facilitates budgets and subsidies in the field of education for its citizens, so that the cost of education in Germany can be said to be free from kindergarten to university. The exemption from tuition fees is intended for state/public universities (state universities). As for private/private campuses, they still have to pay [some tuition fees](#) per semester. (lifepal.co.id, 19 August 2021), but there are administration fees whose amount varies depending on the provisions of each tertiary institution, which are used to obtain other facilities such as campus area transportation; the value is IDR 1.7 million or 100 Euros per semester. Specifically for medical school education, the funding required is for semester contributions twice a year with values ranging from 200 - 300 Euros per semester. (<https://suneducationgroup.com>, November 18, 2020). However, private universities still charge tuition fees. Private universities usually manage their own finances, while some receive assistance from certain foundations.

The advantages of the education system in Germany

According to the HC Indonesia Editor (2021), there are several advantages to the education system (all faculties including medicine) in Germany, namely: Quality educational institutions in Germany; in 2010, there were six of the best universities in the world in Germany, which were included in the 200 best ranking category of THE QS World University Rankings (Rohman, 2013: 149). Free education fees; both domestic and international students receive scholarships except for certain qualifications at low cost. Get job opportunities in Germany; post-study, international students are allowed to work for up to 18 months in Germany (this is the longest time compared to all countries in Europe); Many choices of popular study programs; although the most popular are engineering and law, other study programs such as Medicine are in great demand by prospective students.

Medical Education in Singapore

Educational Goals

In the MCF 2023 Strategic Planning Lead, it is stated that the goal (medical education) in Singapore is "to become the most innovative, best performing and trusted healthcare institution in the world" (<https://www.mycareersfuture.gov.sg>). There are several world-class Medical Faculties in Singapore, one of which is the National University of Singapore (NUS); is the first and largest medical school in Singapore, founded in 1905. Its vision is "Inspiring Health for All". Its mission is: To be a Fostering center for highly competent, value-driven, and inspired healthcare professionals to transform medical practice and improve health worldwide.) (<https://medicine-nus-edu>).

LONG TIME OF EDUCATION / FINANCING

Singapore offers medical bachelor degrees called Bachelor of Medicine and Bachelor of Surgery (MBBS) with a duration of 5 (five) years consisting of: introduction at the beginning of the year and students will be allowed to take elective study programs (optional) starting in the 2nd year 3 onwards (<https://www.fakultaskedokteran.id>). Graduates obtain the title Doctor of Medicine (MD) or PhD which is awarded jointly by two world-class institutions, Duke University and NUS (<https://www.hotcourses.co.id>).

[The cost of education also depends on the faculty, study program and major chosen as well as the qualifications of the higher education institution \(public or private\). Tuition fees for health and medical courses in Singapore range from Rp. 185 million to around Rp. 800 million per year \(https://www . easyuni.co.id \)](https://www.easyuni.co.id)

The peculiarities of the education system in Singapore

Hanin (<https://www.academia.edu>) there are several unique characteristics of education in Singapore , including : about 2 years. After that they can continue at the higher education level, so there are conditions for students to enter higher education; and also Before entering college, high school students are prepared to be ready to enter the world of work. So that when you graduate, you will have no difficulty in finding a job or the education system is designed to minimize the width of link and match between universities and the job market.

Curriculum and learning system

Singapore applies various curriculum models, such as system -based, case - based and discipline -based learning. This is an effort to provide balanced and varied learning. (Ministry of Health 2014). Whereas to guarantee the quality of medical education, the Ministry of Health (MOH) appointed the Singapore Medical Council (SMC) in compiling the National Medical Curriculum. Singapore medical education divides the curriculum into 5 (five) phases. Stages 1 and 2 consist of general subjects related to medicine and human anatomy. They build students' basic knowledge. Phases 3, 4 and 5 dig deeper into the field and teach specifics of medicine and surgery. students are given the option to choose options in these last three phases. <https://www.ican-education.com/blog>. Students also have the opportunity to spend a semester abroad as exchange students at more than 20 leading international medical schools, over two elective periods in Stages III and IV. Stage V marks the beginning of the transition to becoming a practicing physician, where students will be added to the healthcare team in hospitals and clinics and perform similar functions to junior doctors under supervision.

Educational evaluation system

In an article examining the meaning and impact of 'Assessment for Learning' initiatives in schools against the backdrop of assessment reforms in Singapore since 1997 , three areas for improvement were suggested, namely: Assessment for Learning—clear standards for effective feedback practices ; Assessment for continuous learning, and Assessment for integrating holistic learning.

Advantages of the education system

Opportunities for a career as a world-class doctor, considering that Singapore has an international cooperation network, has world-class educational qualifications (top 30 according to rankings from (World University Rankings) and has quality educational training activities (<https://www.easyuni.co.id>). Currently NUS is developing an

Proceedings of International Seminar on Indonesian Lecturer is Born to Report Regularly education and learning system with a modular system (a lecture system that is flexible and student-centered). others (<https://campus.quipper.com>).

Comparison of German and Singapore Medical Education

Based on the results of a review through a study of medical education literature in Germany and Singapore which includes aspects of objectives, length (time duration), characteristics of the education system, curriculum, evaluation system and excellence of the education system) it can be juxtaposed to show that the two countries (Germany and Singapore) are developed countries. in the field of world class medical and health professional education so that it should be used as a lesson learned by Indonesia, especially from the aspects of the uniqueness of the education system, curriculum, evaluation system.

CONCLUSION

The medical education system in Germany: (a) aims to form qualified, autonomous and independent doctors; with the n Curriculum referring to the 2002 Regulation of the Licensing of Doctors policy .

The Medical Education System in Singapore, (a) aims to be the most innovative, best performing and trusted healthcare institution in the world; with various curriculum models.

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