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Research Article

Understanding Medical Students' Knowledge of Public Health in the Medical Community Service Program for Underserved, Border, and Outer Island Areas

Indra Adi Susianto [1,*], Perigrinus H Sebong [2], Henrita Ernestia [3], Matilda Stella Pradnya [4], Aprilia Karen Mandagie [5], Fransisca Pramesshinta Hardimarta [6]
[1] Universitas Katolik Soegijapranata, Semarang, Indonesia, indraadisusianto@unika.ac.id
[2] Universitas Katolik Soegijapranata, Semarang, Indonesia, per@unika.ac.id
[3] Universitas Katolik Soegijapranata, Semarang, Indonesia, henrita@unika.ac.id
[4] Universitas Katolik Soegijapranata, Semarang, Indonesia, matilda@unika.ac.id
[5] Universitas Katolik Soegijapranata, Semarang, Indonesia, aprilia@unika.ac.id
[6] Universitas Katolik Soegijapranata, Semarang, Indonesia, fransisca@unika.ac.id
***corresponding author**

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Abstract:

Backgorund: The ideal doctor-to-population ratio in health centers is 1:2500; however, some centers, such as Public Health Care, still face a shortage of doctors today. Data from the Ministry of Health in 2024 shows that underserved, border, and outer island areas (DTPK) have fewer doctors. One reason for the uneven distribution is the lack of understanding about the management of health centers, which are the frontline of prevention and treatment efforts in the community. As a result, doctors in health centers feel overwhelmed by their workload because they do not understand non-medical tasks. Objective: To compare the understanding levels of medical students who participated in the Soegijapranata Community Project (SCP) program before joining the Faculty of Medical Community Service Program (KKN). Methods: This study is descriptive with a quantitative approach. The researchers used an open-ended questionnaire to gather data. The population included students from the Faculty of Medicine in 2019 who had not taken the SCP course, compared to those in 2020 who had taken it, with each group consisting of 50 students. The researchers used random sampling techniques. The validity of the instrument was tested with the Pearson correlation method, and the reliability was assessed using a Likert scale. Results: The study shows that students from the 2020 intake who received SCP have higher understanding levels than those who did not receive it SCP. Conclusion: The SCP program helps medical students analyze problems during KKN for Underserved, Border, and Outer Island Areas.

Keywords: Medical Students; Community Service Program; Doctor's Ratio; Shortage of Doctors.

Introduction:

Indonesia continues to experience unequal distribution of healthcare workers, especially doctors, across underserved, border, and outer island regions (Daerah Terpencil, Perbatasan, dan Kepulauan—DTPK). According to the Ministry of Health, Indonesia still falls short of the ideal doctor-to-population ratio of 1:2,500, while many DTPK PHC centers report ratios far below the national standard, with some remote districts having only 1 doctor per 10,000–20,000 people (Kemenkes, 2023). This disparity threatens progress toward the National Health System (SKN) goals and Indonesia's commitment to Universal Health Coverage (UHC), which emphasizes equitable access to primary healthcare services. (1-3)

In response, the Indonesian government has implemented policies such as Nusantara Sehat, Pendayagunaan Tenaga Kesehatan Strategis, and incentives for remote-area placements to encourage medical professionals to serve in high-need regions. (4) However, these efforts are often hindered by factors such as limited infrastructure, geographical isolation, and the lack of preparation among new doctors for the administrative, managerial, and community-based responsibilities required in PHCs. (5-7) Many medical graduates report feeling overwhelmed, not only by clinical duties but also by the non-medical tasks such as health program management, community outreach, and intersectoral coordination—that are essential in PHC practice.(8-10)

The purpose of this study is to compare the understanding levels of medical students who participated in the Soegijapranata Community Project (SCP) program before the Faculty of Medicine's Community Service Program (KKN).

Method:

This research is descriptive and quantitative. The researchers used an open-ended questionnaire to gather data in this study. The population consisted of students from the Faculty of Medicine in 2019 who had not taken the SCP course, compared to those in 2020 who had taken the SCP course, with each group comprising 50 students. The researchers employed random sampling techniques. The validity of the instrument was tested using the Pearson correlation technique, and its reliability was assessed with a Likert scale. The questionnaire in this study consisted of open-ended questions and structured items measured using a Likert scale to evaluate students' understanding of Public Health Care (PHC) management and their preparedness for the Community Service Program (KKN).

Table 1. The Likert scale items used a 5-point range(11)

Question	**Choice**				
	Very Poor Understanding	**Poor Understanding**	**Moderate Understanding**	**Good Understanding**	**Very Good Understanding**
	1	**2**	**3**	**4**	**5**
1. How do you typically understand a problem you face?					
2. How do you typically identify the root cause of a problem?					
3. How do you evaluate potential solutions to a problem?					
4. How do you typically make decisions when faced with a problem?					

These items evaluated multiple domains, including:

a. Understanding of PHC structure and functions
b. Knowledge of non-medical administrative tasks
c. Ability to identify public health problems
d. Preparedness for working in underserved, border, and outer island areas
e. Awareness of social, ethical, and community health responsibilities

Instrument validity was assessed using the Pearson product–moment correlation, verifying that each item measured the intended construct. Reliability was evaluated with Cronbach's Alpha, showing that the scale had high internal consistency and that the Likert items reliably measured students' understanding.

Results:

The Likert scale results showed that medical students who participated in the SCP program (2020 cohort) scored significantly higher across all domains compared to students who did not undertake the SCP program (2019 cohort.

Table 2. Average Likert scores

Domain Measured	2019 (No SCP)	2020 (With SCP)
Understanding of PHC Roles	2.8	4.1
Knowledge of Non-Medical Tasks	2.5	4.0
Ability to Analyze Public Health Problems	2.7	4.2
Preparedness for KKN in Underserved Areas	2.6	4.3
Ethical & Social Responsibility Awareness	3.0	4.4

Students with SCP exposure consistently reported higher readiness and confidence in working

Discussion:

The Soegijapranata Community Project (SCP) seeks to bridge this readiness gap by equipping medical students with early exposure to real public health scenarios. Through SCP's community-based learning model, students learn to analyze health problems, assess social determinants of health, and design interventions tailored to the needs of underserved settings. This aligns with national priorities outlined in the Rencana Pembangunan Jangka Menengah Nasional (RPJMN), which emphasizes developing human resources in health capable of working in remote and disadvantaged regions.(5, 6, 12)

Beyond technical competencies, the SCP program also nurtures the emotional and ethical motivations that drive students to serve in marginalised communities. Many participants describe a growing sense of social responsibility, compassion, and empathy toward people facing healthcare inequities. (6, 8, 13)Early immersion in underserved environments fosters a deeper understanding of the moral imperative behind equitable healthcare distribution, encouraging students to view their role not only as clinicians but also as advocates for justice and community wellbeing.(6, 14, 15)

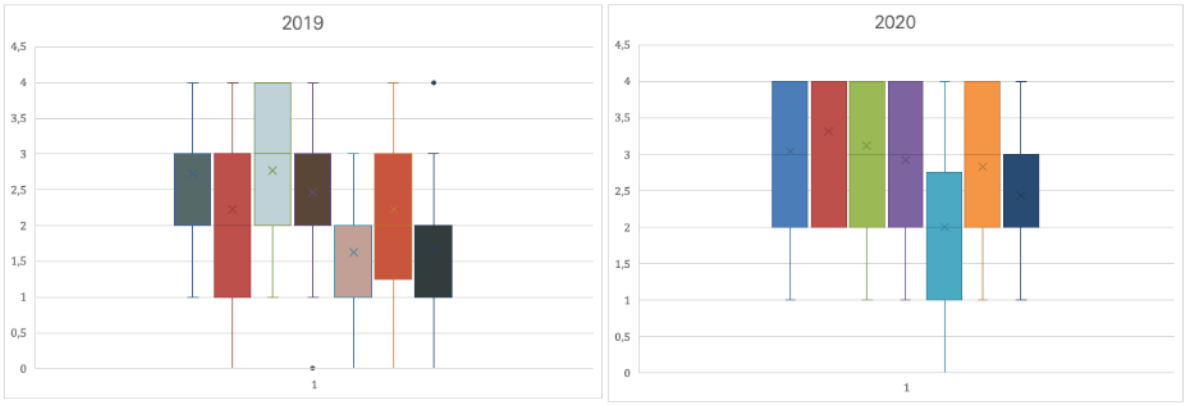

Figure 3. The comparison between the group no SCP (2019) and with SCP (2020)

Conclusion:

The Likert scale findings highlight the significant impact of the SCP program in building both cognitive understanding and ethical motivational awareness needed for real-world health service delivery. Increasing student scores in domains related to underserved communities suggests that SCP helps align medical education with Indonesia's national health workforce priorities, including equitable placement of doctors in DTPK regions.

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