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Article

A Cross-Sectional Study of Clinical Practice for Midwifery Students with Design by Empathy during the Covid-19 Pandemic.

Erina Windiany[1], Irma Sapriani[2], Tiarlin Lavida Rahel[3], Indah Yulika[4]

[1,2,3,4] *Budi Kemuliaan School of Health Science, Jakarta, Indonesia*

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CORRESPONDENCE

Phone: +62 81318312853
E-mail: aisairiany@gmail.com

A B S T R A C T

The learning activities of students in the clinical practice during the Covid-19 Pandemic are a challenge faced by health education institutions. The practical design is required for the implementation of safe clinical practice. In response, Budi Kemuliaan School of Health Science had designed the implementation of clinical practice learning with "design by empathy". This study aims to explore how clinical practice learning with "design by empathy" during the Covid-19 pandemic. A cross-sectional study was conducted on 62 students of the Midwifery Diploma Three Program, which were divided into two groups.

Positive results were obtained from clinical practice learning with design by empathy during the pandemic which was seen from the presentation of students attendance, students health conditions, skills achievement, students and clinical instructor responses regarding the implementation of practical learning during the pandemic, and the acquisition of grades.

I. INTRODUCTION

Since the beginning of 2020, Covid-19 has been a world health problem. In March 2020, the World Health Organization has changed the status of Covid-19 transmission from Public Health Emergency of International Concern to Pandemic status. The impact of this pandemic has caused changes in various things, especially the learning process in school and university. Students learn from home online, to prevent and reduce the risk of Covid-19 transmission. Based on the regulation from the Minister of Education and Culture of the Republic of Indonesia number 36962 / MPK.A / HK of 2020 concerning the appeal to carry out online learning in the context of preventing the spread of Covid-19, has resulted in the termination of practical student learning activities in practical fields (Kementerian Pendidikan dan Kebudayaan Republik Indonesia, 2020). Midwifery Diploma Program is a vocational education where one of the results of the learning process is focused primarily on skills, this is the basis for implementing learning clinical practice even in a state of a pandemic. Clinical practice during the Covid-19 pandemic is a

challenge faced by health education institutions where the clinical practice learning experience is an important component for midwifery students that must be carried out by the institution because it is stipulated in Permendikbud No.3 of 2020 concerning National Higher Education Standards (Pendidikan et al., 2020). Clinical practice during a pandemic will certainly meet obstacles at the beginning of the process in its implementation, thus a design is needed so that clinical practice learning runs well and safely. In facing the challenges of the Covid-19 pandemic, Budi Kemuliaan School of Health Science has designed clinical practice learning with "design by empathy". Design by empathy is the first step in the design thinking mindset that used to design student clinical practice during the Covid-19 pandemic in Indonesia. The design thinking mindset originally derived from the design thinking for product creation, which contains the process of creativity and innovation to develop new products, and presents a thought process as a stage of a structured framework that can be applied to other contexts. The main uses of design thinking in medical education are to develop ways of thinking about solving problems and engaging in projects to develop new products (Sandars & Goh, 2020).

Design by empathy is a design that is created to gain an empathetic understanding of the problems it is trying to solve, create sustainable solutions, and focus on all relevant areas and can have an impact in the long term. Design by empathy is a process of knowing and understanding the needs, desires, and goals of people by being involved in them at a psychological and emotional level (Rikke & Siang, 2020).

The process of designing clinical practice during a pandemic with design by empathy.

The design by empathy approach was designed in clinical practice for midwifery students in Budi Kemuliaan School of Health Science was initiated by involving the participation of related parties: students, students' parents, stakeholders, Budi Kemuliaan Hospital as the clinical site, and the Budi Kemuliaan academic community. In making the design with empathy, several stages were carried out, like collecting data on students' hopes and concerns about the implementation of clinical practice during the pandemic, the problems that will be encountered during practice. Data were collected through an online survey, the questionnaires were asking about students' readiness in conducting the clinical practice in the Covid-19 pandemic, data also collected through virtual meetings with students, students' parents, stakeholders, and Budi Kemuliaan hospital. After the data was collected, it is followed by a discussion of each topic to create a design of clinical practice and policies that needed as well as other preparations such as the required Standard Operating Procedures, questionnaire development monitoring of students' health, preparing students before practice, such as socialization about the red, yellow and green zones in the hospital and service flow at Budi Kemuliaan Hospital, socialization on Infection Prevention, updating of management information on maternal and neonatal care during the pandemic, preparation of Personal Protective Equipment (PPE) and application of the Principle of Good Care (POGC).

The design by empathy model was applied in midwifery student clinical practice during the pandemic at the time, were in the setting of student schedules, POGC application in practical activities, student health monitoring through google form daily, and evaluating activities and outcome periodically.

II. METHODS

This study is descriptive observational research with a cross-sectional approach or retrieval of data at one time. Participants were two groups of Diploma Three midwifery students from Budi Kemuliaan School of Health Science, which comprise 40 students of 6th-semester students, who had practiced in the early days of the Covid-19 pandemic for 7 weeks in June-July 2020, and 22 students of 5th-semester students who had practiced in a period of new normal adaptation for 10

weeks in February to April 2021. The variables studied in this study were the percentage of student attendance, student health monitoring data, the number of skills attainment, responses from students and clinical instructors regarding practical activities, and scores achievement in clinical practice.

Data Collection, Verification, and Analysis

The study was carried out in three stages of data collection, such as (1) direct observation of student practical activities, (2) analyzing the data on practical activities which comprise the percentage of students' attendance, health monitoring data, the number of skills attainment, responses from students and clinical instructors in practical fields regarding practical learning, and the scores achieved in clinical practice, (3) making an overall conclusion on student clinical practice during the pandemic (Tumilar, 2019). Data were collected and analyzed by grouping data from questionnaires, reports from students and clinical instructors, and evaluation meetings. Data verification was carried out by examining students' logbooks, clinical instructor's reports, and students' clinical practice scores.

III. RESULT

1. Direct observation of student activities in clinical practice learning.

Practical activities run according to the plan, students get direct guidance by clinical instructors or lecturers. Student activities are documented in log books, guidance activities are documented in supervisor log books.

2. Data analysis of practical activities

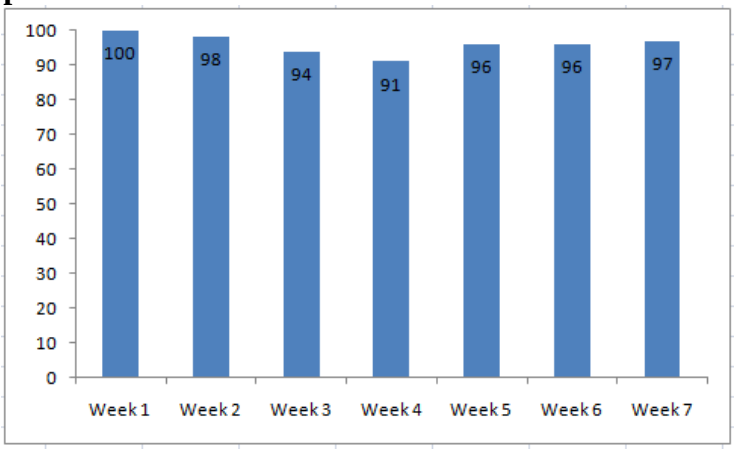

Figure 1. Presentation of the student's attendance in group 1

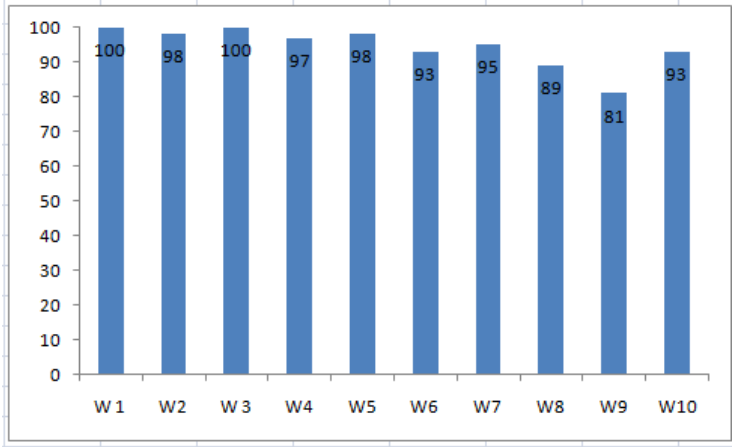

Figure 2. Presentation of the student's attendance in group 2

Based on the student's attendance percentage data in Figures 1 and 2 showed the highest percentage of attendance of students in both groups is 100%. The lowest percentage of attendance in group 2 is lower than group 1 (81% vs. 91%)

Table 1. Monitoring of students' health through Google Form

Symptoms	Group 1 N=40 n (%)	Group 2 N=22 n (%)
Common Cold	22(55.0%)	5 (22.7%)
Cough	11(27.5%)	5 (22.7%)
Headache	25 (62.5%)	10 (45.4%)
Weak	10 (25.0%)	3 (13.6%)
Muscle ache	11 (27.5%)	4 (18.8%)
Nausea	8 (20.0%)	4 (18.8%)
Abdomen pain	5 (12.5%)	8 (36.3%)
Diarrhea	7 (17.5%)	5 (27.7%)
Fever	5 (12.5%)	3 (13.6%)
Others	13 (32.5%)	2 (9.1%)

Based on students' health monitoring data in table 1, shows that the highest average of illness complaints experienced by students in both groups were headaches (62.5% vs.45.4%). The lowest average disease complaint experienced by students in group 1 were abdomen pain (12.5%) and fever (12.5%), in group 2 was others (9.1%).

Table 2. Achievement of Basic Care Competencies

Symptoms	Group 1 n (total cases)	Group 2 n (total cases)
Ante Natal Care	17	114
Intra Natal Care	102	86
Post Natal Care	362	146
Newborn Care	233	83

Based on the data of the achievement of students' basic care competencies in table 2, it shows that the highest achievement of students in both groups was Post Partum Care competencies, and the lowest achievement in group 1 was Antenatal Care competencies, and the lowest achievement in group 2 was Newborn Care competencies.

Table 3. Clinical Practice Policy

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Do you agree with the existence of clinical practice activities for students during the Covid-19 pandemic?				
Group 1	8 (20%)	32 (80%)	0	0
Group 2	2 (9%)	20 (91%)	0	0
The clinical practice of midwifery students during a pandemic must continue to be done because clinical practice is a skills provision that will be used when they are in the community.				
Group 1	12 (30%)	28 (70%)	0	0
Group 2	2 (9%)	20 (91%)	0	0
Clinical practices that have been carried out during the Covid-19 pandemic at Budi Kemuliaan Hospital can be carried out properly and safely by implementing health and safety protocols.				
Group 1	9 (23%)	30 (75%)	1 (3%)	0
Group 2	2 (9%)	19 (86%)	1 (5%)	0

Table 4. Evaluation of clinical practice activities by midwifery students

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Practical activities during the pandemic improved my skills				
Group 1	16 (40%)	24(60%)	0	0
Group 2	5 (23%)	17 (77%)	0	0
Clinical practice during the pandemic has increased my knowledge about the management of Covid-19 in maternal and neonatal care				
Group 1	16 (40%)	24(60%)	0	0
Group 2	5 (23%)	17 (77%)	0	0
Practical activities during the pandemic went smoothly and very effective				
Group 1	9 (30%)	30 (75%)	1 (3%)	0
Group 2	3 (14%)	19 (86%)	0	0
Practical activities during a pandemic can increase my competence and skill achievement as a prospective midwife				
Group 1	13(33%)	23 (68%)	0	0
Group 2	3 (14%)	19 (86%)	0	0
There is a clear procedure on the management of handling students who are sick				
Group 1	8 (20%)	32(80%)	0	0
Group 2	4 (18%)	18 (82%)	0	0

Institutions pay attention, facilitate students who are sick or have close contact with patients with Covid-19				
Group 1	11 (28%)	29 (73%)	0	0
Group 2	2 (9%)	19 (86%)	1 (5%)	0
Arrangement of students' schedules during practice is well regulated				
Group 1	8 (20%)	32 (80%)	0	0
Group 2	2 (9%)	19 (86%)	1 (5%)	0
Institutions listen to and follow up on the aspirations/opinions of students during practical activities during the pandemic				
Group 1	6 (15%)	34 (85%)	0	0
Group 2	3 (14%)	19 (86%)	0	0

Table 5. Evaluation of clinical practice activities by clinical instructors

Pernyataan	Strongly Agree	Agree	Disagree	Strongly Disagree
		N= 21		
Students are disciplined in conducting clinical practice at Budi Kemuliaan Hospital	2 (9.5 %)	14 (66.7%)	5 (23.8%)	0
Students are responsible for completing the assigned tasks	2 (9.5%)	18 (85.7%)	1 (4.8%)	0
Students have initiative and are creative during clinical practice (eg responsive to difficulties or obstacles in carrying out activities)	1 (4.8%)	13 (61.9%)	7 (33.3)	0
Students have stable emotions when carrying out their duties (Patience in dealing with patients and families, able to control emotions)	3 (14.3%)	18 (85.7%)	0	0
Students use PPE and carry out Infection Prevention and Control well	4 (19%)	17 (81%)	0	0

Table 6. Scores of Clinical Practice in Group 1 and 2

Clinical Practice Score	Group 1	Group 2
Average	3.58	3.60
Highest	3.74	3.75
Lowest	3.50	3.50

Based on the data on the clinical practice scores of students in table 6, it shows that the highest score achievement was in group 2 with a score of 3.75, the lowest score was achieved with a score of 3.50 in both groups.

IV. DISCUSSION

The implementation of teaching and learning activities in educational institutions faced

obstacles during the Covid-19 pandemic, especially clinical practice learning for midwifery students. There is anxiety in learning activities that are carried out face-to-face, especially if the learning takes place at the hospital. A design is needed for practical learning activities so that activities run well and safely. Design by empathy, which is used in clinical practice learning for midwifery students in Budi Kemuliaan School of Health Science, is a design that emphasizes empathy for all part that involved in the activity. Being empathetic in carrying out clinical practice during a pandemic is an important part of achieving the objectives of practical learning, in which designs must be flexible according to the needs and situations during a pandemic.

One indicator of clinical practice activities run well is the percentage of students attendance, based on figures 1 and 2 showing the highest student attendance is 100 percent and the lowest is 81 percent. Based on the percentage of student's attendance, it can be concluded that the motivation of students in carrying out practical activities during the pandemic is good. This is different from the research results according to Robert Lovric´ who states that due to the pandemic crisis, students describe their lack of motivation, poor concentration, and significant learning difficulties (Lovrić et al., 2020). The emergence of good motivation in students during practical learning is due to the mutual support and commitment of all parties in carrying out practices by prioritizing empathy, including the support of Budi Kemuliaan Health Institute (LKBK) and Budi Kemuliaan Hospital by providing PPE for students, giving opportunities for students to practice in the hospital and guidance from clinical instructors.

Students' health monitoring (Table 1) during the pandemic is carried out every day by filling a questionnaire via Google Form. The questionnaire contains questions about health complaints that lead to symptoms of Covid-19 infection, if there are students who are not present in practical learning because of illness or have complaints that lead to Covid-19 infection, the institution will contact the students to find out the situation and follow up accordingly with the operational standards that have been set. Daily health monitoring of students by asking symptoms that lead to Covid-19 infection is an important thing to do, although 21.9% of infected individuals with Covid-19 were asymptomatic, the symptoms that are usually in individuals infected with Covid-19 are headaches, anosmia, sore throat, shortness of breath, coughing, fever (Ihm et al., 2021).

The students' achievement of skill targets (table 2) showed quite good results. This study is different from Al-Rabiaah's research which states that during epidemics, students in the health professions often suffer from decreased psychomotor concentration and learning disabilities and avoid learning activities, which can have negative implications for academic achievement (Lovrić et al., 2020). The achievement of students competencies was supported by the empathy provided by clinical instructors with guiding and teaching the students during the Covid-19 pandemic problems at the hospital, through a constructive clinical learning environment with good guidance, students can develop self-confidence and competence, and focuses on the learning needs of students (Tursina et al., 2016).

The skills achievement of antenatal care in group 1 shows lower results compared to group 2, the skills achievement shown in this study is an achievement during practice in a pandemic situation, the antenatal care skill achievement of group 1 has been obtained before the pandemic. In group 1, during the pandemic, students did not do practical activities in the antenatal room due to a policy from the hospital for reasons of student safety, besides that, the presence of patients for antenatal care in the early days of the pandemic lesser and patients preferred to consult to a doctor, or other health workers through the WhatsApp application.

Student responses about the policy of implementing practical learning during the pandemic (Table 3) agreed, considering that vocational education focuses more on the skills of graduates. Government policy during the pandemic stated that to avoid transmission of Covid-19, learning activities were carried out at home or online, and this hampered the implementation of clinical practice learning activities. In this regard, the institution implements a policy to carry out practical learning using a design by empathy, clinical practice learning activities during a pandemic are a

special condition where activities cannot be carried out online, following the Guidelines for Implementing odd semester learning 2020/2021 published by The Directorate General of Higher Education, Ministry of Education and Culture of the Republic of Indonesia, which states that learning activities such as final project research, practicum that must be carried out in laboratories, and similar academic/vocational activities, are conditions that obtain permission from higher education leaders to be carried out offline, so clinical practice learning activities must comply with health protocols to avoid transmission of Covid-19 (Dirjen-Dikti, 2020). Therefore students agreed to carry out practical learning during the pandemic.

Students' response related to clinical practice can still be carried out properly and safely by implementing health and safety protocols (table 3), there is a difference from the presentation who agree with this statement. This is associated with a different situation, in group 1 (75% agree) conduct clinical practice at the beginning of the pandemic, group 2 (86% agree) conduct clinical practice during new normal conditions. Perceptions and learning experiences of students in the pandemic era are conditioned from emotional reactions, student fears (Lovrić et al., 2020). This can be a problem, and solutions are needed to make learning activities can go well. Design by empathy is a learning strategy that emphasizes the use of empathy in meeting all sector needs, such as manufacturing schedule for student practice by estimating public transportation schedules, providing PPE and placing students in green or yellow zones, as well as providing knowledge about infection prevention during the Covid-19 pandemic. The application of POGC in every service activity in the hospital and adherence to implementing health and safety protocols affects the psychology of students and student's parents. This design by empathy provides a sense of security and trust so that students and parents are willing to follow the policy of implementing clinical practice during this pandemic.

The students response that clinical practice during the pandemic improved skills (Table 4), the two majority groups agreed (60% vs. 77%). Evaluation and monitoring of clinical practice activities that are carried out regularly every week through online meetings, one of the meeting topics are to discuss the achievement of students' skill targets as proven by documentation in students' logbook and reports from clinical instructors and lecturers. Evaluation activities that were carried out routinely, provide information to the clinical instructor regarding skills that are still lacking or have not been achieved by students and can organize together an action plan of any obstacles encountered in achieving skills. One of the supporting factors in clinical learning is the monitoring, which is carried out in a scheduled and incidental manner by the tutors so that if there are problems with clinical learning, they can be resolved immediately (Puter, 2016).

The majority of the clinical instructors stated that they agreed on the policy of implementing practical learning during the pandemic (Table 5), and also agreed that the clinical practice of Budi Kemuliaan Hospital could be carried out properly and safely by implementing health and safety protocols. Clinical practice design with "design by empathy" was carried out by involving clinical instructors, especially in the preparation of self-protection knowledge and skills related to the Covid 19 pandemic. Several factors influence the learning process of clinical practice in the practical field, including the characteristics of clinical instructors, student characteristics, learning environment, and educational planning (Kurniawati et al., 2017). Clinical instructors are responsible for ensuring that students learned and experience clinical skills, while at the same time they must ensure that patients receive high-quality and safe services (Kurniawati et al., 2017).

In the response of the clinical instructor regarding students' attitudes in practical activities (Table 5), the majority agreed that students were disciplined and responsible for the assignment. Students' motivation to be disciplined and responsible is caused by various factors, one of which is the guidance and supervision factors of clinical instructors and lecturers. Evaluation and monitoring of clinical practice activities by clinical instructors and lecturers are carried out regularly every week online and offline, discussing target achievement, student attitudes, and obstacles faced in practical activities.

In the variable of clinical practice learning score acquisition in groups 1 and 2 (table 6), the lowest score in both groups was 3.50 and the class average score was higher in group 2 (3.60 vs. 3.58). The difference between the average score in the two groups was not more than 0.5 (result 0.02), this indicates the acquisition of existing competencies. The acquisition of values in clinical practice is carried out by marking the students' skills, attitudes, and knowledge carried out by clinical instructors and the lecturers. Assessment of clinical practice during a pandemic does not reduce the components or aspects to be assessed, but modifications are made to get a score that is closer to the real ability of students. There are great challenges in the midwifery education system in Europe, especially in conducting competency or skills assessments and how to get a good clinical experience (Luyben et al., 2020). Students get a good learning experience with design by empathy, clinical practice learning can help final year students achieve their competencies which can be described in their achieving grades.

Things that need to be considered in clinical practice during a pandemic are the safety of students, medical teams and patients are main things, and the need to pay attention to and modify clinical learning settings in the era of pandemics or other crisis times (Lazenby et al., 2020). Design by empathy can be a solution to the challenges of clinical learning in the pandemic era. With empathy and good application of POGC, it can facilitate students in their clinical learning experience. However, this still requires further research related to the clinical practice of midwifery diploma students during the pandemic.

V. CONCLUSION

Positive results were obtained from clinical practice learning with design by empathy during the pandemic which was seen from the presentation of students attendance, students health conditions, skills achievement, students and clinical instructor responses regarding the implementation of practical learning during the pandemic, and the acquisition of grades.

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BIOGRAPHY

Erina Windiany, Master of Public Health, graduated from Muhammadiyah University Prof. DR. Hamka in 2014, works as a lecturer at the Budi Kemuliaan School of Health Sciences.

Irma Sapriani, Pediatrician, graduated from the University of Indonesia Pediatrician in 2010, works as a Pediatrician at Budi Kemuliaan Hospital and Lecturer at the Budi Kemuliaan School of Health Sciences.

Tiarlin Lavida, Master of Midwifery, graduated from Padjadjaran University in 2016, works as a Lecturer at Budi Kemuliaan School of Health Sciences.

Indah Yulika, Master of Midwifery, graduated from Padjadjaran University in 2016, works as a Lecturer at the Budi Kemuliaan School of Health Sciences.