ISSN 2620-8423 (print) | 2620-5653 (online)

Learning method comparison between small-group discussion (SGD) and conventional to the knowledge improvement of midwifery department students

Iik Nurul Ulfah [a,1,*], Rara D.A.S.S Dethan[b,2], Friska Realita[a,3], Hanifatur Rosyidah[a,4]

[a]Sultan Agung Islamic University, Semarang 50112, Indonesia
[b]Plan International Timor Leste and Timor Leste Midwives Association, Timor Leste
[1]iiknurull@gmail.com*;
*corresponding author

ARTICLE INFO

Article history
Received, 15th November 2020
Revised, 12th April 2021
Accepted, 12th April 2021

Keywords
Learning method
Midwifery students
Small-group discussion
Conventional
Knowledge

ABSTRACT

In 2013, the graduate competence of the midwifery department that fit current job demand was only 15%. Knowledge is one of the aspects of midwifery education quality. *Small-Group Discussion* (SGD) is one of the forms of *students centered learning* (SCL) where students are demanded to solve problems through a small group discussion. The object of this study is to figure out a comparison of knowledge improvement through the use of SGD or conventional methods. The method used in the study is quantitative of *experimental pre-posttest design*. The researcher divides the sample into two groups, the experimental group (19) is given an SGD approach and the control group (19) is given a conventional course approach. Based on the *Independent Sample T-test*, the value of Sig. (2-tailed) is 0.006 (<0.05). Hence, it can be concluded that there is a significant difference between the average score of students' knowledge level in the SGD group and the conventional group. The SGD group appears to have a higher improvement of average score, which is from 6.3 to 8.1 while the average score of the conventional group is from 6.1 to 6.8. Hence, it is considered that the SGD learning method can improve knowledge of midwifery students and can be used as an effective alternative method to achieve *a student-centered learning* system for other midwifery institutions.

1. Introduction

The quality of midwifery education in Indonesia in 2013 showed that the graduate competence that fit current job demand was only 15%. The evaluation result in 2016 revealed that the percentage of midwifery graduate competence tests for the first period in 2015 was 36.03% showing that the knowledge of midwife was not maximum yet (Sciences, 2015).

Knowledge is one of the aspects of midwife education quality to improve the mother and children's health service and encourage a soon-to-be midwife to work autonomically and responsible. At this moment, some institutions have held midwife profession education by using a study program curriculum from each institution. As a result, midwifery education institutions in Indonesia are not in the same curriculum guideline (Ministry of Health, 2015).

Association of Indonesian Midwifery Education (AIPKIND) has made an effort to align and develop a curriculum for midwife profession education. It is aimed to produce a profession education curriculum guideline that can be used as a reference to develop a curriculum in each institution. The learning method used is a student-centered learning model so it is expected that students can actively participate in the learning process (World Health Organisation, 2016).

Small-Group Discussion (SGD) is one of *Student-Centered Learning* (SCL) forms that focus on creating learning activity through a small group discussion. It leans on the tutorial process and

students are demanded to understand knowledge based on the presented issue in a form of the scenario through a *seven-jump step* to achieve learning goals (Peni Pujiastuti, 2017). The conventional learning method is a kind of *teacher-centered learning* (TCL). It is a learning method that is centered on the lecturers. Hence, the evaluator and information provider is on the lecturers (Zohrabi et al, 2012).

Based on the observation in some midwifery institutions in Semarang City and Semarang District in 2019, the researcher found that none of the institutions applied SGD in their learning method and the conventional course was still the main learning method used.

There is only one midwifery institution in Semarang that truthfully applies the SGD learning method, it is the Midwifery Departement of Sultan Agung Islamic University. Based on the interview with the head of the Midwifery Department of Sultan Agung Islamic University, SGD has been used since 2013 and during the researcher's time for studying and teaching in the university, the Midwifery Bachelor Degree Program (S1) of Sultan Agung Islamic University truthfully applied SGD method.

2. Method

This study is an experimental quantitative research and the research design used is *pre-post test design*. The population of the study is 49 students of the Midwifery Bachelor Degree (S1) Program of Sultan Agung Islamic University, regular class of 2019/ 2020.

The sample withdrawal technic used is *purposive sampling* based on the inclusion criteria of students who have never given reproduction health (menstruation) course when they become students of midwifery program and the exclusion criteria, they are students who do not join the research until it finishes. In this study, 17 students are excluded for not completing the research to the end. Hence, the sample of the research consists of an experimental group that gets SGD intervention (19) and a control group that gets conventional learning intervention (19).

The research is conducted in a week and each group gets two sessions with a total duration of 200 minutes. The first session is conducted on Monday and the second session is on Friday. Meanwhile, the first session of the conventional group is conducted on Tuesday and the second session is on Saturday. All of the groups are taught by the same midwifery lecturer with expertise in the reproductive health field.

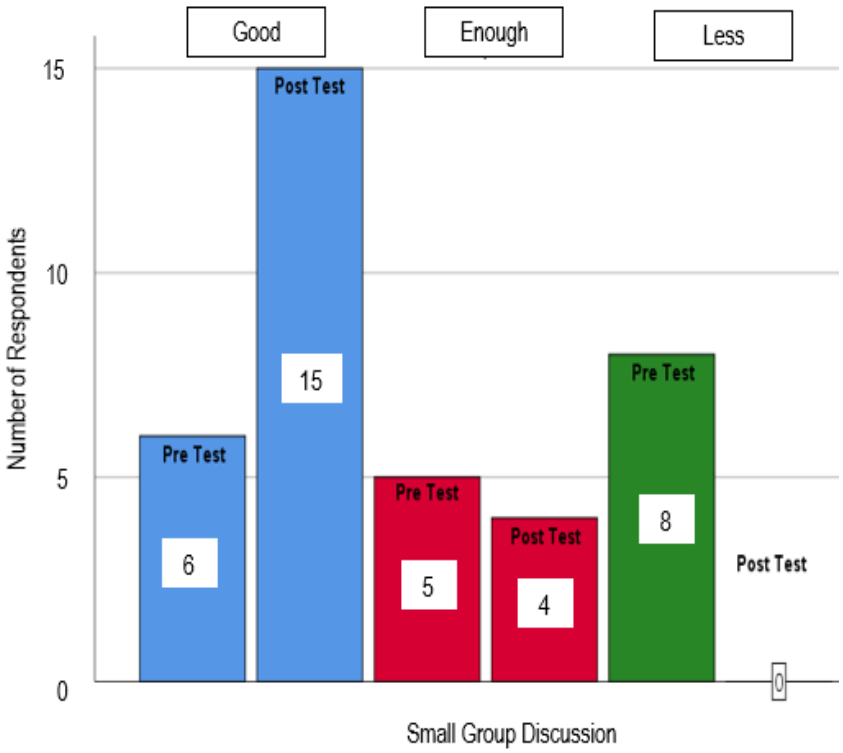
The main instrument of the study is a questionnaire that consists of questions for *the pre-post test*. It is about menstruation sub-theme that consists of 10 questions with correct and incorrect options. Meanwhile, the additional instrument of the study is a conventional course about menstruation in the form of *PowerPoint* and the SGD scenario.

Data measurement is conducted by using a questionnaire in which the validation has been examined by 20 respondents. The validation test result of the 15 (fifteen) instrument items shows that only 10 of them are stated valid with r count> r table (0.422) and the range of r count that reaches 0.478-0.882. Meanwhile, the result of Cronbach's Alpha is above 0.60 showing that it has high reliability. Based on the analysis result, the reliability coefficient of Cronbach's Alpha is 0.838. Hence, it can be concluded that the data is reliable.

Data analysis of this study uses SPSS that consists of average score, maximum score, minimum score, and the difference of test score before and after an intervention. The *Independent t-Test* is applied to find out the ratio between SGD and conventional method. This study has been granted with Ethical Clearance from the Medical/Health Research from the Medical/Health Research Bioethics Commission of the Faculty of Medicine, Sultan Agung Islamic University, Semarang with Registered Number of 629/X/2019/Bioethics Commission.

3. Results and Discussion

3.1. Improvement of Menstruation Knowledge Before – After Using SGD Learning Method



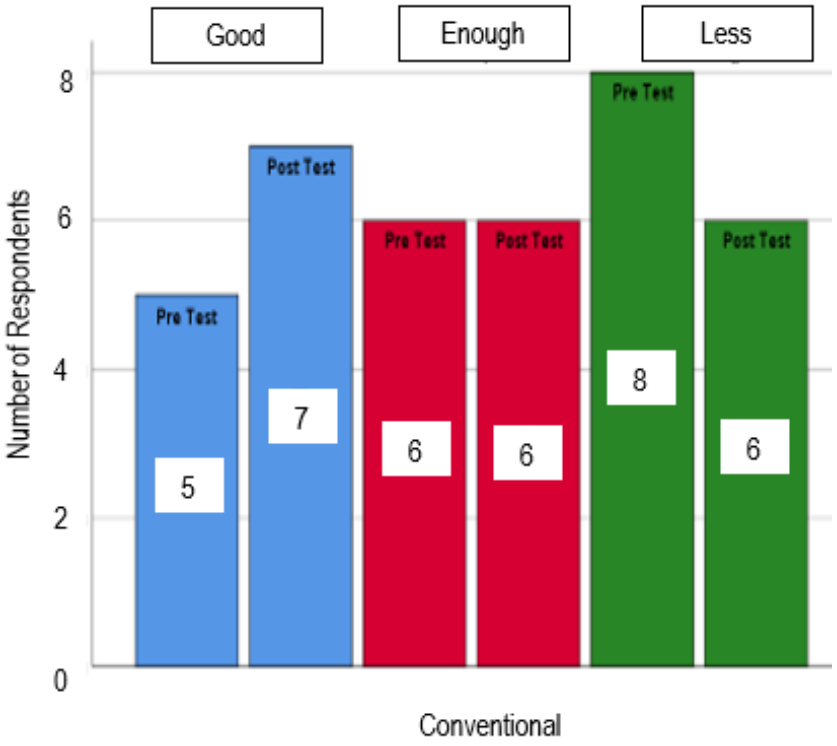
Based on the result of the study, it is found a difference in the average score of knowledge improvement as much as 1.7 after SGD learning intervention is given. The improvement of knowledge increases up to 9 students or 47.37% on students with a good level of knowledge. Meanwhile, students with sufficient knowledge decrease to 1 student or 5.27%. There is no student with less knowledge found after given the SGD learning method.

Previous research conducted in 2010 showed that the average score of the students who were given using SGD in the learning process was higher, 9.30. Meanwhile, the group with the conventional learning process got an average score of 7.30. In addition to the high score, students in the SGD group got more systematic thinking, efficiency, and discipline. As a result, they were much better in problem-solving and had a deeper understanding (Rathnakar U.P et al, 2011).

The implementation of SGD can affect the improvement of learning motivation that later influences the ability to think critically as much as 6.4% compared to *the Predict Discuss Explain Discuss Observe Discuss Explain* (PDEDODE) learning method. In this way, it can be proven that SGD can improve students' knowledge better than other learning methods (Cholisoh et al, 2015).

The optimization of the discussion process in the SGD can be done by using *brainstorming.* It is independent learning in which students make a note of important points in a checklist form. *Brainstorming* has been implemented to 102 students and proven effective to improve discussion activity frequency and > 70% of them are satisfied with the use of brainstorming to create an effective discussion (Unin & Bearing, 2016).

3.2. The Improvement of Menstruation Knowledge Before – After Using Conventional Learning Method



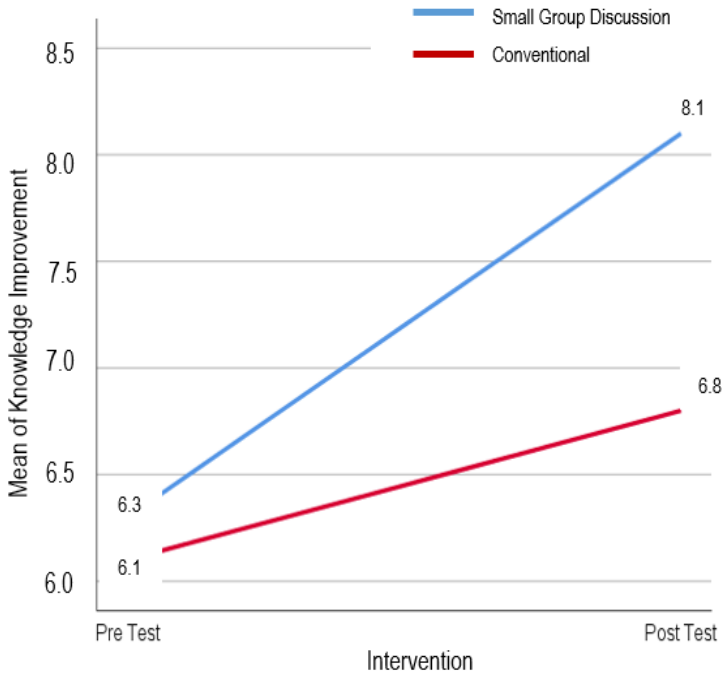
Based on the result of the study, there is a difference between the average score of the knowledge improvement as much as 0.47 after an intervention given to conventional learning. The improvement of the knowledge found in 2 students or increase 10.52% in the good knowledge level category. Students with a sufficient level of knowledge show a constant or no different result. Meanwhile, the number of students with less knowledge decreases up to 10.52% after the given conventional learning method.

There is a benefit that students can get when they are studying in a big group or conventional since it is cost-effective. However, this method is often considered not effective to get the students' attention. They tend to be passive listeners if the duration of the learning process is more than 10 minutes (Barbara, 2009).

During the conventional learning process, lecturers only deliver materials by using implied PPT with some improvisation when explaining. At the end of the learning sessions, students will be allowed to ask some questions related to the delivered material they don't fully understand. However, most of the students are reluctant to ask (Jamil & Ghani, 2017). There are two possibilities mostly associated with the reluctance, the students have understood the materials well or they want to end the conventional learning session immediately because they are bored or slippy.

Conventional learning is a "face-to-face" learning method in which lecturers act as the main instructors, very passive, and the improvement of the students problem-solving skills is inappropriate (Annamalai et al, 2015).

3.3. Knowledge Improvement Comparison Between SGD and Conventional Methods



Descriptively, the level of menstruation knowledge of the SGD group is 8.105 while the menstruation knowledge level of the conventional group is 6.789.

Based on the *Independent Sample T-test* examination, it is found that the value of Sig. Levene's Test is 0.006 (< 0.05). It means that the variant data between the SGD group and the conventional group is not homogenous or different. Meanwhile, the value of Sig.(2-tailed) is as much as 0.006 (< 0.05). It can be concluded that there is a significant difference in the average level of students' knowledge related to menstruation between the SGD group and the conventional group. This can be seen in the mean difference that reaches 1.315. The score shows the difference in the average level of knowledge between the SGD group and conventional group (8.105-6.789=1.315) with the tolerated score span or *Confidence Interval* of 0.409-2.221. Meanwhile, the count value of t is 2.974 (> t table (2.028)). It can be concluded that there is a difference in the average menstruation knowledge level between the SGD group and the conventional group.

The conventional method or lecture method is a traditional learning method that has been used as a means to educate students during the learning process for a long time (Esti Zaduqisti, 2910). As time goes by, however, innovation and alteration to support the quality of knowledge are required. SGD comes with a specific purpose to provide students with faster and deeper improvement results of knowledge (Imwattana et al, 2018). The SGD learning method is a new concept that is specially designed to help health students to have the critical thinking, encourage exploratory behavior, create a comprehensive learning approach (Ageely, 2014).

The research goes in line with the previous research conducted by the students of medical school at the Department of Community Medicine, S.V.S Medical College, Mahabubnagar, India. The SGD group gets a higher score (13.85 ± 3.81) compared to the lecture method. Other than that, 80% of the students reveal that SGD has improved their learning performance (Joshi K et al, 2018).

Though the result of the knowledge improvement of the SGD method in this study is higher than the Conventional method, the difference is relatively close, with a ratio of 1.7 to 0.47 only. The differentiation is influenced by the implementation system of SGD that has been applied. It requires system alteration that emphasizes on the discussion process so it can run critically. Hence, the level of students' understanding can be improved and they do not only focus on the *learning issue* solely.

The solution is that students should bring some supporting media when the second session of SGD is ongoing. This can be a video, leaflet poster, even phantom based on what is required in the discussion. It has been applied in research conducted by the first-year of dentistry students at the University of the Pacific Arthur A. Dugoni School of Dentistry in the endodontic course. Every participant of the SGD group in the research is required to find a video that should be explained in the second session of the SGD meeting. The result shows that the average score of students in the SGD group (7.29) is higher than the score achieved by the conventional group (6.24) (Ana Arias et al, 2016).

4. Conclusion

The SGD learning method is very helpful for students to improve their *critical thinking* over learning material, compared to the conventional method. However, it needs discussion emphasizing including the fulfillment of tools needed to support it such as video contains an explanation, case study, simulation and phantom related to the subject based on what is discussed. Student as the main actors in SGD are expected to have good brainstorming before the implementation with the aim discussion can run optimally. But, *Small Group Discussion* (SGD) is expected to support students to achieve the learning method by using *Student-Centered Learning* (SCL). Hence, the targeted knowledge of the students can be achieved and used as a strong foundation to improve the quality of midwifery education.

References

Ageely, H. (2014). *The scope of student centered learning in medicine . The Scope of Student Centered Learning in Medicine*. *May*.

Ana Arias, Raymond Scott, O. A. P. (2016). Educational Outcomes of Small-Group Discussion Versus Traditional Lecture Format in Dental Students' Learning and Skills Acquisition. *Wiley Online Library*.

Annamalai, N., Manivel, R., & Palanisamy, R. (2015). *Small group discussion : Students perspectives*. 18–20. https://doi.org/10.4103/2229-516X.162257

Barbara Gross Davis. (2009). *Tools for Teaching*. Jossey-Bass.

Cholisoh, L., Fatimah, S., & Yuniasih, F. (2015). *Critical Thinking Skills In Integrated Science Learning Viewed From Learning Motivation*. *11*(22), 134–141. https://doi.org/10.15294/jpfi

Esti Zaduqisti. (2910). *Problem-Based Learning (Konsep Ideal Model Pembelajaran untuk Peningkatan Prestasi Belajar dan Motivasi Berprestasi)*.

Imwattana, K., Kiratisin, P., Techasintana, P., & Ngamskulrungroj, P. (2018). *An impact on medical student knowledge outcomes after replacing peer lectures with small group discussions [Version 2]*. *July 2019*. https://doi.org/10.15694/mep.2018.0000224.2

Jamil, & Ghani. (2017). *Ficus auriculata (fig) Extracts Induced Cell Cycle Profile Changes and Apoptosis Through Caspase-Independent Pathway in Human Lung Adenocarcinoma Cell Line, A549*. *16*.

Joshi, K. P., Padugupati, S., & Robins, M. (2018). *Assessment of educational outcomes of small group discussion versus traditional lecture format among undergraduate medical students*. *5*(7), 2766–2769.

Ministry of Health. (2015). (*Ministry of Health. Jakarta)*.

Peni Pujiastuti. (2017). *Pekerti (Peningkatan Ketrampilan Dasar Teknik).* Kementrian Riset dan Pendidikan Tinggi.

Sciences, A. (2015). *Electronic Health Documentation and Its Impact on Nurses Routine Practices Literature Review Electronic Health Documentation and Its Impact on Nurses Routine Practices*.

Ullal, S., Pai, P., Shastry, R., & Pemminati, S. (2011). *Is Small Group Teaching among the Under Graduate Dental Students Really Is Small Group Teaching among the Under Graduate Dental Students Really Effective ? January*.

Unin, N., & Bearing, P. (2016). Brainstorming as a Way to Approach Student-Centered Learning in the ESL Classroom. *Procedia - Social and Behavioral Sciences*, *224*(August 2015), 605–612. https://doi.org/10.1016/j.sbspro.2016.05.450

World Health Organisation. (2016). Monitoring Health for the SDGs. *World Health Statistics*, 1.121. https://doi.org/10.1017/CBO9781107415324.004

Zohrabi, M., Torabi, M. A., & Baybourdiani, P. (2012). *Teacher-centered and / or Student-centered Learning : English Language in Iran*. *2*(3), 18–30. https://doi.org/10.5539/ells.v2n3p18