Increasing Reproductive Health Knowledge of Indonesian Female Migrant Workers Through Case Study Learning Method

Hudi Winarso✉[1]), Reny I'tishom[2)], Hanna Tabita Hasianna Silitonga[3)]

[1] Department of Biomedic, School of Medicine, Universitas Ciputra Surabaya, 60219, East Java, Indonesia
[2] Department of Biomedical Science, Medical Faculty, Universitas Airlangga, 60115, East Java, Indonesia
[3] Department of Public Health, Preventive Medicine and Community Medicine, School of Medicine, Universitas Ciputra Surabaya, 60219, East Java, Indonesia
✉Email: hudi.winarso@ciputra.ac.id

ABSTRACT

***Background**: Reproduction health in migrant workers is complicated and difficult to handle. Health education is one of the methods to increase the knowledge about health reproduction. **Objective**: The study aimed to analyze the knowledge of migrant workers related to reproductive health through case study learning method. **Methods**: The study is an intervention research. Total respondents were 135 participants. The intervention was conducted in 3 groups of female migrant workers. The intervention given was related to reproductive health with 4 meetings in the first group, 8 meetings in the second group and 12 meetings in the third group. Group 2 and 3 used case study as learning method. The measurement of knowledge of the three groups was through pre-test and post-test. The statistical test used ANOVA to determine differences between intervention groups and T Test to determine the difference between pre-test and post-test scores. **Results**: There were significant differences in pre-test and post-test scores in all groups and there was significant difference in post-test scores in groups 1 and 3 of p=0.001. **Conclusion**: Health education given to migrant workers is proven to be able to increase the level of knowledge related to reproductive health. The group that received case study as learning method and more number of meeting, had a better level of knowledge.*

***Keyword**: Case study, health education, migrant worker, knowledge, reproduction health*

INTRODUCTION

As much as 67% of Indonesia migrant workers are young women and more than 90% of them are working in informal sector such as domestic work. Due to the characteristic of the job, they might face several problem including unpaid work, physical and mental abuse, harassment, exploitation in work, dissatisfaction, disagreement with the employer, illness, and the risk to face death penalty (Henry & Adams, 2018; Ilo, 2019; Winarso *et al.*, 2021). A number of factors were recognized as factors that contributed to the sexual harassment including individual factor, relationships, working place, and the related policy. Sexual harassment tends to occur in young female migrant workers, low skills and knowledge, and poor language in host countries (Pitoyo, 2016). Lack of knowledge and victims who do not dare to report make sexual harassment become more difficult to handle (Henry & Adams, 2018). In addition to sexual harassment, female migrant workers are also at high risk of unwanted pregnancy and unsafe abortion due to promiscuity (T. D. H. Tran *et al.*, 2018). Unwanted pregnancy is closely related to low knowledge about contraception and the use of unreliable contraception (Ullah, 2010). Woman often experience problems due to a lack of attention to health insurance in the host countries (Loganathan *et al.*, 2019, 2020), as a result they often experience undesired pregnancies and reproductive tract infections (Le *et al.*, 2018; Thein & Thepthien, 2020). Until now, that issue still the major problem due to the low knowledge of reproduction health (Tangmunkongvorakul *et al.*, 2017). Therefore, migrant workers require urgent information regarding reproductive health.

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Reproductive health is related to physical health, not only the absence of infirmity, but it is also necessary to pay attention to social and mental well-being. Achieving complete mental health requires an overall understanding of the processes and functions of the reproductive system. People can have a healthy reproduction if he has the ability and freedom to carry out all reproductive processes safely and comfortably (Glasier *et al.*, 2006; WHO, 2022). Reproductive health is a central part of general health and plays an important role in the development of a population. Reproductive health problems in women often occur due to unsafe both abortion and motherhood processes(Patra, 2016; Sisson, 2015), they also related to the process of spreading the virus (Borges *et al.*, 2018).

Focusing on potential problems related to reproduction health, adequate debriefing will be able to minimize the impacts that may occur. Therefore, reproduction health education could be considered as a method to improve migrant worker knowledge (Nasution *et al.*, 2019). Provision of reproductive health materials that are prepared in the form of a good curriculum, adequate learning modules, as well as training that is suitable for the educational and psychosocial conditions of migrant workers will provide significant benefits in supporting the achievement of holistic welfare.

Based on the fact that female migrant workers have various disadvantages that effect their quality of reproductive health, this study aims to analyze the level of knowledge of migrant workers that related to reproductive health through health education.

METHODS

The study design was intervention research by giving health education as intervention toward three groups. Participants from the three groups were Indonesian female migrant workers recruited from the community of migrant worker and migrant worker training company. Allocation of the participants will be explained at the flow chart below.

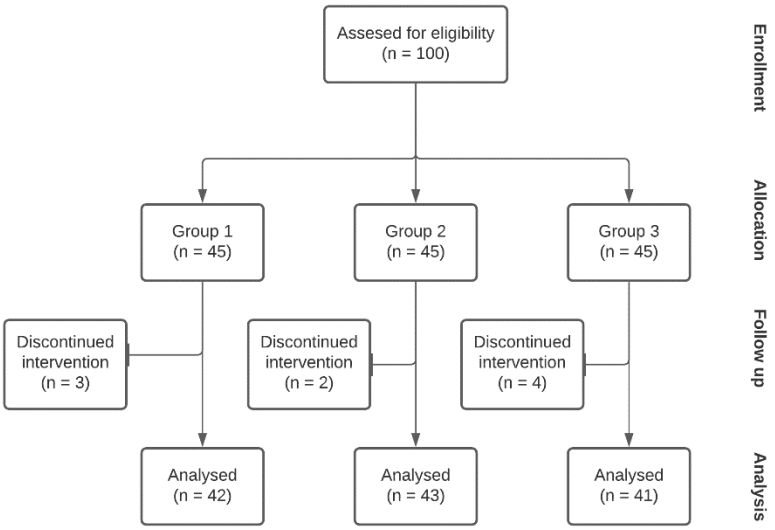

Figure 1. Flow chart study procedure

Study design

The number of participants from each group was decided by the researchers with several consideration. The minimum number of the participants from each group are at least 30 people in order to have normal distribution among participants. Considering drop out and the financial ability, researchers decided to have 135 participants then distributed to three groups equally, 45 participants each group.

To avoid any bias, all the participants were women age above 18 years old, in a good condition both mental and physical health, and follow all the

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research program from the start to finish. Participants who did not participate in at least one meeting, did not fill pre-test and post-test, and loss to follow up were excluded from analysis. At the end of intervention process, the first group consisted of 42 participants, the second group consisted of 43 participants, and the third group consisted of 41 participants. Participants did not attend the intervention meeting due to illness, family members being sick, not providing explanations, and having to work unexpectedly.

The research already obtains ethical clearance from Committee of Ethical research from School of Medicine Universitas Airlangga Surabaya, Indonesia. All participants received the informed consent and willing to enroll in this study.

The health education intervention

The intervention was providing health education about reproductive health. In addition, to avoid any bias from intervention, researchers trained three people as trainer who will train the participants about health reproduction. Training to trainer was conducted by making guideline book for trainer, preparing presentation material, uniforming perception from material, and presentation practice. Training objective on trainers are to ensure that the knowledge gained by participants will be the same.

The number of meeting given to each group are different. The first group received 4 meetings, the second group received 8 meetings, and the third group received 12 meetings. Each meeting session is given for 2 hours. At the beginning of the session, participants were asked to do a pre-test, then the material would be given by a trainer who had been trained, followed by a discussion and question and answer session. At the end, after the discussion session, time was given to do the post-test. Material given during meeting sesion are reproductive organs and contraception, menstruation, fertility period, pregnancy and abortion, sex education and sexual harassment, human sexuality, vaginal discharge and sexually transmitted infections, legal basis and spirituality related to migrant workers. There were significant variances in learning methods among the groups, with group 1 only using seminar and question and answer methods, whereas groups 2 and 3 employed case study learning methods.

Measurement of the knowledge in the three groups was done 4 times with pre-test and post-test. The first questionnaire (pre-test and post-test 1) contained 22 questions about sexual violence and sexual harassment. The second questionnaire (pre-test and post-test 2) contained 30 questions about pregnancy and premarital pregnancy. The third questionnaire (pre-test and post-test 3) contained 17 questions about sexually transmitted infections and contraception. The fourth questionnaire (pre-test and post-test 4) contained 31 questions about the sexuality of married couples, myths and spirituality. In each group, the pre test is given before each session starts, and the post test is given after the session ends. The expected outcome of the intervention is an increasing knowledge of the participants determined by the significant increase in pre-test and post-test score.

Data analysis

Statistical analysis was carried out using descriptive analysis to describe the knowledge of female migrant workers before and after the intervention. The difference test between intervention groups was carried out using ANOVA. The statistical test of increasing knowledge was carried out by using a different test between pre-test and post-test. The difference test before and after intervention (pre-test and post-test) scores was carried out using T-test with $\alpha = 0,05$.

RESULTS

In this study, the level of knowledge was measured 4 times (4 pre-tests and 4 post-tests). The following are the results of the pre-tests and post-tests measurement on female migrant workers.

1. Characteristic of respondents by age

Table 1 showed the age of respondents in Group 1, 2 and 3. The majority of respondents in Group 1, 2 and 3 were at range 20-25 years old.

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Table 1. Characteristic of respondents by age

Age (years)	Group 1	Group 2	Group 3
	n (%)	n (%)	n (%)
20-25	27 (64.2)	29 (67.4)	22 (53.7)
26-30	8 (19.0)	9 (20.9)	12 (29.3)
31-40	7 (16.7)	5 (11.6)	7 (17.1)
Total	45 (100)	43(100)	41(100)

2. Analysis of Pre-test and Post-test on Female Migrant Workers

Table 2 showed that group 3 had the highest average score in pre test 1 (16.22) and post test (17.39). The p-value of T-test showed that there was a significant difference between the pre-test and post-test average score in group 1 and group 3. So it can be concluded that after the intervention, the knowledge about sexual harassment and sexual violence are increasing.

The second knowledge measurement (pre test and post test 2) were about pregnancy and premarital pregnancy. Having score range 0-30. Table 2 showed that group 3 had the highest average score in pre-test (23.68) and post-test (25.78) than other groups. P-value of t-test showed that there was a significant difference between the pre-test and post-test average score in all groups.

The third knowledge measurement (pre-test and post-test 3) have a score range 0-17. Table 2 showed that group 3 had the highest average score in pre-test (10.98) and post-test (12.20). P-value of t-test showed that there was significant difference between the pre-test and post-test average score in group 1 and group 3.

The fourth knowledge measurement (pre-test and post-test 4) have score range 0-31. Table 2 showed that group 3 had the highest average score in pre-test (23.61) and post-test (25.05). P-value of t-test showed that there was a significant difference between the pre-test and post-test score in all groups.

In general, in pre and post test 2 and 4 our data show significant results (pvalue<0,05) in all groups after providing health reproduction education.

Table 2. The analysis of pre-test and post-test score

Group	Measurement	Min	Max	Mean	Std. Deviation	p-value
Pre-test and Post-test 1						
Group 1	Pre test 1	7	20	14.55	2.923	0.006*
	Post test 1	7	20	15.64	2.418	
Group 2	Pre test 1	8	21	15.81	3.010	0.522
	Post test 1	5	20	16.07	3.127	
Group 3	Pre test 1	7	22	16.22	3.320	0.004*
	Post test 1	6	20	17.39	3.485	
Pre-test and Post-test 2						
Group 1	Pre test 2	11	30	23.05	4.196	0.001*
	Post test 2	19	29	24.88	2.973	
Group 2	Pre test 2	9	29	23.40	4.204	0.001*
	Post test 2	14	29	25.33	3.604	
Group 3	Pre test 2	13	28	23.68	3.416	0.001*
	Post test 2	17	29	25.78	2.632	
Pre-test and Post-test 3						
Group 1	Pre test 3	3	14	9.81	2.422	0.001*
	Post test 3	7	14	10.73	1.932	
Group 2	Pre test 3	3	14	10.37	2.430	0.246
	Post test 3	3	16	10.67	2.784	
Group 3	Pre test 3	5	16	10.98	2.230	0.002*

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Group	Measurement	Min	Max	Mean	Std. Deviation	p-value
	Post test 3	4	15	12.20	2.239	
Pre-test and Post-test						
Group 1	Pre test 4	13	29	21.40	3.755	0.001*
	Post test 4	14	30	23.24	3.740	
Group 2	Pre test 4	6	30	22.79	5.294	0.009*
	Post test 4	11	30	24.44	3.990	
Group 3	Pre test 4	15	30	23.61	3.917	0.030*
	Post test 4	17	31	25.05	3.457	

Note: * Significantly different

3. Analysis of difference test in pre-test and post-test total scores between groups

Table 3 showed the analysis of difference test in pre and post-test total scores between groups. The results of the analysis of the difference test showed that there were significant differences between groups in pre-test (p = 0.001) between group 1 and 3, and in post-test (p = 0.010) between group 1 and 3.

Table 1. The result of the analysis of difference test in total score of pre-test and post-test

	p-value		
Pre-test			
	Group 1	Group 2	Group 3
Group 1	-	0.069	0.010*
Group 2	0.069	-	0.395
Group 3	0.010*	0.395	-
Post-test			
	Group 1	Group 2	Group 3
Group 1	-	0.072	0.001*
Group 2	0.072	-	0.068
Group 3	0.001*	0.068	-

Note: * Significantly different

DISCUSSION

In the current study, we discovered that group 3, which had a higher number of sessions (12 meetings) and a greater case study learning approach, was a more effective learning method than groups 1 and 2 in improving migrant workers' reproductive health knowledge. This study carried out 4 measurements consisting of 4 pre-tests and 4 post-tests. The results of the research showed that level of knowledge between groups about reproductive health among migrant workers are significantly different. This shows that health education provided through research interventions can provide information about sexual problems in female migrant workers.

In general, migrant workers are young women, from rural areas, with low education, economically disadvantaged, while abroad most of them work in the domestic sector such as housemaids (Giri *et al.*, 2012; Ullah, 2010; Winarso *et al.*, 2021). Workers also have the potential to experience various problems, especially those related to reproductive health, sexual violence (sexual harassment), sexually transmitted infections and contraception, sexuality of married couples, myths and spirituality.

There are several changes of behavior among migrant workers due to different norms and values from their place of origin. The migrant workers could feel isolated and anxious because they were far from home and family for a long

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time. Lack of familial support such as family and spouse for along time could affect their sexual behavior. Several factors could increase the risk the infection of HIV among migrant worker such as the demanding work, poor living conditions, limited access to healthcare and health information (Tiruneh *et al*., 2015).

Migrant workers mostly are young unmarried women, this has a significant effect on knowledge about sexuality and reproductive health (Giri et al., 2012). Through health education interventions that are given in proper stages and structured, they will be able to change knowledge as well as empower and increase the self-esteem of female migrant workers (Lu *et al*., 2012).

Sexual harassment is a problem that occurs in all countries, sectors, types of work around the world. Sexual violence experienced by female migrant workers leaves trauma and prolonged stress (Rifai *et al*., 2019; B. X. Tran *et al*., 2019). Migrant workers often experience several difficulties in the host country such as harassment and exploitation that could worsen health status, limited health insurance and legal rights to health care (Hargreaves *et al*., 2019). In addition, the risk behavior of migrant workers including sexual behavior also become problem that can happen along side with mental health problem such as anxiety, depression, and problem in self-care (Mucci *et al*., 2019).

However, the victims of sexual harassment and sexual violence unlikely to report because of several factors (Jewkes & Dartnall, 2016). Sexual harassment is a widespread problem but under-reported because the normalize of sexual harassment, victim blaming, difficulties of evidence, and fear of reprisal from co-workers, supervisor, family, employer. The lack of awareness and lack of reporting mechanism making sexual harassment become more difficult to handle (Henry & Adams, 2018).

Tran *et al* (2017) stated that young female migrant workers are at high risk for unintended pregnancy and unsafe abortion due to promiscuity. Unmarried female migrant workers are even more at risk to having premarital sex. Lack of knowledge and skills to avoid risk behaviors such as unsafe sex, and unable to acquire information on reproductive health services are factors that affecting the behavior (T. D. H. Tran *et al*., 2018). Premarital sex is the factors that put unmarried migrant workers vulnerable to unwanted premarital pregnancies, dangerous abortions, sexually transmitted infections and HIV/AIDS (Henry & Adams, 2018; Tang *et al*., 2011).

Ulah (2016) in his research conducted toward 336 female domestic helpers in Hong Kong stated that 97% of female domestic helpers had premarital sex and 36% had experienced pregnancies. A number 61% of female domestic helpers who experienced pregnancies stated that it was premarital unwanted pregnancies. Unwanted pregnancies could results in unsafe abortion which lead to more complicated reproductive health problems such as maternal injury and death (Hussain, 2013; Ullah, 2010). Abortion are often seen as the only option because female migrant worker who pregnant can not work legally and have to face deportation (Loganathan *et al*., 2020). The data from research by Ulah (2016) showed that Indonesia has a higher percentage of abortion because of under pressure, implication of becoming pregnant while working, and stigma from Indonesian culture. As for who wanted the pregnancies, they have to persuade their boyfriend to marry them (Ullah, 2010).

The high number of unwanted pregnancies shows that migrant workers have very little knowledge about contraception. Unwanted pregnancies are closely related to low knowledge about contraception and the use of unreliable contraceptlion such as using condoms carelessly, pills did not work, and mistakes in counting safe periods. Coitus interruptus was not an adequate method to prevent pregnancy and unable to protect against sexual transmitted disease. As much as 37% of unwanted pregnancies were caused by contraceptive failure (Asnong *et al*., 2018; Ullah, 2010).

Migrant workers mostly come from families with low education and poor socioeconomic status, one of the options to get more money and pleasure they do work as sex workers (Chipamaunga et al., 2010). Generally, the majority of sex worker are from broken families and poor socio-economic status that they have to take responsibilty of financial burden (Giri *et al*., 2012).

The lack of social support due to new social environment, has been

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associated with risk-taking behavior (Khan *et al.*, 2009). In addition, new living environment can create many problems in physical and mental health among migrant workers (Wang & Muessig, 2017). Unsafe sexual behavior related to physical and mental health problem among migrant workers can lead to psychosocial and cognitive disorders and lowering a person's capacity to avoid risk behavior (Khan *et al.*, 2009). Previous research has stated that psychosocial and cognitive disorders in migrant workers can occur due to the presence of commercial sex workers among migrants (Denavas, 1988). Most of the migrant workers are married and have to be separated from their husbands for a long time (Wang & Muessig, 2017).

Therefore, due to complicated problems the migrant workers have to face, empowering migrant workers through increasing knowledge related to reproductive health is an important step in preventing and overcoming various problems that may be faced. Intervention could be done through community-based health-related intervention or personal (face-to-face) intervention *(Baumeister et al.*, 2019). Knowledge of reproductive health including sexual harassment, sexual violence, pregnancy, premarital or unwanted pregnancy, sexually transmitted infections, contraception, sexuality of married couples, myths, and spirituality. Empowerment is very necessary because generally migrant workers have poor health literacy (Kosiyaporn *et al.*, 2020). Health literacy is the beginning of empowerement. Health literacy is the ability that a person has to access, understand, appraise, and apply health information to make health-related decisions (Sørensen *et al.*, 2012).

The results showed that overall the training participants experienced an increase in knowledge related to reproductive health after receiving interventions in the form of providing reproductive health materials. Cusack et al (2018) mention that educational interventions can increase a person's understanding of a field of knowledge including reproductive health *(Cusack et al.*, 2018).

The results showed that overall the training participants who received 12 meetings had a better score. The method of providing information affects a person's knowledge, attitudes, and behavior in dealing with problems including health problems (He *et al.*, 2016; Lee & Wu, 2014). Providing more detailed and complete information will affect the level of participants' understanding of the information.

CONCLUSION

Health education given to migrant workers is proven to be able to increase the level of knowledge related to reproductive health. The group that received more detailed knowledge had a better level of knowledge. This knowledge increase is useful for preventing and overcoming problems related to reproductive health that may be faced by migrant workers.

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