Strada Journal of Pharmacy
ISSN: 2776-3544 (print); 2797-9180 (online)
Vol. 7, No 1, April 2025, 15-24

Analysis of Factors Influencing Pharmacist Compliance in Reporting Side Effects of Medications in District Health Center X

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ABSTRACT
The occurrence of Adverse Drug Reactions (ADR) cases has resulted in an increase in the number of patients experiencing pain and death, both when patients are in the hospital and in everyday life. The purpose of this study was to analyze the factors that influence pharmacist compliance in reporting adverse drug reactions at Health Center X. This study used a quantitative research type with a cross-sectional research design. The study population was all pharmacists at Health Center X with a sample size of 25 respondents. The independent variables were knowledge, attitudes, availability and accessibility, influence of colleagues and rewards, availability of facilities and policies/regulations related to ADR reporting and the dependent variable was practices related to ADR reporting. Data collection used a questionnaire and was analyzed using the Spearman test. From the results of the study, it is known that the significance value of knowledge is 0.351>0.05, the significance value of attitude is 0.545>0.05, the significance value of availability and accessibility is 0.586>0.05, the significance value of availability of facilities is 0.413>0.05, the significance value of ADR reporting policy is 0.127>0.05, meaning that there is no influence between the variables of knowledge, attitude, availability and accessibility, availability of facilities and ADR reporting policy on pharmacist compliance at health centers in District X. While the significance value of the influence of coworkers and rewards is 0.012<0.05, meaning that there is an influence between the variables of the policy of the influence of coworkers on pharmacist compliance at health centers X.

Keywords : Reporting compliance, drug side effects, pharmacist, ADR

INTRODUCTION
Adverse drug reactions (ADRs) are unwanted side effects of drugs that occur during normal clinical use. ADRs can affect a patient's quality of life and can cause death (Sholihah and Santoso, 2021). AEDs are one of the leading causes of patient treatment problems worldwide. Serious AEDs are adverse events or reactions at any dose that may result in prolonged treatment, significant medical events, abnormalities, and may even lead to death. They have the potential to cause unidentified drug safety risks for which effective preventive measures cannot be taken (Lukito, 2020).

The Food and Drug Supervisory Agency s the national center for monitoring adverse drug effects received 6,852 ADR reports in 2022 from health workers. This number has increased more than the ADR reports in the previous year. However, when viewed from the population and the number of drugs circulating in Indonesia in 2022, ADR reports in Indonesia are still very small. In addition, compared to ADR reports in other countries, Indonesia has a low ADR report rate.

ADR reporting in Indonesia can be said to be suboptimal, because it is still voluntary reporting, namely voluntarily by health workers by filling out the yellow ADR reporting form

or what is known as the yellow form and reporting online via the e-mADR subsite (https://e-mADR.pom.go.id/ADR) or via the Android-based E-ADR Mobile application. Pharmacists as health workers have special knowledge about drugs and monitoring their side effects. Pharmacists are actively involved in ADR reporting and are expected to increase the number of ADR reports.

Pharmacist participation as health workers can reduce problems related to adverse drug side effects to protect the community from the risk of unwanted drug side effects. The purpose of this study was to determine the factors that influence pharmacist compliance in reporting drug side effects at health.

METHOD

The study was conducted using a cross-sectional method. Respondents in this study were all pharmacists working at the health center X, totaling 25 pharmacists, with a total sampling technique. Total sampling is a sampling method that uses all elements of the population as samples.(Prof. Dr. Sugiono, 2019).

The questionnaire that will be used for the research was tested for validity and reliability first. The questionnaire validity test stage was conducted on 15 respondents who had the same criteria as the research respondents. The respondents used in the validity test were pharmacists who worked at the Trenggalek health center. At this stage, validity and reliability tests were conducted on 42 question items.

In the validity test, each item was declared valid (r count > 0.05)(Musrifah, La and Titaley, 2021). Determination of reliability in this study was done by looking at the Cronbach's Alpha value. The questionnaire can be declared reliable if the results of Cronbach's Alpha have a value greater than 0.7(Yusup, 2018).The results of the reliability test obtained a Cronbach's Alpha value > 0.7, which means that the questionnaire used is reliable.

This study was conducted for two months from June - July 2024. The instrument in this study was a questionnaire. The distribution of questionnaires was carried out directly to each respondent. Data processing was carried out by editing, coding and tabulating. The data analysis used was a correlation test with the Spearman technique with the SPSS application.

Spearman correlation test is used to determine the relationship between two or more variables in a study. This test is included in non-parametric statistical tests. This correlation test is done by looking at the level of significance. The significance value is greater than 0.05 then there is no relationship between the two, if the significance value is less than 0.05 then there is a correlation of the results studied(Prabandaru and Widodo, 2022).

RESULT

Based on the results of research conducted at the Community Health Center in X Regency, the following results were obtained:

RESPONDENT CHARACTERISTICS

Respondents who filled out the questionnaire were 25 pharmacists who worked in health centers with a length of service of 0-5 years.

The majority of respondents in this study were female 23 (92%) as listed in table 1. In the last education category, all respondents were professional pharmacists 25 (100%). In terms of practice experience, respondents had experience in the 0-5 years category 25 (100%). Respondent characteristic data in this study were not tested for their influence on variables. Respondent characteristic data are only used to explain the profile of the respondents used in the study.

Table 1. Characteristics of Pharmacist Respondents at X Regency Health Centers.

Respondent characteristics	Pharmacist N (%)
Gender	
Man	2 (8 %)
Woman	23 (92 %)
last education	
Pharmacist	25 (100%)
Length of work	
0-5 years	25 (100%)
6-10 years	0 (0%)
> 10 years	0 (0%)

DATA TABULATION

Table 2. Cross Tabulation of Knowledge Variables Regarding ADR Reporting Practices District Health Centers X

			Practice			Total
			Less	Enough	Good	
Knowledge	Enough	N	5	1	2	8
		%	20.0%	4.0%	20.0%	32.0%
	Good	N	7	3	7	17
		%	28.0%	12.0%	28.0%	68.0%
Total		N	9	4	12	25
		%	48.0%	16.0%	36.0%	100.0%

The results of cross-tabulation between knowledge and practice of reporting drug side effects obtained the results that most respondents with good knowledge had good ADR reporting practices, namely 7 people (28%), sufficient as many as 3 people (12%) and lacking as many as 7 people (28%). While sufficient knowledge with poor ADR reporting practices, namely 5 people (20%), sufficient as many as 1 person (4%) and good as many as 2 people (8%).

Table 3. Cross Tabulation of Attitude Variables Towards ADR Reporting Practices at District Health Centers

			Practice			Total
			Less	Enough	Good	
Attitude	Enough	N	6	3	3	12
		%	24.0%	12.0%	12.0%	48.0%
	Good	N	6	1	6	13
		%	12.0%	4.0%	24.0%	52.0%
Total		N	12	4	9	25
		%	48.0%	16.0%	36.0%	100.0%

The results of cross-tabulation between attitudes and practices of reporting drug side effects obtained the results that most respondents with good attitudes had good ADR reporting practices, namely 6 people (24%), sufficient as many as 1 person (4%) and lacking as many as 6 people (24%). While sufficient attitudes with ADR reporting practices were lacking as many as 6 people (24%), sufficient as many as 3 people (12%) and good as many as 3 people.

Table 4. Cross Tabulation of Availability and Accessibility Variables on ADR Reporting Practices at District Health Centers

			Practice			
			Less	Enough	Good	Total
Availability and Accessibility	Enough	N	4	1	2	7
		%	16.0%	4.0%	8.0%	28.0%
	Good	N	8	3	7	18
		%	32.0%	12.0%	28.0%	72.0%
Total		N	12	4	9	25
		%	48.0%	16.0%	36.0%	100.0%

The results of cross-tabulation between availability and accessibility with the practice of reporting drug side effects obtained the results that most respondents with good availability and accessibility had poor ADR reporting practices, namely 8 people (32%), sufficient as many as 3 people (12%) and good as many as 7 people (28%). While sufficient availability and accessibility with poor ADR reporting practices were 4 people (16%), sufficient as many as 1 person (4%) and good as many as 2 people (8%).

Table 5. Cross Tabulation of Peer Influence Variables on ADR Reporting Practices at District Health Centers

			Practice			
			Less	Enough	Good	Total
Peer influence	Not enough	N	4	1	0	5
		%	16.0%	4.0%	0.0%	20.0%
	Enough	N	5	3	2	10
		%	20.0%	12.0%	8.0%	40.0%
	Good	N	3	0	7	10
		%	12.0%	0.0%	28.0%	40.0%
Total		N	12	4	9	25
		%	48.0%	16.0%	36.0%	100.0%

The results of cross-tabulation between peer influence, and reward with the practice of reporting side effects of drugs obtained the results that most respondents with policies, peer influence and good rewards have good ADR reporting practices, namely 7 people (28%) and less than 3 people (12%). Peer influence and reward are lacking in having less ADR reporting practices, namely 4 people (16%) and sufficient as many as 1 person (4%). While for peer influence and sufficient reward, there are less ADR reporting practices, namely 5 people (20%), sufficient as many as 3 people (12%) and good as many as 2 people (8%).

Table 6. Cross tabulation of the variable of availability of facilities on ADR reporting practices in X district health centers.

			Practice			
			Less	Enough	Good	Total
Availability of Facilities	Not enough	N	0	1	0	1
		%	0.0%	4.0%	.0%	4.0%
	Enough	N	11	3	9	23
		%	44.0%	12.0%	36.0%	92.0%
	Good	N	1	0	0	1
		%	4.0%	0.0%	0.0%	4.0%
Total		N	12	4	9	25
		%	48.0%	16.0%	36.0%	100.0%

The results of cross-tabulation between the availability of facilities and the practice of reporting drug side effects showed that most respondents with sufficient availability of facilities had less ADR reporting practices, namely 11 people (44%), sufficient as many as 3 people (12%) and less as many as 9 people (36%). The availability of facilities was lacking had sufficient ADR reporting practices as many as 1 person (4%). While the availability of good facilities had less ADR reporting practices as many as 1 person (4%).

Table 7. Cross tabulation of policy variables on ADR reporting practices at district health centers

			Practice			
			Less	Enough	Good	Total
ADR Reporting Policy	Good	N	4	2	1	7
		%	16.0%	8.0%	4.0%	28.0%
	Enough	N	8	2	6	16
		%	32.0%	8.0%	24.0%	64.0%
	Not enough	N	0	0	2	2
		%	0.0%	0.0%	8.0%	8.0%
Total		N	12	4	9	25
		%	48.0%	16.0%	36.0%	100.0%

The results of cross-tabulation between policies/regulations related to ADR reporting and drug side effect reporting practices showed that most respondents with sufficient ADR reporting policies had poor ADR reporting practices, namely 8 people (32%), sufficient 2 people (8%) and good 6 people (24%). Insufficient ADR reporting policies had poor ADR reporting practices, namely 4 people (16%), sufficient 2 people (8%) and good 1 person (4%). Meanwhile, good ADR reporting policies had good ADR reporting practices, namely 2 people (8%).

Table 8. Analysis of Factors Influencing Pharmacist Compliance at District Health Centers in Reporting Drug Side Effects.

	Knowledge	Attitude	Availability and Accessibility	Peer influence	Availability of Facilities	ADR Reporting Policy
Correlation Coefficient	.195	.127	.115	.495*	-.171	.314
Sig. (2-tailed)	.351	.545	.586	.012	.413	.127
N	25	25	25	25	25	25

The results of the statistical analysis test showed a significance value of knowledge of 0.351 > 0.05, attitude 0.545 > 0.05, availability and accessibility 0.586 > 0.05, peer influence 0.012 < 0.05, availability of facilities 0.413 > 0.05, and ADR reporting policy 0.127 > 0.05.. These results indicate that what can influence pharmacist compliance in reporting ADR is the influence of colleagues with a correlation value of 0.495.and rewards for pharmacist

compliance practices in reporting ADR at the X District Health Center in the moderate category.

DISCUSSION

Based on the results of research on ADR reporting practice variables, it is known that the majority of ADR reporting practicesin the less category as many as 12 people (48%), good category as many as 9 people (36%) and sufficient category as many as 4 people (16%). This happened because most respondents did not do ADR pioneering as many as 21 people (84%) and 4 people reported ADR. Of the 4 respondents who reported ADR in the last 1 year, they only reported 1-3 times. While the reasons that caused respondents not to report ADR were due to time constraints, lack of knowledge, limitations (Human RADRurces) HR, rewards and punishments, excessive workload, additional tasks, lack of socialization related to ADR reporting, no ADR incidents and the need for collaboration with colleagues.

Based on the results of the study on the knowledge variable, it is known that the majority of respondents with good knowledge were 17 people (68%) and sufficient as many as 8 people (32%). This study is in line with previous research conducted by Musdar, et al. (2021) which stated that the category of pharmacist knowledge related to ADRs reporting was considered quite good, as evidenced by the results of the study where almost all question items received correct answers from more than half of the respondents, except for one question about good reporting with the most wrong answers.

A person's knowledge can be influenced by the information they receive. Information can be obtained from formal or informal education. Formal education can be obtained from learning at school, while informal learning can be obtained from training (Wahidah and Ruhmawati, 2022).

Based on the results of data analysis, the knowledge significance value is 0.351>0.05, meaning that there is no influence between the knowledge variable on pharmacist compliance at the X Regency Health Center in reporting ADR. The correlation value is 0.195, meaning that the influence of knowledge on the practice of pharmacist compliance in reporting ADR at the X Regency Health Center is in the weak category. This study found no influence between variables because many pharmacists already had good knowledge but due to time constraints and lack of human rADRurces, they did not report ADR. This study is different from previous research conducted by Musdar, et al. (2021) which found that the knowledge variable had an effect on the practice of reporting ADRs by pharmacists with a p value = 0.036.

Based on the results of the study on attitude variables, it is known that most respondents with good attitudes were 13 people (52%) and sufficient as many as 12 people (48%). These results are in line with research conducted by Musdar, et al. (2021) which illustrates that in general respondents positively accepted the ADRs reporting program carried out by the government. According to Allport, attitude is a kind of readiness to react to an object in certain ways (in Anwar, 2013).

Based on the results of data analysis, the significance value of attitude is 0.545>0.05, meaning that there is no influence between the attitude variable on pharmacist compliance at the X Regency Health Center in reporting ADR. The correlation value is 0.127, meaning that the influence of attitude on the practice of pharmacist compliance in reporting ADR at the X Regency Health Center is in the weak category. This study found no influence between variables because many pharmacists already had good attitudes but because of the lack of human rADRurces and additional tasks given. This study is in line with previous research conducted by Musdar, et al. (2021) which found that the attitude variable had no effect on the practice of reporting ADRs by pharmacists with a p value = 0.248.

Based on the results of the study on the variables of availability and accessibility of programs, infrastructure, and facilities related to reporting, it is known that the majority of respondents with good availability and accessibility were 18 people (72%) and sufficient were 7 people (28%). This result is in line with research conducted by Musdar, et al. (2021) which stated that the majority of respondents thought that access to reporting facilities was easy to obtain both online and manually using the yellow form.

Based on the results of data analysis, the significance value of availability and accessibility is 0.586>0.05, meaning that there is no influence between the availability and accessibility variables on pharmacist compliance at the X Regency Health Center in reporting ADR. The correlation value is 0.115, meaning that the influence of availability and accessibility on the practice of pharmacist compliance in reporting ADR at the X Regency Health Center is in the weak category. This study is different from previous research conducted by Musdar, et al. (2021) which found that the availability and accessibility variables influenced the practice of reporting ADRs by pharmacists with a p value = 0.002.

Based on the results of the study on the variables of peer influence and rewards related to ADR reporting, it is known that the number of respondents with peer influence and rewards in the sufficient and good categories is the same as 10 people (40%) and less than 5 people (20%). Pharmacists who have peer influence and less rewards are due to the absence of invitations from colleagues to practice ADR reporting. These results are in line with research conducted by Musdar, et al. (2021) which obtained the results of respondents' answers in the fairly good category as evidenced by almost all question items answered correctly by more than 30 respondents out of a total of 49 respondents.

Based on the results of data analysis, the significance value of peer influence and reward is 0.012 <0.05, meaning that there is an influence between the peer influence variable on pharmacist compliance at the X Regency Health Center in reporting ADR. The correlation value is 0.495, meaning that the influence of the peer influence and reward variables on the practice of pharmacist compliance in reporting ADR at the X Regency Health Center is in the moderate category. This study is different from previous research conducted by Musdar, et al. (2021) which found that the policy variables, peer influence and rewards did not affect the practice of reporting ADRs by pharmacists with a p value = 0.225.

Based on the results of the study on the variable of the availability of ADR reporting facilities, it is known that most of the availability of facilities is in the sufficient category of 23 people (92%), good as much as 1 person (4%) and lacking as much as 1 person (4%). These results indicate that the government has provided a place to report if there are side effects of drugs, either online or manually. Pharmacists who have less availability of ADR reporting facilities are due to the lack of training related to ADR Reporting for health workers at the health center where they work and the pharmacovigilance center.

Based on the results of data analysis, the significance value of the availability of facilities is 0.413>0.05, meaning that there is no influence between the availability of facilities variable on pharmacist compliance at the X Regency Health Center in reporting ADR. The correlation value is -0.171, meaning that the influence of the availability of facilities on the practice of pharmacist compliance in reporting ADR at the X Regency Health Center is in the weak category and in the opposite direction. This study is different from previous research conducted by Musdar, et al. (2021) which found that the availability of facilities variable had an effect on the practice of reporting ADRs by pharmacists with a p value = 0.002.

Based on the results of research on policy/regulatory variables related to ADR reporting, it is known that most of them. ADR reporting policysufficient category as many as 16 people (64%), less as many as 7 people (28%) and good as many as 2 people (8%). Pharmacists who have policies/regulations related to ADR reporting in the sufficient category are due to the lack

of socialization from the government regarding ADR reporting policies/regulations/guidelines. This result is different from the research conducted by Musdar, et al. (2021) which stated that most respondents with ADR reporting policygood category, proven by 3 out of 4 questions with all correct answers and one question with 38 correct answers from a total of 49 respondents.

Based on data analysis, the significance value of the ADR reporting policy is 0.127>0.05, meaning that there is no influence between the ADR reporting policy variable on pharmacist compliance at the X Regency Health Center in reporting ADR. The correlation value is 0.314, meaning that the influence of the ADR reporting policy on the practice of pharmacist compliance in reporting ADR at the X Regency Health Center is in the moderate category. This study is in line with previous research conducted by Musdar, et al. (2021) which found that the ADR reporting policy variable had an effect on the practice of reporting ADRs by pharmacists with a p value = 0.218.

The practice of ADR reporting compliance carried out by pharmacists is influenced by several factors, based on the results in the field it was obtained that the most common reason that caused pharmacists not to report was due to lack of knowledge as many as 20 people (38%). In addition, due to limited time as many as 11 people (21%), limited human rADRurces as many as 6 people (11%), lack of socialization related to ADR reporting as many as 4 people (8%), no ADR incidents as many as 3 people (6%), excessive workload as many as 5 people (10%), no reward and punishment for reporting made as many as 2 people (4%), and the need for collaboration with other colleagues as many as 1 person (2%). This question is an open question where respondents can answer more than one answer.

ADR reporting in Indonesia can be said to be suboptimal, because it is still voluntary reporting, namely voluntarily by health workers by filling out the yellow ADR reporting form or what is known as the yellow form and reporting online via the e-mADR subsite (https://e-mADR.pom.go.id/ADR) or via the Android-based E-MADR Mobile application.(BPOM, 2023). Pharmacists as health workers have special knowledge about drugs and monitoring their side effects. Pharmacists are actively involved in reporting ADR and are expected to increase the number of ADR reports. Although pharmacists have the authority to report ADR voluntarily in Indonesia, the level of pharmacist participation is less than optimal.

Based on the explanation above, the researcher assumes that with the influence of colleagues and rewards given, it can influence compliance practices related to ADR reporting, the better the influence of colleagues and rewards received, the more compliant they will be in reporting ADR due to the reciprocity received. Meanwhile, for knowledge, attitudes, availability and access to facilities, the availability of facilities and policies/regulations related to good ADR reporting do not guarantee that someone has compliance in reporting caused by drug side effects. This statement is in accordance with the results of the study where only the variables of peer influence and rewards have an influence on ADR reporting practices and other variables have no influence.

Respondents in this study actually already have good knowledge, good attitudes, good availability of access and facilities, and good policies/regulations related to reporting ADR but still few who report related to ADR that occurs. There are several reasons why pharmacists do not report side effects of drugs including, lack of knowledge, time constraints, limited human rADRurces, no rewards and punishments, excessive workload, lack of socialization related to reporting ADR, no ADR incidents, the need for collaboration between colleagues.

The government is expected to add pharmacist performance indicators to report ADR which will then be used for pharmacovigilance data. The government can provide rewards and punishments for pharmacists who report ADR, because the participation of pharmacists as health workers can reduce problems related to adverse drug side effects to protect the public

from the risk of unwanted drug side effects. Therefore, pharmacists are expected to improve and strengthen their understanding of the benefits of ADR reporting.

CONCLUSIONS

The results of the statistical tests that have been carried out show that the variables of knowledge, attitude, availability and accessibility, availability of facilities and ADR reporting policies do not affect the practice of compliance with ADR reporting and do not affect the variable of pharmacist compliance practices in ADR reporting at Health Center X.

REFERENCES

Ahmad A, Khan MU, Elkalmi RM, et al. Job satisfaction among Indian pharmacists: An exploration of affecting variables and suggestions for improvement in pharmacist role. Indian J Pharm Educ Res. 2016;50(1):9-16. doi:10.5530/ijper.50.1.2

Anwar Prabu Mangkunegara. 2013. Corporate Human RADRurces Management, Bandung: Publisher PT Teen Rosdakarya.

BPOM (2023) 'Profile of Reports of Adverse Events or Side Effects of Drugs (KTD or ADR) in 2022', 41(1), p. 25.

Chen J, Silverthorne C. The Impact of locus of Control on Job Stress, Job Performance and Job Satisfaction in Taiwan. Leadersh Organ Dev J. 2008;29(7):572-582. doi:10.1108/01437730810906326

Dokko G, Wilk SL, Rothbard NP. Unpacking Prior Experience: How Career History Affects Job Performance. Organ Sci. 2009;20(1):51- 68. doi:10.1287/orsc.1080.0357

Lee Y, Sabharwal M. Education–Job Match, Salary, and Job Satisfaction Across the Public,, Non-Profit, and ForProfit Sectors: Survey of recent college graduates. Public Manag Rev. 2016;18(1):40-64. doi:10.1080/14719037.2014.957342.

Lukito (2020) 'Pharmacovigilance Module for Health Professionals, “Ensuring Drug and Food Safety” Project', Japan International Cooperation Agency Food and Drug Administration [Preprint].

Musrifah, S., La, S. and Titaley, H. (2021) 'Analysis of Delay Factors in the Construction Project of the Man 1 Tulehu Dormitory Building, Central Maluku', Jurnal Simetrik, 11(1), pp. 432–439. Available at: https://doi.org/10.31959/js.v11i1.615.

Ng TWH, Feldman DC. Organizational tenure and job performance. J Manage. 2010;36(5):1220-1250. doi:10.1177/0149206309359809

Prabandaru, R. and Widodo (2022) 'The Relationship between Competence and the Performance of Learning Supervisors in the Package B Equivalency Education Program at SKB Gresik', J+PLUS: Journal of Non-School Education Students, 11(2), p. 105.

Prof. Dr. Sugiono (2019) Qualitative Quantitative Research Methods and R&D. Edited by M. Dr.Ir.Sutopo.S.Pd.

Shaffril HAM, Uli J. The Influence of Socio-Demographic Factors on Work Performance among Employees of Goverment Agriculture Agencies in Malaysia. J Int Soc Res. 2010;3(10):459- 469

Shirom A, Gilboa SS, Fried Y, Cooper CL. Gender, age and tenure as moderators of work-related stressors' relationships with job performance: A meta-analysis. Hum Relations. 2008;61(10):1371-1398.

Sholihah, I. and Santoso, J. (2021) 'Efforts to Increase Knowledge of Drug Side Effects among Dasa Wisma Residents in Efforts to Implement Pharmacovigilance', PaKMas: Journal of Community Service, 1(2), pp. 149–153. Available at: https://doi.org/10.54259/pakmas.v1i2.110.

Wahidah and Ruhmawati, 2022. The Influence of Health Education Using E-Booklet Media on Knowledge of Obesity Prevention in Adolescents. Siliwangi Health Journal. 3(1):1-5 accessed https://doi.org/10.34011/jks.v3i1.1047

Yusup, F. (2018) 'Validity and Reliability Test of Quantitative Research Instruments', Jurnal Tarbiyah: Jurnal Ilmiah Kependidikan, 7(1), pp. 17–23. Available at: https://doi.org/10.21831/jorpres.v13i1.12884.