

Implementation of Drug Administration with High Awareness (LASA/ Look Alike Sound Alike and High Alert) for Patient Safety at Pharmacies in Surakarta

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Abstract

LASA (Look Alike Sound Alike) are drugs that have similar names, looks and speech and need to be watched out for to prevent no errors in taking medication (dispensing error) by pharmacists. High-alert (HA) medication is a drug that must be watched out for because it often causes errors or serious errors (sentinel events) and drugs that have a high risk of causing Adverse Drug Reactions (ADR). One of the pharmacist duties at a pharmacy is to organize LASA and HA drugs properly to prevent medication errors. The purpose of this study is to determine the knowledge of pharmacist in the city of Surakarta on the process of good and safe drug storage and able to implement safe and high alert drug storage for patient/consumer safety. The type of research is experimental research. The study was conducted from September 1, 2021 to January 20, 2022. The number of samples were 117 pharmacists who worked in different pharmacy locations. The data obtained were scored and analyzed using the SPSS 25 test, the Shapiro-Wilk normality test, followed by the Paired sample T-Test. The results of this study indicate that there is an effect of socialization intervention using the HA and LASA flyer, namely an increase in knowledge and implementation of the arrangement of HA and LASA drugs. Data showed that the results of pre-test 17.52% and post-test 89.74% ($p=0.000$; $p<0.05$). From this study, it was found that there was a significant change in the level of implementation of the LASA and HA drug arrangement from pharmacists after the intervention using the LASA/HA drug arrangement flyer.

Key word : LASA (Look Alike Sound Alike), HA (High Alert), Implementation

INTRODUCTION

LASA (Look Alike Sound Alike) are drugs that have similar names, looks and speech that need special caution, so that there are no medication errors (Dispensing Errors) that can cause injury to patients (Ministry of Health, 2016; Bayang et al., 2013, Rusli, 2018). Oktarlina and Wafiyatuniasa (2017) showed that the medication error in prescribing phase in hospital was high. Perwitasari et al., (2010) showed the same data in outpatient of a government hospital. In addition, high-alert medications are drugs that must be watched out for because they often cause serious errors (sentinel events) and are at high risk of causing Adverse Drug Reactions. High alert drugs include high concentrations of electrolytes, diabetes drugs, drugs with a narrow therapeutic index and cytostatic drugs (Ministry of Health, 2016).

The results of supervision by the Health Service at 117 sample pharmacies showed that only 13.4% of pharmacies stored LASA drugs properly and only 16.31% pharmacies stored high alert drugs properly. The knowledge of pharmacists in private pharmacies regarding High Alert (HA) and LASA drugs is still limited. Asyikin (2018) showed that the storage of LASA drugs in pharmacies still not follow the standard of regulation. Tajuddin, et al., (2012) also said that closer arrangement of LASA drug tends to dispensing error. In addition, Diana, et al (2016) showed that the suitability of the storage HA drugs only 42.62%. Novianty et al., (2015) and Nurhikma and Musdalipah (2017) also showed that the storage of LASA drugs in hospital still need to improve. In contrast, Husnawati et al., (2016) showed that the implementation of drug storage in public health center was in good category, either in private hospital (Octavia,

2019). Based on this data the socialization is needed on the implementation of high alertness for HA and LASA drugs in pharmacies. This research has aim to change the behavior of pharmacists in pharmacies in managing HA and LASA drugs.

RESEARCH METHODOLOGY

Research design

The type of research used is analytic observational research. The research was conducted at pharmacies in the Surakarta City area, by officers assigned by the Health Office of Surakarta City. The time of the research was carried out in September 2021-January 2022 and was divided into three stages:

a. Preparation phase

Includes: cross-sectoral and cross-program consolidation for program implementation, namely licensing application including ethical clearance no 3854/B.2/KEPK-FKUMS/XI/2021, debriefing observer officers, program implementation sites, as well as making E-Lisa input modules and programs.

b. Implementation stage

Include: testing the validity and reliability of the questionnaire on 30 non-sample respondents by taking into account the inclusion and exclusion criteria. The data collection process uses data using a hard copy module and the E-Lisa system. And intervention with a flyer for the arrangement of LASA/HA drugs. Distribution of the follow-up form for improving the implementation of the arrangement of LASA/HA drugs after the intervention.

c. Completion stage

Include: data analysis using SPSS 25, Shapiro Wilk normality test, T-test, report preparation.

Population and Sample

The population were all pharmacies in the city of Surakarta. The sample in this study was 117 pharmacies in the city of Surakarta, visited by pharmacists at the Surakarta City Health

Service Health Center in the Surakarta City area.

Research Instruments

The research instruments using the E-LISA questionnaire and the Google form questionnaire. Furthermore, the questionnaire was filled out by the pharmacist at the sample pharmacy. The researcher recapitulated the questionnaire filling data and conducted data analysis.

Data analysis

Data collection techniques in this study used the E-LISA module and a questionnaire on the implementation of the results of observations (follow-up plan reports). Officers made observations using the module (on observer) and after observation (post observer) to assess changes in knowledge and implementation between before observation and after observation by pharmacists using LASA and HA flyers. Data from observations were processed with SPSS 25 for Windows software which aims to determine validity, reliability, and normality tests (Singgih, 2014). The validity test of the questionnaire data which was conducted before being used to collect research data included validity and reliability tests.

RESULT AND DISCUSSION

The characteristics of the respondents in this study were homogeneous, namely pharmacists. Reliability test with *Cronbach's Alpha* on 6 questions used in interviewing respondents. Sugiharto and Situnjak (2006) state that reliability refers to an understanding that the instruments used in research to obtain information used can be trusted as a data collection tool and are able to reveal actual information in the field. Ghozali and Castellan (2009) states that reliability is a tool to measure a questionnaire which is an indicator of a variable or construction. Analysis of the reliability value with *Cronbach's Alpha* shows that the test of 6 question items has a person correlation value of $0.884 > 0.05$. So it can be concluded that 6 questions will be used as a data collection tool.

Based on the results of the normality test using the SPSS 25, it is known that the *Shapiro-Wilk* significance value for the Pretest (0.230) and Posttest (0.101) variables is greater than 0.05, so it can be concluded that the Pretest and Posttest variables are normally distributed. So that the comparative test between the results of the Pretest and Posttest can be done with the

paired test of the sample T-Test because the test requirements use the paired T-Test sample test, the variables to be analyzed must be normally distributed. The normality test for the average percentage of pretest and posttest scores on the 6 questionnaire questions can be seen in Table 1.

Table 1. The results of the pretest and posttest implementation of the LASA/HA drug arrangement for 117 pharmacists in pharmacies in Surakarta

No	Questions	Appropriate on the criteria	
		Pretest (%)	Posttest (%)
1.	Is your colleague aware of any LASA (Look Alike Sound Alike) and High Alert (HA) drugs?	15.38	89.74
2.	Does your colleague know that there are drugs that, when read, often read like other drugs because the names are almost the same?	14.53	89.74
3.	Do colleagues know there is a drug if it sounds like another drug because the name sounds almost the same?	18.80	89.74
4.	Does your colleague know that there are several types of drugs that should be stored on a drug shelf or in a certain place based on special rules to make identification easier?	19.66	90.60
5.	Do colleagues know the method of writing LASA drug names using the Tallman Lettering method?	17.95	89.74
6.	Do colleagues know that there are several types of drugs that must be examined in stages before being handed over to patients?	18.80	88.89

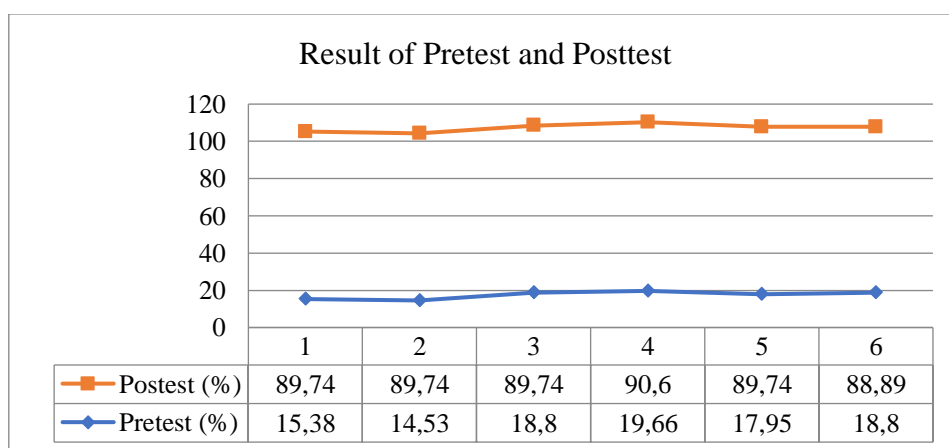


Figure 1. Graph of results pretest and posttest for the implementation of LASA/HA drug administration

Based on Table 1, it is shown the mean or average value of the average pretest and posttest scores of 117 respondents. The average value of the pretest was 17.52 while the average value of the posttest was 89.74. Because the average value of the pretest < posttest, there is a descriptive difference in the

results obtained before the intervention and after the intervention. Although not all of the respondents were cooperative to follow the flyer requested by the researcher, the results of behavior tend to change the implementation of the LASA/HA drug arrangement were on average still good (89.74%). This result better

than Ningsih and Muhlis (2018) that showed pharmacist in Umbulharjo and Kotagede sub district have the good knowledge value was 59% on structuring of LASA drugs. Wulandari (2019) also showed that the knowledge of pharmacist in Kulonprogo has good (66.7%) in LASA drug management.

Posttest by sharing a questionnaire form link with photos of the arrangement of LASA/HA drugs with a minimum time interval of 2 weeks after the intervention. From Table 1 and Figure 1, it is known that there is a significant increase of changes in knowledge and behavior respondents towards implementation of LASA/HA medicines for patient safety.

Table 2. Difference implementation of LASA/HA drug administration

	Mean	SD	p-value
Pretest-Posttest	-72.22167	2.07453	0.000

Based on Table 2, the value of Sig (2-tailed) is $0.000 < 0.05$, then H_0 is rejected and H_a is accepted. So it was concluded that there was an average difference between learning outcomes before the intervention (pretest) and after the intervention (posttest).

It was agreed with Cheung et al., (2009) that the improvements in pharmacies dispense still important, and the infrastructure must be complemented and improve the quality of pharmacy service (Ibrahim, et al., 2016). This study showed that learning or socialization to pharmacists could increase the knowledge and change the implementation of LASA and HA drug arrangements from pharmacists in the sample. Another way to improve the LASA storage was the policy from the pharmacies (Pitoyo et al, 2016) and the need of good protocol in pharmacies service are needed (Putra, 2014).

CONCLUSIONS

This study found that there was a significant change in the level of implementation of the LASA and HA drug arrangement from pharmacists in the pharmacies in Surakarta city. It can be concluded that socialization of the flyer for the arrangement of LASA/HA drugs to pharmacists in the sample areas can increase the knowledge and change of attitude of pharmacists regarding the implementation of the arrangement of LASA/HA drugs.

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