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Description of Drugs Abuse in Student Urine at One of the Vocational High Schools in Yogyakarta

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ABSTRACT

Yogyakarta Special Region (DIY) has become one of the target markets for narcotics and illegal drugs. The DIY Provincial National Narcotics Agency (BNNP) in 2021 stated that the Indonesian population aged 15-64 years had been exposed to using drugs. Referring to data from BNNP DIY ranks 5th in drug abuse cases and the most teenagers. DIY has a potential that is quite vulnerable considering the number of teenagers who continue their education in the city of Yogyakarta. The purpose of this study was to determine the presence or absence of amphetamine and methamphetamine in one of the vocational high school's students in DIY. This type of research is descriptive research. Amphetamine and methamphetamine examination using a competitive immunochromatographic method. The sample used was the urine of students as many as 27 samples. The data analysis of the research results was carried out descriptively and presented in the form of tables and narratives. In this study, no urine samples containing amphetamine and methamphetamine were found, red lines appeared on Control (C) and Test (T). There were no positive results containing amphetamine and methamphetamine from 27 (100%) samples examined.

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INTRODUCTION

Indonesia is one of the countries targeted by the drug market in the world. Several types of drugs such as ecstasy, crystal methamphetamine and heroin have entered the Indonesian market. The United Nation on Drugs and Crime (UNODC) shows that Indonesia is ranked 8th as the country with the most seizures of methamphetamine or stimulant-type drugs. The amount of methamphetamine confiscated by Indonesia reached 18.53 thousand kg during 2019 (1).

The Yogyakarta Special Region (DIY) Provincial National Narcotics Agency (BNNP) reported that drug and psychotropic substance users in Yogyakarta were ranked 5th in Indonesia, reaching 3.60%. The pandemic period has not had a significant impact on DIY drug addiction cases. There were 21 drug trafficking cases handled by BNNP DIY in 2020 with a total of 3,121.24 grams of marijuana, 7 ecstasy pills, 2,69.43 grams of methamphetamine and 37.6 grams of gorilla tobacco (2). Based on 2021 DIY BNNP data, it was found that cases of amphetamine abuse were still quite high, rehabilitation of stimulant users was still high and stimulants were included in amphetamine. Short-term amphetamine toxicity includes dry mouth, headaches, anxiety, lack of appetite, hypertension, irregular heartbeat, dizziness, and effective dysfunction. Long-term amphetamine toxicity includes paranoia, hallucinations, seizures, breathing problems (3).

Most drug users are students and university students (4). As a tourist, educational and cultural destination, DIY has potential vulnerabilities and opportunities for using or distributing drugs, one of which is

Sleman Regency. Sleman Regency has many universities, senior high schools (SMA), boarding houses and entertainment venues which are strategic routes for dealers to distribute drugs. According to data from BNN Sleman in 2017, drug abuse in DIY reached 60,128, a third or around 22,000 people, both domiciled and crime scenes of drug abuse, were in Sleman Regency (5).

In 2018, 66 drug cases were successfully uncovered by the Sleman Regency National Narcotics Agency (BNNK) and the Sleman Police. In 2019, 80 cases of narcotics abuse were found in Sleman Regency. This figure has increased compared to the same period in 2018, which was only 66 cases (6).

The use of narcotics among students in 2018 was 3.2% and in 2019 narcotics users increased. According to data from the Sleman Police, in 2019 the number of abuse of narcotics and dangerous drugs (narcotics) among students increased rapidly. This number increased sharply, involving 59 high school/vocational school students (7).

Based on from background behind that, then writer want to do study related description of drugs abuse such as usage amphetamine and methamphetamine in schools the with test strip methods.

RESEARCH METHODS

Tools

Urine pot, tissue, timer, marker, and coolbox.

Materials

Specimen urine, amphetamine and methamphetamine test strips.

Procedure Study

Study carried out in the Laboratory STIKES Guna Bangsa Yogyakarta, with the following research procedures:

Sampling. Students do it inspection drugs given purposeful questionnaire for support results study. Furthermore, student given a urine pot, then existing container containing urine code labeled sample.

Analysis of amphetamine and methamphetamine in urine: 1) The urine pot is labeled first formerly. 2) Taken urine samples examined. 3) Urine samples are awaited reach temperature room. 4) Then opened amphetamine test strip and methamphetamine test strip. 5) The strip is dipped on the specimen and led in a way vertical for 10-15 seconds don't exceeds the maximum limit. 6) Strips are waiting until C and T lines are formed. 7) The test strip is read, if only a line is formed on Control (C) then results positive, two lines are formed on Control (C) and Test (T) is stated results negative, and invalid if No lines are formed on Control (C) and Test (T).

How to prevent fake urine: 1) Release put it on the outside doesn't useful (jacket). 2) Move object or substance in the collection area available samples used for fake urine (water, soap wash hands, and others). 3) Ask to respondents for emit all things in your pockets. 4) Stop temporary tap water flow for taking sample, drain toilet bowl, or emit place water container (bucket) from in the toilet, and give dye to in toilet. 5) Respondent delivered to the toilet and look after the respondent no do forgery.

RESULTS

Based on results study of the 27 samples that have been done inspection No obtained positive student consume drugs type amphetamine and methamphetamine (Figure 1).

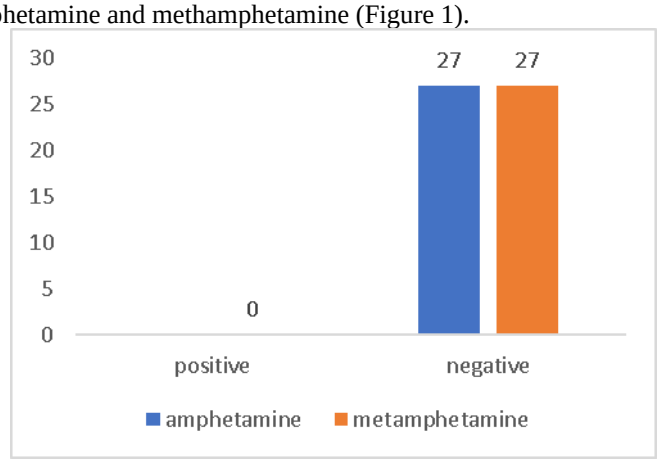

Figure 1. Examination Result Data Amphetamine and Methamphetamine

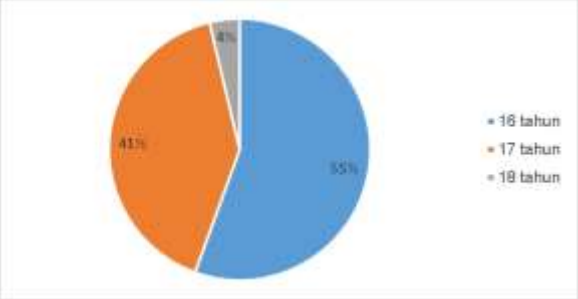

Figure 2. Frequency Respondent Based on Age Student

Table 1. Questionnaire Results Inspection Drugs

NO	Question	Response Respondent			
		YES (1)		No (2)	
		R	%	R	%
1.	is You Yesterday consume drug or antibiotics ?	3	11.1	24	88.9
2.	is You a smoker ?	15	55.5	12	44.4
3.	is You dependence on cigarettes ?	7	25.9	20	74.0
4.	is You have desire For consume drugs ?	0	0	27	100
5.	is You Once invited For consume drugs ?	3	11.1	24	88.9
6.	If given chance is You will consume drugs ?	0	0	27	100
7.	is You Once rehabilitated Because use drugs ?	0	0	27	100
8.	If a lot Friend you consume it drugs , whether You will try it ?	0	0	27	100

DISCUSSION

The screening of examination that is only forknow there is or not amphetamine and methamphetamine content in student urine. Stage first thing to do namely the preliminary test to school, urine sampling, and testing for amphetamine and methamphetamine. Before sampling, student given directions and shared questionnaire moreover formerly. The characteristics of the respondents in the research sample were class

Place taking sample urine was in the school toilet. In order to guarantee quality results inspection need done toilet checking and inspection clothes student. Use sample urine in inspection drugs such as amphetamine and methamphetamine most often used Because fast, simple and reliable with specimens obtained non-invasively. The disadvantage of using urine specimens is that it is easy to falsify specimens, so supervision is needed when taking samples. The immunoassay method used in urine drug testing has good sensitivity and precision, but cross-reactions can occur which cause false positive results, so care is needed in interpreting the test results.

Existing urine sample collected as many as 27 samples entered to in coolbox with the purpose of the sample No damaged during delivery to laboratory. As for the things that must be noticed during inspection including, among others following: 1) Test strips and specimens urine left reach temperature room (15-30˚C) 2) Use PPE when inspection. 3) Open the test strip at temperature room and soon Possible used. 4) When dipping the test strip must vertical for 10-15 seconds. 5) Should not past the maximum limit on the strip, place it on a flat, non- absorbent surface. 6) Results no can be read more than 10 minutes (8).

Urine examination at the STIKES Guna Bangsa Yogyakarta laboratory uses amphetamine and methamphetamine type test strips with diagnostic test brands. The test strip has a detection limit which is used to determine the smallest concentration of the sample that can still be detected by the test strip. Each test strip

has a detection limit with a different value. The amphetamine and methamphetamine test strips have a detection limit of 500 ng/ml. The inspection is carried out by looking at the work procedures in the leaflet on the tool (9).

The principle of the examination is immunoassay based on the principle of competitive binding. Urine containing drugs associated with drug conjugates to bind antibodies in urine strips containing drugs will form one color line on the strip, while urine that does not contain drugs will give two color lines on the strip. During testing, the urine specimen migrates upward by capillary action. Methamphetamine or amphetamine levels in urine specimens below 500 ng/ml will not detect antibody-containing particle binding sites in the test. The antibody-coated particles will then be captured by the mobilized methamphetamine/amphetamine conjugate and a visible colored line will appear in the test strip area. Colored lines will not form in the test line area if methamphetamine/amphetamine levels are above 500 ng/ml because it will saturate all anti-methamphetamine or anti-amphetamine antibody binding sites. Drug-positive urine specimens will not produce a colored line in the test line area, while negative urine specimens or specimens containing drug concentrations less than the cut-off will produce a line in the test area (9).

On the official BNN website entitled "Urine Screening System", a screening examination is an initial examination of drugs in large groups or their metabolites with positive and negative presumptive results (10). In general, screening examinations are fast, sensitive, inexpensive examinations with an acceptable level of precision and accuracy, although they are less specific and can cause false positive results due to cross-reactions with other substances with similar chemical structures, such as taking amoxicillin drugs, ampicillin, penicillin and over-the-counter flu medication (dextromethorpan). Benzodiazepine antibiotics can give results positive false on tests for amphetamine and the flu drug pseudoepferdine which can detected as an internal amphetamine test urine. This matter happen Because structure drugs kind of amphetamine almost The same with structure antibiotics. Therefore that's necessary questionnaire data collection for support our research for more accurate.

Several things that need to be considered in screening tools are the parameters to be tested, cut off value, expiry date, detection and storage time and for positive screening results it is necessary to carry out further examination (confirmation) to a laboratory appointed by the Minister of Health Indonesia with the aim of avoiding false positives on the test strip.

Methamphetamine can generally be detected in urine within 3-5 days of use. Negative results can occur if during the examination a person has used methamphetamine-type drugs six days before the examination, then methamphetamine in the urine cannot be detected using a strip test or use of methamphetamine at low levels so that the sample contains methamphetamine in amounts below the examination threshold limit (cut off) (9).

Based on Figure 2, it appears that results inspection against 27 respondents everything negative for amphetamine or methamphetamine with be marked the appearance of two red lines in the control (C) and test (T) areas. If seen from response student about questionnaire above results of 100% negative amphetamine indeed enough logical. Based on Table 2, in part big student knowledgeable good. This happens because students have sufficient knowledge so that they have self-control to tend to abuse drugs, especially amphetamine and methamphetamine. Meanwhile, some other students do not yet know about drug knowledge, this of course has a negative impact on students, where students' inadequate level of understanding about drugs makes it possible for students to try using these drugs. Knowledge about drug abuse occurs after someone perceives information about drug abuse. Factors that influence a person include education and experience. Therefore, researchers conducted an explanatory presentation about drugs with the aim of making students understand better what drugs are. From the results of the questionnaire, there were 7.41% students who took medication before the examination but when the examination was carried out the results were negative.

The results of other research that are compared with this research are the results of research (11) with the title "Overview of Tetrahydrocannabinol (THC) and Methamphetamine (Met) Abuse at Pre-College Age in Medan City and Surrounding Areas in 2016". Based on the results of research conducted, there were 0.67% positives for THC and Met from a total of 4880 urine samples. Meanwhile, in this study there was no Met in the urine.

CONCLUSION

Based on results research that has been done can concluded that results study show that 100% sample urine negative against amphetamine and methamphetamine.

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