

Incidence of positive urine amphetamine from the poor socioeconomic status first period secondary school students (grade 7-9) in a Bangkok metropolitan temples school

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- Objective** : *To study the incidence of positive urine amphetamine from the poor socioeconomic status first period secondary school students (grade 7 - 9) in a temple school.*
- Setting** : *Department of Clinical Chemistry, Faculty of Allied Health Sciences, Chulalongkorn University.*
- Design** : *Cross sectional descriptive study.*
- Method** : *This study was performed in a temple school in Bangkok. All 38 poor socioeconomic status first period secondary school students (grade 7 - 9) were randomly randomly selected to join this study without previous preparation. Urine specimen from all subjects were collected and sent to the laboratory for further analysis. All samples were analyzed for urine amphetamine by the RapiTest DoA method. The results were recorded. Collected and analyzed.*
- Results** : *Interestingly. There was no positive result detected in our study, No significant difference of incidence between both sex was detected*

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Conclusion : *Low socioeconomic status secondary school students in temple schools may not be the high risk for amphetamine abuse as some social comments. Screening for urine amphetamine among the students is also doubtful method due to difficulty in control of specimen collection and compliance.*

Key words : *Secondary school student, Amphetamine, Urine, Low socioeconomic status.*

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แจ่มใส สุวรรณศักดิ์ศรี, วิโรจน์ ไหววนิชกิจ, นิรัตน์ ปฐมปัทมะ, ภูเบศร์ ปราณศรีสวัสดิ์.
อุบัติการณ์ของการตรวจพบผลบวกของสารยาบ้าในปัสสาวะในกลุ่มนักเรียนมัธยมศึกษาตอนต้น
มีเศรษฐกิจฐานะต่ำจากโรงเรียนประชาบาลของกรุงเทพมหานครแห่งหนึ่ง. จุฬาลงกรณ์เวชสาร
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- วัตถุประสงค์** : เพื่อศึกษาถึงอุบัติการณ์ของการตรวจพบผลบวกของสารยาบ้าในปัสสาวะใน
กลุ่มนักเรียนมัธยมศึกษาตอนต้นที่มีเศรษฐกิจฐานะต่ำจากโรงเรียนประชาบาล
ของกรุงเทพมหานครแห่งหนึ่ง
- สถานที่ทำการศึกษา** : ภาควิชาเคมีคลินิก คณะสหเวชศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
- รูปแบบการศึกษา** : การศึกษาเชิงพรรณนาแบบตัดขวาง
- วิธีการศึกษา** : ได้ศึกษาในโรงเรียนประชาบาลของกรุงเทพมหานครแห่งหนึ่ง โดยได้เลือก
กลุ่มตัวอย่างนักเรียนมัธยมศึกษาตอนต้นที่มีเศรษฐกิจฐานะต่ำ จำนวน 38 คน
เข้าร่วมการศึกษาโดยไม่ได้ให้เตรียมตัวมาก่อนได้เก็บตัวอย่างปัสสาวะและนำส่ง
ห้องปฏิบัติการเพื่อตรวจวิเคราะห์สารยาบ้า โดยใช้วิธี Rapi Test DoA รวบรวม
ข้อมูลการตรวจทั้งหมดและวิเคราะห์ผล
- ผลการศึกษา** : ไม่พบผลบวกของสารยาบ้าจากการสำรวจในครั้งนี้ ไม่พบความแตกต่าง
ระหว่างผลบวกที่ได้สำหรับทั้ง 2 เพศ
- บทสรุป** : เศรษฐกิจฐานะต่ำ อาจไม่ใช่ปัจจัยที่ส่งเสริมการเสพยาบ้าในกลุ่มนักเรียนมัธยม
ศึกษาตามคำวิจารณ์ทางสังคมศาสตร์ การตรวจคัดกรองสารยาบ้าในปัสสาวะ
ในกลุ่มนักเรียนดังกล่าวยังคงมีคำถามว่าเกิดประโยชน์หรือไม่เนื่องจากมี
ความลำบากในการควบคุมการเก็บปัสสาวะรวมถึงการยอมรับของนักเรียน
- คำสำคัญ** : นักเรียนมัธยมศึกษา, สารยาบ้า, ปัสสาวะ, เศรษฐกิจฐานะต่ำ

Amphetamine abuse becomes an important public health and social problem in the present day.⁽¹⁾ Amphetamine is classified as a drug.⁽¹⁻²⁾ In the recent year, amphetamine becomes a seriously spread narcotic drugs in Thailand.⁽³⁾ Although the best attempt of the government to control the outbreak of amphetamine abuse, the problem remains a big problem.⁽⁴⁾

Amphetamine become the major and most common narcotics in Thailand presently. The pattern of abuse develop so much from the past time. Not only the main old users as the truck drivers group⁽⁵⁾ but also other groups including to the students become the abusers⁽³⁾

Some theories indicate the socioeconomic factor as an important aggravating factor affecting the new user to addict amphetamine.⁽⁶⁾ Like other narcotic drugs, secondary gain from abuse become the main purpose of the amphetamine users. Low socioeconomic is also an important mentioned basic problem for other ongoing problems. In this study, the authors performed a cross sectional descriptive study to determine the incidence of amphetamine abuse among the first period secondary school students (grade 7-9) in a Bangkok metropolitan temple school

Materials and Methods

This study was designed as a cross sectional descriptive study. The setting was a temple school in urban area of Bangkok. The subjects were randomly selected from the secondary school students grade 7-9 of the school. The inclusion criteria were; 1) no previous history of underlying disease or recent illness, 2) normal result from urinalysis, 3) no history of concomitant medical therapy, 4) aged between 10 -15 years old, 5) no menstruation and 6) poor socioeconomic family

status. All cases were asked for collection of the urine sample at the same time. Control labeling of the container to ensure the correct matching between collected urine samples and the subjects was also performed.

Urine collection was carefully performed under the control of the researcher team. The urine container was cleaned and never used before. Collected urine samples were then sent to the toxicology laboratory, Department of Clinical Chemistry, Faculty of Allied health Sciences for further urine amphetamine analysis.

Urine amphetamine analysis in this study was performed by the new screening test, RapiTest DoA (Morwell Diagnostic, Germany). The test is a qualitative test. The sensitivity of the test is 1,000 ng/ml. Only four drops of urine samples are required for the test performance. Any suspected dilution of urine by water or other fluids were tested by the specific gravity of the specimen and exclusion were made in those cases. The result can be read at 5 minutes. Negative results were indicated by the appearance of 2 color bands and positive results were indicated by the appearance of 1 color band. Any visible precipitate was filtered, centrifuged and discarded prior to the testing.

All analyses in this study were performed according to the manufactured instructions at room temperature. All were also performed in the same run and same reagent lot by the experienced medical technologists. Positive and negative controls were also tested and yielded accurate results.

All results were recorded, collected and analyzed. Both the students and the school were blinded for the result of analysis. The descriptive statistical analysis as percentage for the incidence was performed. The unpaired T-test was used in order to

access the difference of positive sample ratio between both sexes. All comparisons were performed using the statistical significance level equal to 0.05.

Results

From this study, all 38 subjects, about 10 % of total population, were included. The demographic data the subjects were presented in Table 1. Average age of the subjects was 13.42 ± 0.89 years old. All collected samples were tested and no suspected dilution samples was identified.

Interestingly, no positive urine amphetamine result was detected. Therefore, the incidence of positive urine amphetamine among the subjects was 0 % . No significant difference of positive sample ration between both sexes was identified (0 positive for male and 0 positive for female).

Discussion

Amphetamine becomes the most important narcotic in Thailand within the recent year. Since 1995 the continuous increasing of amphetamine abuse has

been reported.⁽⁴⁾ The widespread of this narcotic into the student group becomes an important national problem.

A number of project such as "White School Project" was set up to cope this problem. However, based on the basic psychological theory, the low socioeconomic status subjects become the risk group for drug abuse.⁽⁷⁻⁹⁾ A lot of social comments focus on these group of subjects.

In this study, an incidence of urine amphetamine positive sample was performed in a temple school in Bangkok. Most of the students in the school came from the crowded slum area. Most of them have the financial problem.

All available first period secondary school subjects (grade 7-9) in the school were selected to join this study (about 10 % of all first period secondary school subjects). Best attempt to control the false positive and false negative from confounding factor was carefully performed. No previous preparation was allowed to all subjects.

Interesting the null incidence was detected in our study despite the previous mentioned problem among the poor socioeconomic status students in the school. We purposed the four possible explanations for the finding as 1) the subjects are new students, not the old students with the problem, 2) the successfulness of "White School Project" in the school, 3) there maybe other uncontrolled confounding factors, and 4) there may be the real abusers who might disguise or run away from the program.

Conclusively, the low socioeconomic secondary school students in the temple school may not be the risk group for amphetamine abuse. However, due to the difficulty in control of urine specimen collection and

Table 1. Demographic data of the subjects.

Parameters	Number of subjects
1. Age	
11-12 years old	1
12-13 years old	3
13-14 years old	16
14-15 years old	14
15-16 years old	4
2. Sex	
male	20
female	18

compliance, the screening test for urine amphetamine may not be a good test. Some adulterant such as strong oxidizing agent or bleach may cause false negative results. In case that adulterant is suspected, another urine sample must be obtained for re-testing. Also, determination for urine specific gravity to rule out the false negative caused by dilution effect of other possible added water or fluid. Furthermore, the problem in asking for permission of the test should be considered. Dilemma as 1) the abused may not allow the test performing or prepare for interference with many technique (such as water dilution and bleach adding) and 2) not asking for permission may acceptable in legal aspect by the police screening team but not accept by medical screening team.

Some limitations in our study are; 1) rather few subjects join in the study and 2) there may be uncontrollable factor affecting the study result. Therefore, further larger systematic study is still recommended.

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