Youth risk behavior survey: Bangkok, Thailand

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Abstract

Purpose: To identify the prevalence of risk behaviors and related risk factors in adolescents in Bangkok, Thailand.

Methods: Youth risk behavior survey questionnaires were collected from 2311 adolescents in 8 schools, 13 communities and 2 Juvenile Home Institutions from January to February 2001. Their mean age was 15.5 ± 1.8 years, and 59% were female. Risk factors of interest were gender, parental marital status, socioeconomic status, family relationship, parental drug addiction, peer group, loneliness, self-esteem, and school performance. Multiple logistic regression was used to identify significant risk factors associated with each risk behavior.

Results: The risk behaviors leading to traffic accidents were rarely or never having worn a seat belt (30.6%) or helmet while bicycling (66.9%) and while motorcycling (50.1%), riding with drivers who had consumed alcohol (18.8%), and driving after consuming alcohol (12.1%). The studied group carried weapons (8.5%) and has been involved in a violent event (31.5%). Among 13.9% who were assaulted, 6.7% needed hospitalization; rape was reported by 2.4%. Depression was reported by 19.9%, with 12% having suicidal tendencies and 8% attempting suicide. The lifetime use vs. heavy use prevalence of substance abuse, respectively, was: 15.4% and 3.5% for smoking, 37.3% and 1.7% for alcohol, 37.8% and 4.6% for amphetamine use, and 37.9% and 0.1% for other drugs. Among the 10% who have had sexual intercourse, 1% were homosexual, 7.1% have never used a condom, and 2.1% resulted in pregnancy. Being male was a risk factor for every untoward behavior except depression. Other risk factors included poor self-esteem, poor school performance, and early school leaving. Factors relating to the family included a low socioeconomic status, poor relationships, broken families, and parental substance abuse. Socioenvironmental factors included being in a gang and loneliness. Some risk behaviors started at younger than 8 years old. Schools and media were given as the sources of information regarding sex, human immunodeficiency virus infection, and substance abuse.

Conclusions: The prevalence of six major-risk behaviors in adolescents in Bangkok was significantly high. Several risk factors were identified, the knowledge from which may help to form preventive measures in this population. © 2005 Society for Adolescent Medicine. All rights reserved.

Keywords: Adolescents; Risk behaviors; Risk factors; Bangkok; Thailand
increased [3]. Nationwide surveys in the United States have found that the main health problems among adolescents are: unintentional injuries, violence, suicide, substance abuse, cigarette smoking, alcohol use, unintended pregnancy, sexually transmitted diseases (STDs), and human immunodeficiency virus (HIV) infection [4–9]. Assuming that a similar pattern exists in Bangkok, it is expected that health problems in Thai adolescents will be a major concern for the future health care system, in particular because of the expanding adolescent population, increased social and environmental risk factors, and weakened family relationships as a result of the economic downturn in 1997.

Previous studies showed an urgent need to establish an effective adolescent health care system in Thailand. In 1995 more than 6000 adolescents died from unintentional injuries [10]. One-third of secondary school students have behavioral problems, which were associated with parental marital problems and dysfunction [11]. One study reported a 50% prevalence of depression in early adolescents with severe depressive symptoms in 22% of the study’s population [12]. Three percent of secondary school students in a province in the northern part of Thailand have used amphetamines [13]. It has been found that adolescents from middle to high economic status have adopted a high fat, high cholesterol, and low fiber content diet. Notably, 40% of them had at least one fast food meal during a 2-day survey period [14]. Two other studies of risk factors relating to coronary heart disease found that adolescents had physical inactivity and unhealthy dietary behaviors [15,16]. A further study of 800 students from 76 secondary schools in the Bangkok metropolitan area showed that they needed health guidance services in personal development, interpersonal relations, immunization, medication use, substance abuse, and accident prevention [17]. However, currently in Thailand, there is inadequate knowledge of adolescent health risk behaviors and consequently, inadequate adolescent health care providers and poorly trained facilities.

The objectives of this survey are to identify the current health status of adolescents in Bangkok and their significant health-risk behaviors and related risk factors. The results of this study will be used to develop an effective and practical adolescent health record form for surveillance and identification of adolescents at risk that will be useful in health promotion, risk prevention, and early intervention for Thai adolescents.

Methods

Sampling

The investigators have calculated a sample size with a 95% confidence level, using the prevalence of substance abuse (3.3%), which is the lowest prevalence of common health problems among Bangkok adolescents [13]. The total population of secondary school students grade 7 to 12 in the Bangkok metropolitan area is approximately 720,000. Our school-based samples are 1856 students from eight secondary schools (232 students from each school). We have used cluster random sampling of one classroom per grade (from grades 7 to 12) from each school to be recruited in the survey.

For adolescents from communities and out-of-school systems, we have used a 1% random sampling of teenagers from 13 different communities of those schools and a convenient sampling of 60 teenagers from the male and female Juvenile Home Institutions (JHI).

Data collection

In addition to literature review and focus group data, the investigators modified the U.S. Youth Risk Behavior Survey Form into a Thai Youth Risk Behavior Survey Form. The questionnaire was reviewed and validated by three sociological research experts before a pilot test involving 20 secondary school students was conducted, in which we used focus groups and in-depth interviews with the students to assess the appropriateness of content and feasibility for the actual survey. Subsequently, the 111-item self-reported questionnaire was developed and approved by the Ethical Review Board of the Department of Pediatrics, Faculty of Medicine, Ramathibodi Hospital.

In the survey process, consent from students and parents was acquired by teachers. Students and adolescents in the JHI were informed of the research and the process of completion of the anonymous questionnaire by the research team. In each classroom, 30 minutes was allowed to complete the questionnaire without the teacher’s presence. The questionnaires were collected immediately after completion. For the community, the same survey process was used in individual or groups of adolescents during the visits to their homes.

Statistical analysis

A Chi-square test was used for categorized items in univariate analysis. Multiple logistic regression was used to identify related factors of each risk behavior, controlled for confounding variables. The odd ratios (OR) with a 95% confidence interval (CI) from multiple logistic regression was reported for related risk factors of each health risk behavior.

Results

Demographic data

A total of 2311 questionnaires were collected from January to February 2001. There were 1825 students from 8 secondary schools, 426 teenagers from 13 communities in Bangkok, and 60 teenagers from the male and female JHI. Their general demographic data are summarized as: females were the majority (59%), mean age of 15.5 ± 1.8 years, average weight of 51.1 ± 11.4 kilo-
grams, and height of 160 ± 8.3 centimeters. The average age of the fathers and mothers were 45.9 ± 6.4 and 42.6 ± 5.7 years old, respectively. The average rank of the child in the family was 1.8 ± 1.1, with the average family size of 5.2 ± 2.3 persons. The majority of surveyed adolescents were Buddhists (94%). There is a considerable rate of early school-leaving in the communities (60%) and in the JHI (71%).

General information on residential status shows that 66.4% of adolescents live with their parents. Eighty-four percent of parents are married or are living together, and 16% are separated or divorced, which is defined as a broken family. A total of 84% of parents have moderate to low socioeconomic status (SES), with only 14% of the family reporting a monthly income above 30,000 Baht (40 Baht/1 USD). Alcohol abuse and drug addiction prevail among 18.4% of the fathers and 2% among the mothers.

**Psychosocial and learning data**

Surveyed adolescents reported that they were more likely to have poor relationships with their fathers than mothers (8.9% and 4.1%, respectively). They had better peer relationships with friends of the same, rather than the opposite, gender (mean number of 7.2 and 3.2 friends, respectively). Among these, 48.3% of their friends have had at least one of the following problems: aggression 14.6%, rudeness 34.2%, physical fighting 9.1%, truancy 15.5%, all defined as “having delinquent peers or in a gang.” When confronted with problems or frustration, 85.4% consulted or talked to someone else, whereas 14.6% never had, or had nobody to talk with, and were therefore defined as “suffering from loneliness.” From 20 questions to evaluate self-esteem, the overall score showed that 1.9% of young persons had poor self-esteem. The mean and standard deviation of the grade point average (GPA) in the student group was 2.51 ± 0.79. Five most frequent problems were concerns with homework (25%), monthly allowance (23.8%), future career (18.6%), peer conflicts (11.3%), and conflicts with the mother (10.1%). The top five adolescent educational needs are self-care (67.5%), weight control (24.2%), sexuality (10.5%), substance abuse (7.2%), and HIV infection (5.3%).

**Risk behaviors and related factors**

The overall prevalence of six youth risk behaviors, as well as subgroup prevalence in school students, communities and JHI, in addition to their statistically significant related predisposing risk factors, are shown in Table 1.

**Traffic safety**

During the 6 months preceding the survey, 67% and 50.1% of surveyed adolescents, respectively, had rarely or never worn a bicycle helmet or a motorcycle helmet while riding, whereas 30.6% had rarely or never worn a seat belt when riding in a car. During the 30 days preceding the survey, 18.8% of them had ridden with a driver who had been drinking alcohol and 12.1% had driven a car or other vehicles after drinking alcohol.

**Violence**

Overall, 6.3% and 8.5% of adolescents, respectively, had carried a weapon (e.g., a gun, knife or club) on school property and other places, whereas 7.1% of them had felt insecure on the way to school during the 30 days preceding the survey. During the 12 months preceding the survey, 28.9% and 31.5% of adolescents, respectively, had been involved in a violent event that occurred either on or outside of school property. Regarding assault, 13.9% had been physically assaulted and 6.7% had been injured and needed hospitalization, 17.1% were sexually assaulted, and 2.4% were raped.

**Sadness, suicidal ideation, and attempts**

During the 12 months preceding the survey, 19.9% of adolescents had experienced depression (defined as those who had felt sad or hopeless every day for at least 2 consecutive weeks that they stopped doing some usual activities). Regarding suicidal ideation, 12% had seriously considered attempting suicide, 15.9% had made a specific plan, whereas 8% had actually attempted suicide and 1.7% had been hospitalized.

**Cigarette smoking**

Among adolescents who had reported cigarette smoking (5.4%), 90.4% of them were lifetime cigarette users, 6.1% were frequent smokers (under 20 cigarettes/month), and 3.5% were heavy smokers (over 20 cigarettes/month). The motivations for cigarette smoking included peer influence (8.9%), parental influence (1.1%), and movie star influence through the media (0.2%). Seven percent had purchased their cigarettes by themselves, 4.2% had obtained cigarettes from their friends, and a few teenagers by stealing (0.2%) or physical assault (0.1%). Two-thirds of those who had smoked cigarettes had tried to quit smoking.

**Alcohol use**

Among adolescents who had reported alcohol use (37.3%), 42.1% were lifetime alcohol users, 56.1% were frequent drinkers (1–20 days in the preceding 30 days of the survey), and 1.7% were heavy drinkers (more than 20 days in the preceding 30 days of the survey). Teenagers drank alcohol for social purposes (33%); 3.8% drank alcohol with peers and 2.4% drank alcohol alone when they had life problems. Regarding access to alcohol, two-thirds of the adolescents surveyed had purchased alcohol by themselves, 13.4% had obtained alcohol from their friends, 4.2% from others and by stealing (0.2%).
Illegal drug use

Overall, 37.8% of adolescents had used at least one illegal drug during their lifetime. Heavy drug use (Table 1) was defined as >3 times/30 days. Overall, 4.6% of adolescents reported having purchased drugs, whereas 2.7% of them had been involved in selling drugs. The frequency of purchasing drugs during the 30 days preceding the survey was: 1–9 times (3%), 10–99 times (1.5%), and ≥100 times (0.1%). The motivations for drug abuse included peer influence (3.3%), parental influence (0.4%), and having been assaulted (0.2%). The

### Table 1
Prevalence of major risk behaviors in Bangkok adolescents and related risk factors

<table>
<thead>
<tr>
<th>Risk Behaviors</th>
<th>Prevalence (%)</th>
<th>Risk Factors (OR, 95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unintentional injury</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No MC helmet</td>
<td>49.9</td>
<td>52.6</td>
</tr>
<tr>
<td>No safety belt</td>
<td>29</td>
<td>32.1</td>
</tr>
<tr>
<td>Riding with driver who drank alcohol</td>
<td>5.8</td>
<td>13.2</td>
</tr>
<tr>
<td>Driving after drinking alcohol</td>
<td>2.9</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Violence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying weapons</td>
<td>7.9</td>
<td>11.2</td>
</tr>
<tr>
<td>Fighting</td>
<td>29.8</td>
<td>35.7</td>
</tr>
<tr>
<td>Being raped</td>
<td>1.4</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>Depression</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>18.7</td>
<td>21.7</td>
</tr>
<tr>
<td>Being raped</td>
<td>6.1</td>
<td>7.9</td>
</tr>
<tr>
<td><strong>Substance abuse (lifetime use/heavy use)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>11.6</td>
<td>24.8</td>
</tr>
<tr>
<td>Heavy user</td>
<td>1.7</td>
<td>13.6</td>
</tr>
<tr>
<td>Alcoholic beverage</td>
<td>37.1</td>
<td>37.1</td>
</tr>
<tr>
<td>Heavy user</td>
<td>40.6</td>
<td>28.0</td>
</tr>
<tr>
<td>Heroin</td>
<td>40.4</td>
<td>31.5</td>
</tr>
<tr>
<td><strong>Sexual behavior</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual intercourse</td>
<td>4.9</td>
<td>26.5</td>
</tr>
<tr>
<td>Never use condom</td>
<td>3.5</td>
<td>18.4</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>0.5</td>
<td>8.4</td>
</tr>
<tr>
<td>Learning problem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA &lt; 2</td>
<td>30.0</td>
<td>30.0</td>
</tr>
<tr>
<td>GPA &lt; 1</td>
<td>2.8</td>
<td>2.8</td>
</tr>
</tbody>
</table>

S = school students; C = communities; JHI = juvenile home institutions.

majority of surveyed adolescents (87.8%) knew at least one method of illegal drug preparation. Drug preparations that they had known were tablets (85.1%), inhalants (79.5%), injections (76.3%), powder (74.4%), and smoking (62.5%).

Sexual behaviors

Among the 10% of surveyed adolescents who had had sexual intercourse (SI), 1% was homosexual, 6% had more than two partners during the 3 months preceding the survey, 1.7% had used alcohol or drugs before SI, 7% reported that they had never used a condom, and 2.1% of intercourse had resulted in a pregnancy. For those who practiced contraception, the methods used were birth control pills (2%), a condom (2.1%), injected contraceptives (2%), external ejaculation (1.4%), and spermicides (0.1%).

Learning problems

The majority of the students surveyed (71.9%) were not satisfied with their school performance. The subjects with which they had problems were: Mathematics (44.2%), English (40%), Sociology (24.5%), Thai (23.6%), Physics (13.4%), and Chemistry (10.7%). More specifically, the students indicated that they had problems with being forgetful (44%), having calculation problems (41.1%), attention deficit (39.4%), and being easily distracted (38.5%).

Age of engaging in each risk behaviors

When we analyzed the percentage of adolescents who had engaged in each risk behavior according to school grade (7 to 12), there were only three behaviors related to grade (Figure 1). Physical fights decreased with grade, whereas consuming alcohol and SI increased with grade.

Age of initiation of each risk behaviors

Regarding the age of the initiation of risk behaviors in smoking, alcohol consumption, amphetamine use, and SI (Figure 2), the median ages of starting each behavior were 12.5, 13, 13, and 14.5 years, respectively. A point of some concern was that a number of them started the substance abuse before age 8 years (2, 1.5, and 0.5% of surveyed adolescents, respectively). For SI, 0.8% of surveyed group had started at the age of 11 years or younger.

Sources of health education

Overall, 90.6% of surveyed adolescents reported having had sex education. The sources of information were: school (69%); media, such as reading newspapers, watching television and Internet, or listening to a radio program (59%); their peers (47.4%); and parents (19.5%). A majority (91.5%) of the population surveyed reported having been taught about HIV infection. The sources of information were school (70.6%), media (66.5%), peers (24.4%), and parents (22.0%). Finally, 89.9% of the surveyed population reported to have knowledge of substance abuse. The sources of information were school (79.3%), media (69.0%), parents (51.5%), and peers (40.6%).

Discussion

Results from this survey demonstrated that the prevalence of Bangkok youths’ health risk behaviors was moderate to high. The results were similar to recent adolescent health risk identification researches in Thailand. Trangka-sombat et al’s [18] study of 9003 grade 10 to 12 students nationwide demonstrated a higher prevalence compared with this survey in the following risk behaviors: cigarette smoking (33% vs. 15.4%), and carrying a weapon (18% vs. 8.5%). Another study, by Piyasil and Meemarayatr [19], regarding behavioral problems in 330 students, aged between 10 and 15 years, in a suburb of Bangkok, showed a very high prevalence of behavioral problems (82.5%), of which 38.5% were related to substance abuse and 36.6% were related to depression. Compared with the findings from the U.S. 2001 Youth Risk Behavior Surveillance System report [20], U.S. adolescents were more likely than Bangkok adolescents to have ridden with a driver who had been drinking alcohol (30.7% vs. 18.8%) and to have carried a weapon (17.4% vs. 8.5%). Male teenagers were more likely than female teenagers to have unintentional injuries in both studies. Related risk factors for physical fighting in Bangkok adolescents were having a broken family and a poor relationship with their parents, which might lead male teenagers to be in a gang and be involved in violent incidents.

Depression and suicidal tendencies were reported among 19.9% and 8.1% of Bangkok adolescents, respectively, a lower rate than that of depression in the United States (28.3%) and of suicidal tendencies among Thai adolescents and U.S. adolescents (both 19%). Female teenagers were significantly more likely to attempt suicide than male teenagers in all the surveys conducted. Related risk factors in Bangkok adolescents were a poor relationship with mother, poor school performance, and loneliness.

The lifetime alcohol and cigarette use (37.3% and 15.4%, respectively) among Bangkok adolescents were lower than overall Thai adolescents (44% and 33%, respectively) and U.S. adolescents (78.2% and 63.9%, respectively). However, the prevalence of amphetamine use among Bangkok adolescents (37.8%) was higher than for U.S. adolescents (9.8%). This higher lifetime amphetamine use might imply a higher availability and accessibility to the drug in Bangkok. The survey also demonstrated that some adolescents had first used amphetamines before the age of 8 years. Nearly half of adolescents reported that they had acquired knowledge about substance abuse from their friends, which could be misleading and therefore dangerous. It is suggested, therefore, that substance abuse education should be provided to adolescents openly by the media and taught in school before the age of 8. Teenagers with risk factors for
Fig. 1. Prevalence of risk behaviors by school grade (7–12).
drug use (early school leaver, poor relationship with mother, and male gender) should be given an appropriate education and be under close supervision.

Bangkok adolescents were significantly less likely (10%) than U.S. adolescents (45.6%) to have had SI. This variation might reflect the difference in culture and beliefs. Although the rate of non-condom-users among Bangkok adolescents (7.1%) was lower than that of U.S. adolescents (33.4%) as well as the percentage of adolescents who reported having been involved in pregnancy (2.1% vs. 4.7%), but after adjusting with the rate of SI, Bangkok adolescents had a similar rate of not using a condom (71% vs. 73%) and twice the rate of being involved in pregnancy (21% vs. 10.3%). The current high unintentional pregnancy rate among Thai adolescents is an urgent signal for various agencies to campaign more effectively to curb this trend. Nearly 1% of Bangkok adolescents reported having their first SI before age 11 years. Therefore, sex education that is psychosocially and physically appropriate for the developmental level of children should be provided, probably as early as elementary school.

Poor school performance was an explicit and sensitive indicator for adolescent risk behavior because it has been found to relate to several health risk behaviors, for example, depression, substance abuse, and sexual intercourse. This finding concurs with the study of Thai adolescents[18]. Therefore, teenagers who have poor school performance or learning problems should be carefully examined and monitored for risk behaviors.

The results of this survey that youth risk behaviors were interrelated and had multiple contributing factors can be explained with Engel’s bio-psycho-social model[21], owing to the fact that adolescence is characterized by considerable physical, emotional, and social changes.

Emotions in adolescents seem to be like a pendulum[22]. Sadness and remorse may be so intense that it may lead to depression or suicidal thoughts and, in connection to our study, 12% to 17% of adolescents reported having

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Fig. 2. Age of initiation of each risk behavior.
experienced suicidal thoughts. In addition, adolescence is a period in which there is a preoccupation with the search for identity [23]. With the psychosocial development theory of Erikson [24], the crucial task of this period is to have identity formation. The correlation between multiple risk factors supports the hypothesis that they are closely related. Moreover, the girls had much higher levels of fear than did the boys 9 to 12 years of age. Fear of evaluation and criticism, and other fears classified as psychic stress, including losing friends, having no friends, and moving to a new school, all predispose girls to have a higher risk of depression [25].

Socially, there is a reorganization process during adolescence as more time is spent with peers, parental guidance is reduced and becoming more indirect while, at the same time, participation in a large social group becomes more important. In metropolitan areas such as Bangkok, almost all families are nuclear families. In addition to financial problems, most of the parents in these families do not have sufficient time to take care of their children, leading to risk factors, namely poor parental relations, loneliness, and low SES [26]. Broken families also play a crucial factor in increasing risk behaviors because the children in these families lack affection from their parents [27,28]. This study demonstrated the strikingly high prevalence of risk behaviors among teenagers from the JHI who were considered vulnerable and the result of family dysfunction. Promotion of family planning, parenting, and proper child rearing are strategies to prevent children and adolescents from health risk behaviors. Nevertheless, early school-leaving was a risk factor of several behaviors and teenagers in secondary schools showed a lower prevalence of health risk behaviors than those in communities. Thus, being in a school environment could be a protective factor for untoward behaviors.

In the past, the relationship between the peer group and misconduct has received considerable attention [29]. The structure of peer pressure was examined as part of a larger study investigating the relationship between the process of empowerment and the mental health of high-risk adolescents. It can be defined as pressure from peers to “do something or to keep from doing something else, no matter if you personally want to or not” [30], and as been used to explain young people’s behavior. The findings concur with those in this survey, where it has been found that being in a gang was a common risk factor, and a moderate percentage of teenagers (24% to 47%) had acquired knowledge about health risks through their peers. The quality and implication of such knowledge should undoubtedly be regarded with extreme caution. Adolescence is the peak time in the life cycle to value peer relationships and to be influenced by peers. A positive side to this peer relationship is that if educated properly, a program of peer educators and peer counselors could form a part of a wider intervention pro-

gram focusing on youth empowerment, youth leadership, and peer mediation [29–31].

Bangkok adolescents had most frequently acquired their knowledge about substance abuse, sex education, and HIV infection from schools. Because of the accessibility, a comprehensive school health program could be one of the most promising means of shaping adolescent health. The second most common source was the media. During an age where the transfer of information is rapid and often uncontrolled, governments and societies should have a policy to control and screen the appropriateness of the media. However, at the same time, the control has to be balanced so that adolescents are not completely sheltered from the realities of life.

Meanwhile, the proportion of adolescents who had obtained health knowledge from their parents ranged from 20% to 50%, which was lower than from other sources. In fact, parents play an important role in shaping health behaviors because their roles include being the nurturer, teacher, and supervisor of their child. However, in some cases, it may be that they might not have enough knowledge, skill, time, and community support to practice these roles effectively.

Conclusions

1. The prevalence of adolescent problems in this study was at a significant level, especially in the JHI. The risk factors related to risk behaviors were multifactor, including the adolescents themselves (male gender, poor self-esteem, poor school performance), their families (low SES, poor relationship, broken family, parental addiction), and their socioenvironment (being in a gang and loneliness).

2. A school program as early as the elementary level should be the most effective measure to raise the children’s knowledge as well as a method to acquire essential social skills. The knowledge of adolescent risk factors and risk behaviors from this study can provide a basis for the construction of a practical and effective questionnaire that can be used as a tool by teachers to screen and detect high-risk groups, and deal with them in an appropriate manner. Furthermore, a guideline for the initial management of common youth risk behaviors should be prepared for teachers, with the objective of empowering and supporting them to become resourceful persons.

3. Another important issue is preparing young children to be healthy and happy adolescents. Various professionals, including teachers, obstetricians, and pediatricians, can play an important role in modifying and intervening in parental education at different levels.
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[11] Moombensao P, Wacharasindhu A. Behaviour Problems in Adolescents who participated and willingly cooperated in this research. We also thank the teachers in the eight schools, the officers from 13 health offices of the Bangkok metropolis, the two Juvenile Home Institutions, and all adolescents who participated and willingly cooperated in this study.