



Sex and Unintended Pregnancy among School Students: Reproductive Health Problems in Adolescents

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Article info

Article history:

Received : 10 December 2018

Revised : 15 January 2019

Accepted : 4 February 2019

Keywords:

Unintended Pregnancy, Adolescent, Pregnancy Prevention

Abstract

Unintended pregnancy remains the major issue among Thai adolescents as it is a transitional period from teens to adults. The teenagers likely to have alteration in terms of their physical, mental, emotional and social development. Moreover the change regarding social, economic, technological and communicational factors also seem to influence their attitudes and behaviors to accept more sexual relations. As mentioned factors teenagers tend to neglect the importance of birth control. Unplanned or Unintended pregnancy increasingly happen in most of Thai adolescents that leads to problems of health, economy and society in both teenagers and children. Besides, there are variety of factors cause an unintended pregnancy among teenagers. Predisposing factors which found to be the main factor directly related to an individual such as knowledge, beliefs, values and attitudes. Reinforcing factors are associated with family, friends and other people. Lastly, Enabling factors are focused on any approaches that provide means or opportunities such as skills, resources, tools, facilities as well as the difficulty of accessing health services. Therefore the prevention of unintended pregnancy need to be highly pertinent to issue which focus on the factors encourage their behaviors and opportunity to an intended pregnancy in adolescents.

Introduction

Unintended pregnancy among adolescents is a crisis problem having a long-term effect on population quality of life, especially those who are in a school age and sometimes they have to leave an educational system as well as deprivation of employment opportunities. Adolescent parents have little patience for spending their lives together and end up with divorce and leave their children to be a burden of grandfathers and grandmothers to raise and give guidance them, having a direct effect on their children's lives. Adolescence is a transitional

period between childhood and adulthood. Most likely they have alteration in terms of physical, psychological, emotional, and social development; from depending on adults to become self-reliant with self-responsibility. In terms of their physical appearance, alteration in the reproductive system is obvious seen as they are ready to have sexual intercourse and chances of getting pregnant as they are deprived of knowledge and understanding of pregnancy prevention and family life readiness, causing unintended pregnancy among adolescents. Unintended pregnancy is a crisis that adolescents have to face when

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they are need of knowledge to protect themselves from situations that change rapidly as they are immature, easily persuaded and tempted by surroundings. Today adolescents require more independence while they lack emotional maturity, experience and parental warmth, triggering them not to be discreet especially having sex before the right age and experiencing unintended pregnancy. Many of them become adolescent parents while they are not ready. They have to leave schools and lose their future, ruin their and family reputation. Finally, when they cannot solve the ongoing problem, they most likely end up with killing themselves, abortion and leave their children with their parents or abandon their children to be an increasing burden of the society. Such problem has a tremendous effect on their lives in relation to health and sexually transmitted diseases (Kruachottikul & Paiboon, 2015). Adolescence is a transitional stage between childhood and adulthood. Their physical, mental, emotional and social development have been changed such as being hot-tempered or aggressive, being curious and eager to try new things, having sexual development, sexual desire and they start to have sexual intercourse. Meanwhile, with rapid change in society, economy, and easily accessible of communication technology, adolescents have sexual attitude and high risk sexual behavior. They accept sexual activity among adolescents but at the same time they ignore to prevent problems caused by having sexual intercourse and pregnancy. Most of them end up with unintended or unplanned pregnancy leading to health problems in adolescents and children affecting economic and social sequences. Though a tendency of condom use for having the first or recent sexual intercourse with their girlfriends or lovers increases, it is stable in the last 6 years (2011-2016) approximately 60% to 70%. Most Thai teenagers have sexual intercourse without prevention which brings about many problems later, in particular unintended pregnancy. (Nithitantiwat & Pataipakaipet, 2016)

Adolescent unintended pregnancy circumstances

Unintended pregnancy in adolescents around the world increases especially in developing countries. Every year an estimated 21 million girls aged 15 to 19 years and 2 million girls under age 15 years become pregnant in developing countries. Approximately 16 million girls aged 15 to 19 years and 2.5 million girls under age 16 years give birth in developing countries. It is found that the global adolescent birth rate has declined from 65 births per 1,000 women aged 15-19 years in 1990 to 37 births per 1,000 women aged 15-19 years in 2014. Though

the birth rate has declined, adolescent pregnancy has increased globally. It is expected that the number of adolescent pregnancies will increase globally by 2030, with the greatest proportional increases in West and Central Africa and Eastern and South Africa (WHO, 2017). It is found that adolescent birth rates range from a high of 115 births per 1,000 women aged 15-19 years in West Africa to 64 births per 1,000 women aged 15-19 years in Latin America and the Caribbean to 45 births per 1,000 women aged 15-19 years in South-Eastern Asia, to a low of 7 births per 1,000 women aged 15-19 years in Eastern Asia (WHO, 2017).

Adolescent unintended pregnancy appears to be more severe. Ministry of Public Health reported the 2016 situation of reproductive health of adolescents by conducting survey on sexual behaviors of adolescents studying in the second year of a vocational certificate program. The survey indicated that in 2011 49.8% of male students had sexual intercourse and the number declined to 43.2% in 2016. In relation to condom use, it was found there were 55.0% of students using condom when having the first sexual intercourse and the number increased to 67.0% in 2016 as seen in the Figure 1. It was also found that in 2011 there were 51.2% of students recently having sexual intercourse with their girlfriends used condom and the number increased to 67.4% in 2016. In 2011, there were 31.42% of students used a contraceptive method at sexual intercourse and the number increased to 88.2% in 2012 and declined to 75.67% in 2016 as seen from the Chart 1. With regard to female students, the survey reported that in 2011 there were 41.6% of them had sexual intercourse and the number increased in 2016 to 44.9%. In relation to condom use in students having the first sexual intercourse, in 2011 there were 50.0% of them and the number increased in 2016 to 70.3%. In 2011, there were 38.6% of students recently having sexual intercourse with their lovers used condoms and the number increased to 61.8% in 2016 as seen in the Figure 2. With regard to a contraceptive method at sexual intercourse, in 2011 there were 31.24% of them and the number increased to 88.2% in 2012 and declined to 75.67% in 2016. Besides, it was found that teenagers had the first sexual intercourse at age 15-17 years and the most common contraceptive method was condom use (Bureau of Reproductive Health, 2016).

Adolescent birth rate compared with the birth rate of all groups of mother since 2003-2006 indicated that birth rate of mothers aged under 20 years had a tendency

to decline as it was found that there were 14.2% of mothers aged 10-19 years who gave birth while adolescent birth rate from girls aged 15-19 years seemed to decline more than 100,000 persons/year during 2011-2015 and declined more than 100,000 persons/year in 2016. The birth rate from teenagers aged 15-19 years had a tendency to decline as in 2016 the number was 42.59% per 1,000 women aged 15-19 years. Furthermore, it was found that in 2016, teenage mothers experienced an abortion due to economic, social, and family reasons by 62.6% which was higher than a personal health reason and among them there were 26.3% who were school and university students. In addition, the reason for having an abortion due to unintended pregnancy was as high as 92.6% and 41.3% did not use any form of contraception (Bureau of Reproductive Health, 2015); Rongluen, Talengjit & Siriborirak, 2012). It was also found that the sickness rate from sexually transmitted diseases in adolescents aged 15-24 years increases every year. In 2010, the sickness rate was found 80.8 per 100,000 population and extremely increased in 2016 to 143.44 per 100,000 population (Bureau of Reproductive Health, 2016). Besides, Office of the Permanent Secretary of Ministry of Social Development and Human Security conducted a survey on adolescents aged 15-19 years in 2013 and found more than 2 millions girls gave birth from unintended pregnancy. Therefore, female teenagers aged under 20 years had an unintended pregnancy problem more than women in other ages. The synthesis and analysis report on the national adolescent pregnancy 2015 found that girls aged 15-19 years had unintended pregnancies as many as 94.1%, indicating a very high statistic.

Factors affecting adolescent unintended pregnancy behavior

Factors affecting adolescent unintended pregnancy behavior are various which can be divided by PRECEDE-PROCEED Model of Green & Kreuter (2005) comprising predisposing factors, reinforcing factors, and enabling factors to make understanding of adolescent unintended pregnancy behavior which can be concluded as follow:

1. Predisposing factors are major factors in individuals. It has been found that knowledge, belief, perception, value, and attitude of individuals affect having sexual intercourse that leads to unintended pregnancies (Lertsakornsiri, 2014; Srisuryawet & Homsin, 2014; Rongluen, Talengjit & Siriborirak, 2012). Meanwhile, lack of sex knowledge and correct methods

of contraception (Lertsakornsiri, 2014) are obstacles to access contraception. Adolescents lack risk perception of having sex without a condom, using a condom wrong, feeling embarrassed to buy a condom in a convenient store or a drug store. Adolescents have negative attitude and value towards wearing condoms as they believe that a condom will have an effect and reduce their happiness while having sexual intercourse. Meanwhile, women in Thai society have negative attitude towards carrying or buying female condoms as an embarrassing thing making other people think that they are going to have sexual intercourse. Lack of knowledge and having wrong information about sex, reproductive health, and correct methods of contraception contribute to adolescent pregnancy. Such challenge starts from not knowing how to use condoms and birth control pills as well as wrong belief in pregnancy (Lertsakornsiri, 2014; Nithitantiwat & Pataipakaipet, 2016).

2. Reinforcing factors are factors given by families, friends, and other people. It has been found that an obstacle to access contraception especially using condoms is social and cultural stigma. In terms of contraception, adolescent sexuality, negative attitude and behavior of teachers, parents, and service providers, female adolescents are expected not to know about sex; females should preserve their purity and should not experience sexual intercourse before getting married. Therefore, the way that women carry or buy female condoms are judged an embarrassing thing. It is also found that adolescents do not have money to buy condoms, causing them are unable to access contraception services. Moreover, it is found that adolescents do not use condoms due to an atmosphere supporting having sexual intercourse (Isaro, 2015; Nithitantiwat & Pataipakaipet, 2016), not having enough time for prevention and they feel that wearing condoms can reduce their happiness and show untrustworthiness between each other.

3. Enabling factors are factors supporting behaviors such as skills, resources or tools or facilities that support or not support behaviors including difficulty to access health services. It is found that the way that adolescents do not use any form of contraception is due to various causes; inadequacy of reproductive health service friendly to adolescents; censoring media that advertise condoms. Moreover, choosing to receive messages from media's technological apparatus increasingly and easily, adolescents can search sexual information and advice by themselves, causing them not

having correct information. They can access information without having appropriate pieces of advice and their attitudes are enhanced that having sexual intercourse is a common thing. Censorship on condom advertisement and failure to control information about reproductive health publicized on the internet probably have an effect on reduction of using birth control pills or promoting incorrect contraceptive methods (Nithitantiwat & Pataipakaipet, 2016). Overall, these things are important obstacles to access any form of contraception, especially the reduction of using condoms or promoting incorrect contraceptive methods, and indicate the growing number of adolescents having sexual intercourse, having incorrect contraceptive methods, or not having any form of contraception. In case of neglect or failure to pay close attention, adolescents can get close to those risk factors increasingly, leading to sexual behavior, sexual intercourse and ending up with unintended pregnancy and in case they do not have any prevention or have incorrect and inefficient prevention, it can lead to various consequences and problems in the future.

Effects of adolescent unintended pregnancy

Though recently in 2016 the Prevention and Solution of the Adolescent Pregnancy Problem Act was driven to protect the rights to education of pregnant students, some adolescent's points of view found that it has both positive and negative approaches. Currently, adolescents are more assertive and some do not restrain from having sexual intercourse, contributing them to have unintended pregnancy later.

Physical, psychological, and emotional effects

Pregnant adolescents experience maternal and baby health effects. Adolescent mothers face high risks of premature birth, low birth weight baby, and death (Wisaphan & Yajai, 2016). In addition, adolescent mothers may have chances to get sexually transmitted infections such as AIDS, syphilis, gonorrhea, etc. Some pregnant adolescents decide to have an abortion and side effect from having an illegal abortion are various; for example, bleeding, severe infection, death. In some cases, they may have an operation to remove uterus meaning that they can no longer become pregnant throughout their lives (Rongluen, Talengjit & Siriborirak, 2012) and they may face some complications during pregnancy and delivery that can lead to death (Wisaphan & Yajai, 2016; Kruachottikul & Paiboon, 2015), being the leading cause of death in teenagers aged 15 to 19 years. Worldwide, it is found that 3.9 million people experienced unsafe abortions and adolescent mothers

(the ages of 10 to 19 years) take higher risks of having cystitis, hemorrhoids, and sepsis than women aged 20 to 24 years (WHO, 2017). Moreover, adolescent mothers face higher risks of premature birth than mothers aged 20 to 24 years. In terms of psychological and emotional effects, adolescents with unintended or unwanted pregnancies feel guilty and embarrassed and have anxiety that other people will know. They think about whether their boyfriends will take responsibility for this matter or not, how their parents will think about, causing them to be more introverted, feel sad and stressed and may think about killing themselves to escape from embarrassment and social stigma (Wisaphan & Yajai, 2016).

Social, economic, and environmental effects

Unintended pregnancy causes adolescents to stop learning or drop out of schools. When their education level is not high, the chance for them to get a good job is less. When they do not have a chance to choose a good job, they probably have low income that will not be sufficient to take care of their children, having difficulty to live their lives in the society, facing obstacles in their career path development, unpleasant environment for pregnancy and raising their children (Wisaphan & Yajai, 2016), especially adolescent mothers who are stigmatized from people close to them, causing family problems later as their families may feel embarrassed, violation of custom and tradition, family's reputation is ruined, etc. Though their parents will help take care of their children, their boyfriend's family may not accept and abandon them and let adolescent mothers to raise their children by themselves, being the cause that some adolescent mothers abandon their children (Rongluen, Talengjit, Siriborirak & 2012). Based on unreadiness to raise children of adolescent mothers, some children are abandoned, having an effect on the quality of Thai children in the future. Current information indicates that orphanages governed by Ministry of Social Development and Human Security have to patronize around 6,000 newborn babies to persons with 18 years of age per year and it is found that children born to adolescent mothers have a tendency to become adolescent mothers when they grow up which brings about social problems later.

Adolescent unintended pregnancy prevention

Since adolescent unintended pregnancy effects lead to problems and obstacles in living a life of adolescents and a burden of their families to take care of their offspring including the government sector that has to provide healthcare services, all sectors should

participate in preventing adolescent unintended pregnancy. Emphasis in prevention should be placed on enabling adolescents to reduce access causal factors or have thinking literacy in unintended pregnancy as follow:

1. Preventing predisposing factors: Attitudes and value appropriate to Thai culture should be enhanced such as to preserve one's purity, do not engage in sexual activities or do not lose one's virginity before the right age, do not live together before marriage to increase self-worth in adolescents (Kruachottikul & Paiboon, 2015), be a compassionate person, possess a sense of right and wrong, do not harm anyone to get pain or dead like having an abortion, obey parents and teachers, behave morally and ethically, pay attention to studies to achieve graduation before marriage, do not be a victim of sexual temptation from inappropriate online media, make oneself useful for the society, country and oneself by spending free time to be useful such as do some exercise, help parents to work, parents should be ready to listen to their children's problems with positive attitude, parents express their love to their children and sympathize them when they face problems, show them to perceive and be aware of sexuality correctly (Rongluen, Talengjit & Siriborirak, 2012), adolescents behave properly in a student role. A sex education project should be provided like holding a sex education camp that schools can ask for collaboration from public health personnel to participate in holding activities for teaching sex education, especially life skills (Srisuriyawet & Homsin, 2014), know how to use refusal skills like "No, Stop, Do not". In this regard, the refusal must come from their intention to avoid and protect themselves rather than tempting or enhancing sexual desire (Nithitantiwat & Pataipakaipet, 2016). Therefore, refusal skills must be utilized with polite but strong and stable tone and gestures must be expressed to avoid a certain situation so as to change ongoing manners or sexual feelings to be more relaxing or finally disappear. Besides, they should be trained negotiation skills as only refusal skills may not be efficient. They should know how to communicate and build good relationship by negotiating with various methods by offering other better activities to avoid unexpected situation; for example, make an excuse to turn on a television while being hugged by a male friend, avoid a situation in which they have to stay privately with a male friend by going out for exercising or playing sports instead, etc. Adolescents should be taught life skills, learn how to think and listen, how to solve problem correctly by themselves and they should be encouraged

to value themselves, love their own future and be inspired to stay committed to their dreams and make them become true (Srisuriyawet & Homsin, 2014). In the meantime, sex education should be given (Lertsakornsiri, 2014) to suggest how to have safe sex and know how to use any form of contraception for pregnancy prevention. Contraceptive methods are varied and each method depends on appropriateness and convenience of each person, especially using a condom is a convenient, economical method, and good at preventing pregnancy as well as safe from sexually transmitted diseases and AIDS. Meanwhile, knowing how to use a condom correctly is necessary. Therefore, enhancing adolescents to have life immunity will enable them to overcome various obstacles and can live their lives in the society in a good quality manner accordingly.

2. Preventing reinforcing factors: Based on the previous studies, it was found that Thai parents, public health personnel, teachers felt awkward or uncomfortable to talk about sex with adolescents. In the old days taking about sex was considered an embarrassment and a sensitive issue, making it was so difficult to talk about sex straightforwardly with their offspring. Thus, friends are someone adolescents choose to talk about sex or seek advice when they are pregnant or have an abortion. A happy family (Kruachottikul & Paiboon, 2015) should be built as father/mother/guardian play an important role in caring and giving good advice especially sex education considered a necessary issue in the today world. When families have time, take care of each other, and enjoy doing activities together will lead to trustworthiness. When family members face problems, they feel free to seek advice on everything. Parents should not let their children to stay alone when they have problems and have to keep pace with modernity of today media so as to prevent them from consuming inappropriate media. Parenting children should focus more on morality, virtue, and ethics (Nithitantiwat & Pataipakaipet, 2016; Rongluen, Talengjit & Siriborirak, 2012) as currently people give less importance to this issue, avoid stigmatizing children and using spoken words to devalue them. Parents should try to learn, accept, and get to know their children's friends to learn about any event that their children are facing and give advice to the children and their friends how to behave themselves appropriately by encouraging them to look for positive expectancy. Parents should ask their children about making friends of the opposite sex so that parents can keep monitoring and give them advice how to behave properly to their role as students and

sexual practices or boyfriends (Srisuriyawet & Homsin, 2014).

3. Preventing enabling factors: Internet is an important channel adolescents use to search sexual information which is probable full of unreliable information. Parents or guardians should monitor their behavior in using internet (Nithitantiwat & Pataipakaipet, 2016). Besides, educational institutions should play their role in instilling value and promoting positive attitude towards having sexual intercourse and providing knowledge about contraception (Lertsakornsiri, 2014) encouraging them to focus on studying more than anything else and the way they make friends, especially making friends of the opposite sex. It seems that it is quite difficult today to control and it seems that prohibition is not workable as adolescents can learn anything from all forms of media. They have to be taught to separate what is right and what is wrong. Parents should be a good example for their children. To prohibit them for having boyfriends or sexual intercourse as of today seems to be difficult, parents and teacher have to stress on caring and preventing pregnancy instead by giving them knowledge about sex and appropriate contraception (Rattananam, Sangsuwa, Nitirat & Pennapa, 2015) teaching them how to behave when making friends of the opposite sex, monitoring and following up their wrong information learning from social media. In addition, government sector agencies should seriously raise a proactive campaign in giving adolescents knowledge about unintended pregnancy prevention and correct contraceptive methods and should control online media in publicizing sexual temptation to adolescents. Strict laws should be enacted and punishment should be imposed for those who broadcast pornography contravene to adolescents (Nithitantiwat & Pataipakaipet, 2016). Furthermore, reproductive health services should be appropriately provided (Kruachottikul & Paiboon, 2015). Birth control pill and condom services should be provided to adolescents and proactive activities should be organized to allow adolescents to enjoy doing activities together on important days such as Valentine's Day, Loy Krathong Day. Place of service should be private so that adolescents do not need to receive services at the same place adults do and the services should be open out of office hours and consultation services without face-to-face should be provided. Personnel giving services should understand adolescent demands and be trained adolescent consultation; they must have knowledge with good personality, dress properly and keep secrets

(Wisaphan & Yajai, 2016), consistent with reproductive health policies of Department of Health that is formulated friendly services. Public health agencies have to provide health services for adolescents and youths while their fragility is taken in consideration. Youths are a group of people having alteration in terms of their physical, emotional, personality development and adjustment from childhood to young adults. They require acceptance from their friends and listen to friends rather than adults. They learn about sex through social media and have high risks in receiving information that is not well rounded. They think that sex is embarrassing but they are curious and would like to try. They like to imitate what their friends do. When they experience sexual health problems, they have no one to seek advice. They feel embarrassed and are afraid that their parents would know about their sexual behavior and they may be blamed. They are afraid to receive health services and often buy medicines by themselves. Service providers should realize youth demands so as to manage a health service system to be actually consistent with their demands in accordance with UNFPA on youth-friendly services. Characteristics and system of services comprise the following: Service hours should be convenient for youths to visit. Medicines and medical supplies should be adequately provided and choices of contraception are varied. Secret-keeping standard is trustworthy and a transfer system is appropriate. Service providers are competent; they understand and accept youths, they listen to youths' opinions. Youths are assigned as service providers, both health and social services are available, place of services is private. Place and service hours are specific to youths and location is easily accessible.

Conclusion

Adolescent is a transitional period from childhood to adulthood. They have rapid change in their physical growth and their brain is fully developed. They start to have sexual maturity and possess high power in themselves. Their emotion changes rapidly. They love their friends and prefer to be surrounded by their group of friends. It is also found that problems related to sexual risk behavior are considerably found and in the meantime adolescence is a period of learning and a turning point leading them to both good and bad ways. In this regard, related persons should make understanding and help promote adolescents to have development appropriate to their age as well as help them to adjust themselves to various problems and obstacles

at their full capacity so that they can grow up with good quality of life and be the important power of the country in the future. With regard to all reasons said earlier, a program to assess risk behaviors of unintended pregnancy in school age should be developed to monitor and prevent students not to have obstacles for their studying or lose their future and to enable them to enjoy studying by their age for becoming the power in developing the country accordingly. Meanwhile, the program can be adapted to prevent and solve problems right to the context of each area increasingly.

References

- Bureau of Reproductive Health, Department of Health, Ministry of Public Health (2015). *Training Manual on the Family Sex Talk* (the 4th edition). Nonthaburi: Media Center and Kaew Jao Jom Publications.
- Bureau of Reproductive Health. (2016) *Reproductive health In Teenagers and Youth 2016* Retrieved 10 May, 2018, from http://rh.anamai.moph.go.th/download/all_file/index/CRH2559_New update.pdf
- Green, L. W. & Kreuter, M. W. (2005). *Health program planning: An educational and ecological approach* (4th ed.). New York: McGraw-Hill.
- Isaro, N. (2015). *Factors Predicting Appropriated Sexual Behaviors Among The Lower Secondary School Students in Chanthaburi Province*. (Master's thesis). Chanthaburi: Burapha University.
- Kruachottikul, S. & Paiboon, S. (2015). Quality of Unintended Teenage Pregnant Women: Midwifery Roles Kuakarun. *Journal of Nursing*, 21(2), 18-27.
- Lertsakornsiri, M. (2014). Factors Associated with Unwanted Adolescent Women Pregnancy In the Perceived of The First Year Students at Saint Louis College. *Journal of The Royal Thai Army Nurses*, 15(1), 90-98.
- Nithitantiwat, P., & Pataipakaipet, K. (2016). Unwanted Pregnancy and Abortion: Preventive Guilelines for Adolescents. *The Journal of Boromarajonani College Bangkok*, 32(2), 133-141.
- Rattananam, S., Sangsuwa, C., Nitirat, P., & Pennapa, P. (2015). The Effect of Safe-Sex Promoting Program on Knowledge and Health Belief toward Sexual Transmitted Disease and Unwanted Pregnancy Prevention among Female Adolescents. *The Journal of Phrapokklao Hospital Clinical Medical Education*, 32(4), 305-321.
- Rongluen, S., Talengjit, P., & Siriborirak, S. (2012) Unwanted pregnancies in Teenagers: A survey of problems and needs for health care support. *Siriraj Nursing Journal*, 3(2), 14-28
- Srisuriyawet, R., & Homsin, P. (2014). Mother-Daughter Sexual Risk Communication and Psychosocial Factors Related to Sexual Experience among Female Students. *The Public Health Journal of Burapha University*, 9(2), 33-44.
- Wisaphan, Y. & Yajai, Y. (2016) Effects of Pregnancy on Health, Society, and Finance of Teenage Mothers Living in Chanthaburi Province. *Journal of Phrapokklao Nursing College*, 27(1), 1-16
- WHO. (2017). Reducing early and unintended pregnancies among adolescents. Retrieved 10 May, 2018, from http://www.who.int/reproductivehealth/publications/family_planning/pregnancies-among-adolescents/en/ (in english)