



CHAPTER VI

DISCUSSION

6.1 Introduction

This study focused on adolescents living in a Bangkok slum. The main purposes were to determine their health needs, health services accessibility, quality of life and depression, using qualitative and quantitative studies. Then, the findings were used as input for the development of an intervention program to improve health services accessibility, quality of life and the alleviation of depression. This study was conducted with the expectation that the outcome could be useful to contribute to Bangkok Metropolitan policy and/or to other places where needed. The discussion returns to the research questions, to explain how the study results provide answers to the research questions. The relationships between the results of this study are compared to other related studies and reports. Moreover, this chapter describes the scope and limitations of the study, its conclusions and recommendations.

6.2 Discussion of Findings

6.2.1 Sample features

For data collection, there were fewer males than females (42.8 vs. 57.2%). This is not surprising since males prefer to spend more time outside the home than females (Ormsom, 2002). There were differences in the percentages of respondents in each age group, compared with the Bangkok Metropolitan Administration population report. The findings indicated that the percentage of adolescents in each subject age group (early, mid- and late-adolescent) were 23.3, 48.2 and 28.5%, respectively, in contrast to the percentage of adolescents in each age group of the BMA population registration (Klong Toey District), at 17.9, 28.2, and 59.8%, respectively (BMA, 2002). The explanation for the difference was the willingness of the subjects to participate in this project; as mentioned in Section 4.9; the older adolescents often refused to be interviewed, suggesting that their younger siblings be interviewed instead.

6.2.2 What is the nature and extent of existing health services (GO, NGOs, including community organizations) for adolescents?

The existing health services in the community were divided into 2 types, government and private sector. The government sector was composed of health centers, government hospitals, fitness parks, and schools, while the private sector consisted of private clinics, private hospitals, drug stores (with and without pharmacists, including convenience shops and small grocery stores that sell some medicines), NGOs, and community organizations (these included services run by community leaders, youth leaders, and so on)). The availability of health facilities and/or services perceived by the subjects were : 1) drug stores (84.8%), 2) health centers (63.3%), and 3) private clinics (55.5%). The private health sector was more likely to be well known among the respondents than the public health service sector. Similar to the documentary review of Suwit et al. (2002), this indicated that urban people utilized the private health sector, including visits to drug stores, more than the government health sector. Interestingly, few of the respondents defined non-government organizations and schools as health facilities. On the other hand, the existing health services in the community were classified into four levels according to the level of care of the Ministry of Public Health (MoPH Profile, 1998), these were:

- Primary healthcare level
- Primary care level
- Secondary care level
- Tertiary care level

These levels are described below.

Primary healthcare level. This included local organizations implemented by people in the community, providing very basic health-related services, health promotion/education and dissemination of health information. The service providers were community health volunteers, NGO volunteers, schoolteachers and some community leaders/housewife group/youth group. However, most of these services were not focused on adolescents. For the youth group, many activities were related to preventive health and promotion, especially HIV/AIDS prevention and substance abuse

campaigns. However, these activities were active, with the limitations that the community organizations had limited manpower and inadequate knowledge about adolescent health. This was a gap in needs and services.

Primary care level. Health centers and private clinics were classified into this level. The services included medical and health services provided by physicians and health staff. However, service differences were found among private clinics and health centers. The services provided at the health centers were health promotion, disease prevention and curative care. The health staff had implemented health programs according to the standard procedures established by the BMA. Health Centers had initiated some adolescent health projects (such as hotline counseling, friendly clinics). However the findings from the qualitative study indicated that the adolescents were not aware of these projects. Private clinics mainly focused on curative care, and they usually worked independently. This was a fragmentation of services.

Secondary care. This category included community hospitals, and small- or medium-sized private hospitals. Since the slum is located in the capital, community hospitals are not necessary as there are several government hospitals in Bangkok. However, one of the health centers in this district was upgraded to a 10-bed health center. There appeared to be service redundancy.

Tertiary care. Medical and health personnel, and medical specialists, provided health services at this level. These included the general hospitals, university hospitals and large private hospitals (> 100 beds, with medical specialists). Most respondents reported that they visited a hospital when they had severe illness and/or the illness was getting worse. However, most tertiary care health services were provided during fixed office hours, which indicates a gap in health services. In addition, all hospitals, both government and private, worked independently, with little coordination between them. This indicated fragmentation of healthcare services.

As mentioned, several types of health services were provided for adolescents in the community. However, the findings revealed that there were gaps, fragmentation, and redundancy among those services; examples of each are summarized below.

Service Gap

The findings from the focus group discussions regarding adolescents' opinions about existing adolescent health services were that most reported they had never known of adolescent health services. However, some participants reported that they had visited a health center for severe illness. This result was similar to the studies by Ratana Somrongthong and Chitr Sitthi-amorn (2000) and Aten, M.J. et al. (1996). In addition, some respondents stated that the service times were not suitable for their visit. The findings of the quantitative study, which asked about the names of health facilities in the community, showed that private sector health services were more likely to be well known than public sector health services. Moreover, in some health programs, services were not available, including family planning, unwanted pregnancy services and adolescent health counseling in the community. Some programs had been initiated, such as hotline counseling for the mental health program and friendly clinics. However, from the results of the focus group discussion, nobody knew of these programs. Some said that health personnel were unfriendly. These findings indicated gaps between real needs and existing services. Similarly, the study by Richardson, G et al. (2000) revealed a number of gaps identified by adolescents between themselves and healthcare providers.

Fragmentation

The health officers reported that premarital sex was currently increasing among adolescents, and to solve this problem, sex education, including HIV/AIDS campaigns, had been implemented. However, observation and the findings of the focus group discussion with adolescents revealed that family planning/sex counseling, which should be initiated for this group, were not available at the health center. Guzman D. A.'s study (1999) of adolescent sexual health in Klong Toey slum reported that only about a quarter of adolescents were aware of a health center offering information and advice about HIV/AIDS. Moreover, one NGO staff member stated that she had been

organizing a regular sex education program for adolescents in the community through face-to-face training with limited knowledge and budget. There was no operational linkage among GO and NGO. This indicates service fragmentation.

Redundancy

The same services were provided by various organizations. For example, the health center, school and NGOs, including some local organizations, had implemented health/sex education. However, the mode of providing sex education depended on the resources and the capacity of each organization. Not surprisingly, the findings revealed that most relevant organizations had little knowledge about the work of other organizations that worked in the community, displaying service redundancy and poor service coordination. Improved coordination is needed to reduce redundant activities (Shaller, 2004).

6.2.3 What are the determinants of accessibility of health services in terms of geographic accessibility, availability, affordability and acceptability of adolescent health services between male and female adolescents and in the age sub-groups of adolescence?

As mentioned above, access to health services is a combination of perceptions of accessibility in terms of geographic accessibility, availability, affordability, acceptability and utilization, which forms the focus of this study. The findings are summarized as follows:

Geographic accessibility

Most (68.4%) of the subjects reported having health cards. However, the mid-adolescents of both genders were less likely to have health cards than the other age groups. Only 22.3% of respondents reported that they had visited health facilities within the last 2 months. Females were more likely to have visited a health facility than males. In addition, older adolescents (late adolescents) were less likely to visit health facilities than the other age groups. Similarly, A.V. Marcell et al. (2002) conducted secondary data analysis of three national datasets to determine healthcare use by male adolescents in the USA. The findings showed that older male adolescents, aged 16–20

years, had a lower percentage of total visits to National Ambulatory Medical Care Sites than younger males. Moreover, male adolescents of all ages used clinical healthcare services significantly less often than did female adolescents at all care sites.

The majority (89.5%) of the respondents reported that the travel time from home to a health facility was less than one hour. Not surprisingly, as the slum community is located in the capital of Thailand, many facilities are available, including health facilities (BMA, 2002). Therefore, the time spent traveling from home to a health facility was not long.

Interestingly, the 30 Baht health-card scheme (universal coverage) was implemented in the study period, but only 26.5% of respondents stated that their healthcare costs were paid by this health card. This supports the study of health and illness and factors influencing opinions about utilizing primary healthcare centers by Panunvathsuk. P, et al. (2002), that having universal insurance coverage was not related to the utilization of healthcare facilities.

Availability

Regarding waiting times, over half (56.4%) of the adolescents reported that the waiting time was “less than 30 minutes”. Only 25.1% of the respondents stated that they had met a doctor “all the time”. More than half (54.9%) of the adolescents reported that they had received health information “sometimes”, while 11.9% stated that they had received no health information. This demonstrated the unavailability of health information for adolescents.

Affordability

Regarding opinions on the total cost of healthcare services, most (65.0%) of the respondents reported that it was “moderate” and no gender difference was found. Regarding the feeling about health providers prescribing expensive drugs, most (62.6%) professed that they were not sure about this matter; however, males were more likely to have this feeling than females; P value = .002. Over half (55.5%) of the adolescents reported the person(s) who paid their healthcare costs were their “parents”.

In addition, the current study indicated a decrease in the healthcare costs paid by parents according to the adolescent's age. There was also a statistical difference in distribution by stage of adolescence, and by person who paid for the healthcare cost, at P value $< .001$. Similarly, Marcell A.V. et al. (2002) in the United States found that younger adolescents (aged 12–13 years) still relied on their parents for access to healthcare. Not surprisingly, older adolescents were more likely to have their own income or a job than younger adolescents; consequently, they could take care of their own healthcare costs.

Acceptability

The results revealed that the majority (75.1%) reported that their satisfaction was “moderate”. Late-adolescents were significantly less likely to be satisfied with health services than the other groups. (P value = .007). This finding was different from those of Masatu, C. M et al. (2001) about the use of health services and reported satisfaction among primary school adolescents in Arusha, Tanzania, which found that most (89%) of the respondents who sought modern medical care were either very satisfied or satisfied with the services received during the last visit.

Univariate and Multivariate Analysis

To answer research question # 2, “what are the determinants of accessibility of health services between males and females in each sub-group of adolescence?”, univariate analysis and binary logistic regression were used in the data analysis. For this analysis:

- “*Accessibility (as measured by utilization)*” means that when adolescents are faced with health problems, they could visit one or some of the following health services--government health facilities, private clinics, hospitals and NGOs.
- “*Inaccessibility*” refers to when adolescents faced with health problems did nothing or/and visited drug stores.

The univariate analysis utilized the chi-square test to examine the differences in potential factors related to the utilization of health services. The chi-square test was

adopted for statistical analysis by gender and by stage of adolescence (statistically significant, P-value < .05).

In the statistical model, 31 factors were used. The results indicated that the following nine factors were statistically associated with accessibility [inaccessibility: accessibility] ($P < 0.05$):

- 1) Adolescents' working status,
- 2) Time convenience for health service utilization,
- 3) Receiving health information services,
- 4) Satisfaction with the reception at health facilities,
- 5) Rating quality of healthcare services,
- 6) Chance to meet the doctor at the health facility,
- 7) Known about health services in the community,
- 8) Having sexual activity (no sex: having sex),
- 9) Guardian's occupation (unemployed: employed).

These nine factors were used for the multivariate analysis, to answer the research question related to the determinants of accessibility.

Determinants of accessibility (as measured by utilization) for both genders

Multivariate analysis indicated that, for the 871 respondents, statistical associations were shown between access and 2 factors:

- 1) "guardians' occupation" [unemployed: employed] (0.513 [0.283,0.931], p-value .028) and
- 2) "chance to meet a doctor at the health facility [no chance: having chance] (1.661 [1.067,2.586] p-value 0.025).

Surprisingly, the model showed that the guardians occupation [unemployed] contributed to decreasing access to health services. Several contradictory studies reported that the adolescents who reported that their families had few or no financial problems also reported better access (Klein, 1999; Richard, 2002). The current findings

indicated that for more than half of them, the healthcare cost had been paid by their parents. Pannee Panuwatsuk and Ratana Somrongthong (1999) reported in her study that for mild sickness, the majority (66.8%) of adolescents visited drug stores. This may be because the guardians who had jobs might be able to afford to buy medicines from drugstores for their teens.

The second model showed that “chance to meet a doctor at the health facility” (no chance to meet a doctor at health facility) contributed to increasing access to health services. This was similar to the findings of several studies in the area of access to, and utilization of, healthcare services, which noted that physician contact in the past year indicated access to healthcare services (Newacheck, P.W et al., 2003; Bearman, P. S. et al. 1999).

Among male adolescents, a statistical association was shown between access and guardians’ occupation (0.363 [0.148,0.890], p-value = .027). The model showed that “guardians’ occupation” contributed to decreasing access to health services. For females, strong statistical associations were revealed between access and “chance to meet a doctor at a health facility”. The finding was similar for this determinant of accessibility in both genders. The study of Marilyn, J et al.(1996) reported that male teenagers were less likely to be under care than females. In addition, a recent study in the United States found that adolescent boys accessed healthcare services significantly less than girls of the same age (Marcell, MV et al., 2002).

Determinants of accessibility (as measured by utilization) in each stage of adolescence

Among early adolescents, statistical associations were shown between access and 3 factors:

1. “convenience of time for visiting health facilities” (0.316 [0.101, 0.987], p value.047),
2. “current educational status” (0.110 [0.015, 0.816], p value 0.031)

3. “known about health facilities in the community” (0.195 [0.062, 0.616], p value 0.005) respectively.

The above three factors contributed to decreasing access to health services. Similarly, several studies reported that the convenience of the time for visiting health facilities and knowing about health facilities services influenced access to care (Michael L. Booth, et al., 2004; C. Ford, et al., 1999).

For mid-adolescents, a statistical association was revealed between “access” and “knowing about household expenses” (0.499 [0.272, 0.195], p-value = .025). The model also showed that “knowing about household expenses” contributed to decreasing access to health services. A possible explanation for this may be that adolescents might be concerned about the expenses of their healthcare when they know about household expenses.

Among late-adolescents, statistical associations were shown between access and 3 factors:

1. “guardians’ occupation”(0.227 [0.086, 0.897], p value.032),
2. “know about health facilities in the community”,
3. “gender” (4.044 [1.368, 11.951], p-value = .011).

The models showed that “guardians’ occupation” and “know about health facilities in the community” contributed to decreasing access to health services. The explanations of these circumstances may be similar to the above mentioned.

Several studies of factors related to adolescents’ access to health services were found. However, studies of certain subgroups (age groups) were few in number. Klein, JD et al. (1999) and Newacheck (2003) stated that certain subgroups (e.g. gender, age, and minority groups) are less likely to access healthcare. Factors involved in not seeking or not receiving care included being uninsured, older and male, living in a rural setting, and being from some minority ethnic group. This supports the findings of the current study, that being older and male affected lower levels of access to health

services than other factors. The study by Gembeck J.M et al. (1997) indicated that adolescents who were not seeking healthcare at all, or who reported no recent care, had less knowledge of the availability of healthcare services. The study by Klein, J.D. et al. (1999) indicated that adolescents and young adults had worse access to healthcare than other age groups.

6.2.4 What are the differences in terms of service needs and utilization of health services, between male and female adolescents, and in each sub-group of adolescence?

To explore the adolescents' health needs/problems, questions directed at adolescents, and their opinions about other adolescents, were asked to encompass both the real and felt needs of the subjects. The findings showed that the top-ten adolescent health needs and problems for both genders (excluding gender issues) consisted of: 1) acne (83.3%); 2) unintended pregnancy (69.0%); 3) amphetamine addiction (68.7%); 4) heroin addiction (67.5%); 5) induced abortion (65.3%); 6) stress (62.8%); 7) fighting (62.4%); 8) smoking (62.2%); 9) alcohol (61.15%); and 10) rape (60.9%). Among the above "top-ten" health needs/problems (excluding gender issues), gender differences were found. Statistically significant differences were found by gender in the distribution of "acne" ($p = .001$), "unintended pregnancy" ($p = .002$), "amphetamine addiction" ($p = .012$), "heroin addiction" ($p = .029$), "induced abortion" ($p = .008$), "stress" ($p < .001$), "fighting or brawling" ($p < .001$), and "rape" ($p = .004$). Moreover, there was a statistically significant difference in the distribution of "smoking" by stage of adolescence (P value = .019).

Health service needs and utilization of both genders

Utilization refers to when adolescents faced with health problems visit certain places for them: these include the government sector, private clinics, private hospitals, and NGOs. The findings indicated the percentage of health service utilization by adolescents for the above top-ten health needs/problems varied from 21.5–56.0% for each problem. Interestingly, underutilized health services were those for stress, alcohol, smoking, and fighting. This was similar finding to the study by Booth, L.M et al. (2004).

Among males, the top-ten male adolescent health needs/problems were 1) acne, 2) fighting or brawling, 3) smoking, 4) amphetamine, 5) alcohol, 6) unwanted pregnancy, 7) heroin, 8) traffic accident, 9) induced abortion and 10) stress, whereas the top-ten female adolescents' health needs/problems consisted of 1) acne, 2) dysmenorrhea, 3) unwanted pregnancy, 4) amphetamine, 5) stress, 6) heroin addiction, 7) induced abortion, 8) irregular period, 9) stress, and 10) rape. Most of both genders indicated that "acne" was the first range of the top-ten health problems. Similarly, the report of the Royal College of Pediatrics and Child Health, USA (2003) reported that the main concerns of young people were skin problems, followed by weight, appearance, emotional and sexual health, and contraception. Moreover, Gembeck, J M et al., (1997) summarized that the most common adolescent health problems included acne, family planning, dental care, menstrual problems, mental health problems, sexually transmitted diseases, and pregnancy.

Among the top-ten health needs/problems, females were more likely to have problems with acne than males (84.5% in females vs. 71.9% in males). Moreover, females were more likely to have reproductive health problems than males. The second in the top-ten for males was "fighting or brawling", and "dysmenorrhea" for females. In addition, females were more likely to have mental health problems, particularly "stress", than males (68.3% vs. 55.2%). In contrast, males faced more kinds of substance abuse than females. Guzman, D. A. (1999) reported that gender was significantly associated with the perceived importance of different adolescent health problems, and that males were more likely to select illicit drug use, use of alcohol, cigarettes, STD and HIV/AIDS, as important adolescent health problems than females. The study of Service de Medicine pour Adolescents, Federation de Pediatric, Hospital Bicetre, France (Service de Medicine pour Adolescents, 2002) reported that female teenagers expressed more important expectations and needs for healthcare than males. Concerning mental disease, depressive tendency, suicide attempts, and eating disorders were prominent among females, whereas males mainly reported behavior disorders, acts of violence, and accidents.

Gender differences were found for 8 of the 10 problems listed above. Those strongly significantly associated with the top-ten health needs/problems included stress, acne, and unintended pregnancy (p value = < .001, < .001, and .002, respectively). Interestingly, females were more likely to experience problems than males. It can be said, regarding the magnitude of health needs and problems, that females were more likely to have problems than males (Gembeck, J M et al., 1997).

In terms of service utilization, male adolescents utilized health services only 50% or less when they faced the mentioned health problems, whereas female adolescents utilized health services 60% or less when they faced the mentioned health problems.

Health service needs and utilization in each age group

For male adolescents in each age group, one half of mid- and late-adolescent males indicated that acne was their major health problem. In contrast, early-adolescent males reported that fighting was their major health problem. Most male respondents in each stage of adolescence reported that they did nothing when they faced health problems, excluding road accidents. Mid-adolescent males stated that they visited a “government hospital”, while, on the other hand, late-adolescent males visited a “private hospital”. The study by Gembeck, J M et al., (1997) revealed a higher proportion of females consulted with healthcare providers than males. Meanwhile, males were more likely to receive care for injuries, accidents, and drug and alcohol problems.

Interestingly, most of the female respondents in each stage of adolescence reported that they did nothing for their health problems, including mental health problems (stress and sadness). This finding was similar to the study of common illnesses and medical care utilization patterns of adolescents in Hong Kong by Joseph T. F. Lau, et al. (2000), where the results revealed that adolescents would not seek help for their mental health problems (insomnia/depression). However, for acne, most (33.0%) early-adolescent females stated that they went to drugstores.

In conclusion, there were differences in the health needs/problems of each gender and each age group. In terms of health service utilization, it demonstrated an underutilization of these services. The percentage for health service utilization by adolescents for the above top-ten health needs/problems varied from 21.5% –56.0% for each problem.

6.2.5 What are the perceptions of adolescents towards QoL?

Quality of life is a difficult concept to define, particularly for adolescents. Therefore, a qualitative study was done by using focus group discussions to identify the meaning of QoL among the respondents. The participants consisted of in-school and not-in-school individuals of both genders. Most respondents perceived that their QoL referred to having a happy family, having a happy life, having money, and having the opportunity to study. Both males and females defined QoL similarly. However, female adolescents reported that the QoL also included “no mental health problems and healthy”, in contrast, these issues were not mentioned by males. The rating scores for adolescent QoL, which ranged from 0-10 (from poor to high), were sought. The participants reported that their QoL scores ranged between 4 and 8. The WHO defined the QoL as a broad-ranging concept, consisting of 4 domains--physical, psychological, social, and environmental. Based on the WHO definition, the findings showed that for the *physical domain* adolescents referred to being healthy and having no health problems. In terms of the *psychological domain*, the respondents referred to happiness and having no mental health problems. For the *social domain*, they mentioned having good friends and having two parents. Interestingly, adolescents did not mention sexuality. For the *environmental domain*, the participants referred to having money, good living conditions, having a job, and having the opportunity to study. Adolescents did not volunteer information about health and social care accessibility and quality. In contrast, for the perceptions of QoL in one western country, the University of Toronto, Canada identified quality of life issues through direct dialog with adolescents. Based on focus groups with adolescents and a literature review of “quality of life”, the items in the Quality of Life Profile-Adolescent Version consisted of three primary domains: 1) Being (physical, psychological and spiritual being), 2) Belonging (physical, social and community belonging) and 3) Becoming (practical, leisure and growth). Items were

rated for importance and satisfaction (University of Toronto, 2001). Moreover, the WHO (1995) defined Quality of Life as a personal judgment about satisfaction and happiness. This shows the complexity of defining the meaning of Quality of Life, as it is an individual's perception.

6.2.6 What is the level of quality of life of adolescents, as measured by the WHO-QoL-Bref?

The short form questionnaire of the WHO-QoL Thai version was used to assess adolescent QoL level. Five areas were designed to measure QoL--physical, psychological, social, and environmental domains, overall QoL, and general health facet. The results revealed that most (71.8%) of the respondents reported that their QoL was "moderate", while very few (1.5%) were "low".

Most (62.9%) of the adolescents reported that their overall QoL and general health were "moderate". Males were more likely than females to report that their overall QoL and general health were "high". There was a statistical difference in the distribution by overall QoL and general health, and by gender (P -value = .018). E. Scott Huebner (2000) suggested that gender plays a larger part in the domains of Perceived QoL. Moreover, early adolescents were more likely to have better overall QoL and general health than other groups. The results indicated that most (80.0%) reported that the Level of QoL of the Physical Domain were poor/moderate. However, there was no statistical difference in distribution by level of QoL by gender, or by age group, or by gender of each age group in the "Physiological Domain" and the "Psychological Domain". In contrast, there were statistical differences in the distribution by level of QoL and by gender on "overall QoL and General Health" and on "Social Domain" (p value = .018; .008, respectively). Moreover, among males, there was a statistical difference by age group and by level of QoL of the "Social Domain" (p value = .004). For the "Environmental Domain", there was a statistical difference in distribution by level of QoL for "Environmental Domain" by age group (p value = .036). Moreover, the results of the qualitative study using focus group discussion also indicated that the quality of life among the participants was moderate. Most of the respondents reported that their level of QoL for Physical, Psychological, Social and Environmental Domains

were “moderate” (80.0, 64.9, 63.8, and 83.6%, respectively). The literature review located several research studies about QoL; however, most of them focused on adolescents with certain diseases. The study of the University of Toronto, Canada, developed tools for measuring QoL, and the findings revealed that Quality of Life was related to adolescent drinking and smoking health-risk behaviors; there was no report about the level of QoL in this study. In Thailand, Suwat, M et al.(1998) compared the WHO-QoL 100 and the WHOQoL-BREF, however, there was no report about the QoL levels of the samples.

6.2.7 What is the level of depression among adolescents as measured by the Center for Epidemiologic Studies’ Depression Scale (CES-D)?

To assess the level of depression of Bangkok slum adolescents, the Thai version of the Center for Epidemiologic Studies’ Depression Scale (CES-D) was used. This instrument was developed by the Department of Mental Health, Ministry of Public Health, Thailand (Umaporn, 2000). The results indicated that one third of the subjects (34.9%) had depressive symptoms. This figure seems a little high when compared with the study on adolescent depression and suicide risk and the association with sex and drug behavior by Hallfors, D.D et. al., (2004), this study reported that about one in ten adolescents met the criteria for major depression at the time of interview. The current study reported that females were more likely than males to have depressive symptoms (40.4 vs. 27.6%). There were strong statistically significant differences in both gender and stage of adolescence, and by depressive symptomatology (P value < .001). A number of studies related to depression reported that depressive symptoms in females were higher than in males (Radloff, L S. 1991; Rutter, 1986; Marcotte D, 1999; Alfieri, Ruble & Higgins, 1996). Some indicated that the ratio of depression between teenage girls and boys was about 2 : 1 (Marcotte D, 1999). In addition, Marcotte D. (1999) stated that girls become prone to depression because their gender-related role is more depressogenic, whereas masculine gender-type characteristics, known as instrument characteristics, act as a buffer against depressive symptoms. Furthermore, the interpersonal depressive style is more frequently found in girls than boys. From puberty onwards, the prevalence of depressive disorders increases more among girls, being approximately two-fold in late adolescence. This gender difference remains in

adulthood. (Birmaher et al., 1996). The findings revealed statistically significant differences by gender and by depressive symptomatology in early- and mid-adolescents (.027, < .001, respectively). Similarly, Birmaher, et al. (1996) reported that the prevalence of major depression increases from 0–2% in preadolescence, to 2–8% in adolescence and young adulthood. The current study indicated that QoL and depression were statistically associated in both genders and in each gender (P-value < .001).

In conclusion, the findings showed that one third of the subjects had depressive symptoms. Females were more likely than males to have depressive symptoms; female adolescents were 1.5 times more likely to experience depressive symptomatology than male adolescents. This is similar to the study by Birmaher et al. (1996), which indicated that girls were about twice as likely as boys to report severe depressive feelings. There were strong statistically significant differences for both gender and stage of adolescence, and by depressive symptomatology (P value < .001). Moreover, there were statistically significant differences by gender and by depressive symptomatology in early and late adolescence (.027, < .001, respectively). In addition, QoL and depression were found to be statistically associated in both genders and in each gender (P value < .001).

6.2.8 What strategy combines quantitative & qualitative information to develop an intervention program to improve accessibility, utilization, to alleviate depression, and to improve the QoL of adolescents?

The origin and development of qualitative studies are associated with anthropology and the social sciences, and qualitative studies involve the use of non-quantitative data (Bencha Yoddumnern-Attig, et al., 1993). In contrast, quantitative studies involve the use of quantities or quantitative data. For this study, the qualitative study was formulated to gain greater understanding of adolescent health perceptions/practices, QoL and accessibility to health services. Clark, J.P. (2000) stated that in conducting health services research, multiple methodologies are required. Generally, the healthcare environment is complex and changing (Clark, J.P. 2000). Moreover, a range of complex factors influences adolescent health; therefore,

adolescent health services research may benefit from the diverse perceptions provided by combining quantitative and qualitative studies.

Bennett, A. (1993) suggested that a qualitative study was appropriate when studying a new population (e.g., adolescents) where there was very little descriptive information, and in addition, qualitative information may serve as a basis for designing a quantitative study, and in developing the content for a questionnaire/survey (Clark, J.P. 2000). In this study, not only information from the qualitative study was used to develop the tool for quantitative data collection, but the qualitative approach involved a smaller qualitative follow-up study to interpret the results from mainly quantitative data (Clark, J.P. 2000). Over the past two decades, there has been an increased emphasis on the value of combining qualitative and quantitative approaches to research. There is a growing recognition that quantitative methods may also have something to offer, and that combining methods may enable researchers to capitalize on the different strengths of the two approaches.

Moreover, Chitr Sitthi-amorn and Ratana Somrongthong (2000) stated that a combination of methods using multi-disciplinary (including quantitative and qualitative) approaches should better reflect the “true” nature of a public health situation. For this study, the results of the qualitative and quantitative studies were integrated to fill the knowledge gap. Then the findings were provided to the stakeholders in the community to identify ways and means for improving accessibility and utilization, to alleviate depression, and to improve adolescent QoL. A brainstorming workshop was held in the community (at the NGO office). It aimed to disseminate research findings to stakeholders, then asked for feedback and suggestions. Eighteen stakeholders, including health officers, NGO staff, community leaders, youth leaders, housewife group members, community health volunteers and the research team were invited to participate in this workshop. Several issues were discussed, including how to reduce gaps, fragmentation and redundancy of existing services. Finally, the stakeholders agreed to work in partnership to improve adolescent health.

6.2.9 What are the stakeholder perceptions of the processes and content of partnerships for developing the intervention program?

A qualitative study was conducted using in-depth interviews and focus group discussions, and one of the purposes was to explore stakeholders' perceptions of the processes of partnerships for developing the intervention program for adolescent health. The findings indicated that more than half of the stakeholders (health officers, community leaders, teacher, and NGO officer) perceived that partnerships were a key strategy for improving adolescent health. One of the NGO staff shared her experiences: *"adolescent health problems are so complex, we can't work alone"*. Nevertheless, many of them had no clear understanding of the process and content of partnerships. Moreover, some of them, particularly the housewife group and community volunteers, had little knowledge about partnerships. Since some of the stakeholders had different educational and occupational backgrounds, there were knowledge gaps among the participants. However, in summary, the processes and content of partnerships, as stated by the stakeholders in the community, were 1) formation of the partnership, 2) implementation, and 3) maintenance of the partnership. A few participants (health office, community leader) mentioned details of the partnership procedures. Many of them agreed that coordination and collaboration were important for working on adolescent health in the community, and moreover, "Chao-pab" or "sponsors" were very important for making the partnership work. Interestingly, nobody mentioned the "common agenda" (objective), which is an essential process for partnership development (WHO, 1998).

Edwards L.S. and Stern F.R. (1998) stated that the concept of partnerships meant that the expertise of different individuals, professions, and groups can be pooled, allowing a more complete understanding of issues, needs, and resources, improving the capacity to plan and evaluate, and allowing for the development of more comprehensive strategies. For the current study, some people from the local organizations had been involved since the beginning of the project. Some of them were not only key informants but also experts in the field.

The qualitative and quantitative findings of this study were presented to concerned people in the community. A series of community workshops was planned as a process to create the working partnership and for build the capacity of the stakeholders. A draft common agenda was initiated, and all agreed to work together to improve adolescent health. Observation revealed that a partnership atmosphere had been created, and further action was required to maintain this partnership atmosphere.

6.2.10 Scope and limitations of the study

This study was limited to a group of adolescents living in one Bangkok slum community; therefore, it does not represent the entire adolescent population of Thailand. With respect to the ethical issues in this research, as far as the willingness of the adolescents to participate in this project and informed consent from both parents and adolescents were concerned, the results of data collection found that older adolescents refused to participate. The most common reason stated was that they were busy. In contrast, the younger adolescents and their parents appeared to cooperate well. Consequently, the ratio of adolescents in each age group of the study, when compared with the BMA report, showed greater differences, particularly in mid- and late-adolescents. Therefore, the subjects did not represent all of the adolescents in each age group.

The design of this study employed both qualitative and quantitative methods. For the qualitative study, in-depth interviews and focus group discussions were done . As the time for the qualitative data collection was limited, the interviewer seemed like a stranger to the participants; to create rapport, more time was needed. Although every possible effort was made to make the participants feel comfortable and relaxed. In some very sensitive issues, for instance, sexual activities, the participants, particularly the female adolescents, were reluctant to disclose personal information. To solve this problem for the next study, the interviewer should spend more time in the community with the participants to create rapport before collecting the qualitative data. Moreover, for any future study, the number of adolescents for in-depth interview should be increased to ensure the validity and reliability of the information.

For the quantitative study, a cross-sectional household survey was adopted; therefore, it was unable to describe variations in practice over time. The survey also possessed the potential risk of social-desirability bias, particularly for those variables that deal with personal and sensitive issues. As mentioned earlier, the questionnaires were administered at home, and some of the subjects resided with their parents, so that the validity of the data in some cases may have been compromised, such as information about premarital sexual activities, and this is because of strong social taboos, especially for female adolescents.

The study was largely based on the premise of the privacy afforded by the self-administered questionnaire. While 5% of the respondents were interviewed by the trained interviewers, it can be said that the majority of the household surveys were completed using a self-administered questionnaire.

6.2.11 Conclusions

The findings indicated that existing health services could be categorized into 2 types: public and private sector. The adolescents preferred private health services to government services. The services were divided into 4 levels, 1) primary healthcare, 2) primary care, 3) secondary care and 4) tertiary care. Early observations and interviews suggested that gaps, fragmentation and redundancy were all present in the health services, and that relatively little was really being done for adolescent health problems.

Access to health services is defined as a combination of 1) geographic accessibility, 2) availability, 3) affordability, 4) acceptability and 5) utilization, which the researcher concentrated upon in this study. Most (68.4%) of the subjects reported having health cards. In terms of geographic accessibility, only 22.3% of the respondents reported that they had visited a health facility within the last 2 months. Female adolescents were more likely to visit a health facility than male adolescents. In addition, older adolescents (late adolescents) were less likely to visit a health facility than others. For availability, the waiting time for health service utilization and chance to meet a doctor were queried to assess availability; over half (56.4%) of the adolescents reported a waiting time of "less than 30 minutes". Interestingly, only 25.1% of the respondents

stated that they had met a doctor “all the time”. For affordability, most (65.0%) of the respondents reported that their total cost for healthcare services was “moderate”. In terms of acceptability, the results revealed that satisfaction with health services was “moderate”. Late-adolescents were less likely to be satisfied with health services than the other groups. There was a statistical difference in the distribution of age group and level of satisfaction with health services. According to the finding, adolescents’ perceptions toward accessibility, in terms of geographic accessibility, affordability, and availability were moderate. However, the percentages of health service utilization (for the top-10 health problems of each gender) were low, Moreover, they preferred to visit the private sector rather than the government sector.

Multivariate analysis was used to identify the determinants of accessibility. The findings indicated that among all subjects, “guardians’ occupation” and “chance to meet a doctor at the health facility” (0.513 [0.283, 0.93]), p-value = .028 and (1.661[1.067, 2.5860] p-value = 0.025, respectively). Surprisingly, the model showed that “guardians’ occupation” contributed to decreasing access to health services.

Among male adolescents, a statistical association was shown between access and guardians’ occupation (p-value = .027). The model showed that “guardians’ occupation” contributed to decreasing access to health services. Among female adolescents, statistical associations were revealed between access and chance to meet a doctor at a health facility (p-value = .006).

For early adolescents, statistical associations were found between access and the two following factors: convenience of time for visiting health facilities (p-value = .047) and current education (p-value = .031). Among mid-adolescents, a statistical association was found between access and knowing about household expenses (p-value = .025). The model showed that “knew about household expenses” contributed to decreasing access to health services. Among late adolescents, statistical associations were found between access and 1) guardian’s occupation (P-value = .032), 2) knew about health facilities in the community (p-value = .023) and 3) gender (P-value = .011).

In terms of the differences in service needs and utilization, the findings showed the top-ten adolescents' health needs and problems for both genders (excluding gender issues) consisted of: 1) acne (83.3%); 2) unintended pregnancy (69.0%); 3) amphetamine (62.8%); 7) addiction (68.7%); 4) heroin addiction (67.5%); 5) induced abortion (65.3%); 6) stress fighting (62.4%); 8) smoking (62.2%); 9) alcohol (61.15); and 10) rape (60.9%). Among the above top-ten health needs/problems (excluded gender issues) of the subjects, gender difference were found. Statistically significant differences were found in the distribution of "acne", "unintended pregnancy", "amphetamine addiction", "heroin addiction", "induced abortion", "stress", "fighting", and "rape" by gender, at P values = .001, .002, .012, .029, .008, < .001, < .001, and .004, respectively. Moreover, there was a statistically significant difference in the distribution of "smoking" by stage of adolescence (P value = .019).

Among male adolescents, the top five health problems were 1) acne, 2) fighting, 3) smoking, 4) amphetamines, and 5) alcohol. However, they utilized health services only 50% or less when they faced the mentioned health problems. Interestingly, the percentages for male adolescents were low (22.5-28.7%) of health service utilization for fighting, smoking, and alcohol. Among the female adolescents in each stage of adolescence, the top-five health problems were: 1) acne, 2) dysmenorrhea, 3) unwanted pregnancy, 4) amphetamine, and 5) stress. Only 60% or less of female adolescents utilized health services when they faced the mentioned health problems. Interestingly, only 24.9% of female adolescents had utilized a health service for stress.

In terms of QoL, most of the respondents reported that the levels were "moderate" or "high". No gender difference was found for overall QoL. However, for specific items related to rating QoL and rating general health, males were more likely than females to report that their overall QoL and general health were "high". There was a statistical difference in the distribution by overall QoL and general health, and by gender (P-value = .018). Comparing the perception of adolescents about QoL to the WHO definition, the adolescents did not include sexual activities, access to healthcare and social care in their definition of QoL.

For depression, one third of the subjects (34.9%) had depressive symptoms based on the Thai standard (MoPH, 2002). This figure seemed a little high when compared with other studies on adolescent depression, comparisons with USA standards (Robert et al., 1990; Rusthon, 2002) and knowing how the Thai standard was obtained suggested that the standard score in Thailand should be revised. Moreover, the finding indicated that females were more likely than males to have depressive symptoms (40.4 vs. 27.6%). There were strong statistically significant differences by both gender and stage of adolescence, and by depressive symptomatology (P -value $< .001$). For any future study, it would be useful to compare clinical diagnoses of depression requiring therapy.

Advice from stakeholders to improve adolescent health were:

- Establish a program in the community by:
 - Initiating new programs, if currently not available
 - Coordination and collaboration of current programs
 - Convince adolescents to participate in adolescent health programs both for themselves and others

In conclusion, Klong Toey slum is dissimilar to the traditional definition of conditions in a slum-the adolescents had high education levels, only 18% of the subjects were working, even though their household income was low, almost half (43%) of adolescents had single parents but the family relationships were moderate, the parents were the major health consultants, and the level of depression was lower and the level of QoL higher than expected. In terms of health needs/problems (excluding acne), there were gender differences. Males' health problems were mostly due to related behaviors, such as fighting and drug abuse. Among males in each age group, late adolescents confronted alcohol, whereas the younger confronted fighting. Females faced reproductive health and mental health problems. Interestingly, there was no age group difference for female adolescent health problems. The percentage of adolescents utilizing services for the top-ten health problems was less than 60%, and males utilized health services less than females. One third of adolescents indicated having depressive symptoms. In contrast, almost three-fourths (71.8%) of adolescents reporting their QoL

as moderate. Gaps, fragmentation and redundancy were all present in the existing health services. Up till now, relatively little was really being done for adolescent health services. The findings and the literature review suggested that community partnership were an appropriate strategy to resolve the above problems in adolescents, as the adolescent health problems are complex, and collaboration, coordination and integration are essential components to work with relevant people in the community.

6.2.12 Recommendations

The findings of this study, hopefully, will be one of the best references for local policy makers, local community organizations, and other relevant people. A set of recommendations will be distributed to all stakeholders. The following are recommendations for improving adolescent health, these consists of 4 pillars; 1) research/study, 2) intervention, 3) empowering the political process and 4) empowering the social process.

- 1) **Research/Study:** participatory research/study is needed to increase the understanding and participation of concerned people about gaps, fragmentations and redundancies among existing health services and how to resolve those problems. Stakeholder participation in research/studies in the community will be one strategy for working partnerships. Moreover, technical consultation from an academic institution (Chulalongkorn University) is needed. The following issues are recommended for review in future research/studies:
 - Urban health, including urban lifestyle, slum lifestyle, the attitude of slum dwellers towards health service utilization. These factors might influence adolescents' health and service utilization
 - Social accessibility, these included:
 - Self-stigmatization (that might be a cause of not seeking help or underutilization of services)
 - Fear of being alienated from friends (both friends who live inside and outside the slum community)

- Social exclusion from being in a “stigmatized community” that leads to lack of self-worth/self esteem
- Attitude of adolescents towards formal institutions, including adolescent psychology
- Purchasing power and personal health expenditure
- Attitude of adult towards adolescent

The findings from research/studies or evidence-based research will be useful sources of information for developing appropriate intervention programs for each organization. As in former times, most of them work independently, and they have had only their own data/information, resulting in insufficient data/information/resources for initiating effective adolescent health programs.

2) **Intervention.** For a successful intervention, the process includes:

2.1 *Identify possible interventions* regarding the research/study findings.

A series of community workshops or forums need to be held to digest/analyze the findings, and feasibility studies of the advantages and disadvantages of the intervention model are needed. For this study, the first community workshop was organized to disseminate the research results to the stakeholders. It was observed that the stakeholders differed in knowledge and experiences, so that a series of community workshops is needed for sharing their knowledge and experiences, then developing common objectives for working together in the near future.

The findings were presented in the first community workshop. It indicated that there were gaps, fragmentation and redundancy among the health services, including sexual/reproductive health, family planning services, and mental health and substance abuse counseling. In terms of health needs/problems, gender differences were found, and among males age group differences were also found. Therefore, services for adolescents should be designed to match their gender and age group, for example:

Adolescents**Males**

- Early Adolescent
- Mid-Adolescent
- Late-Adolescent

Services Required

- *General Health Clinic, substance counseling*
- General Health Clinic (for fighting)
- General Health Clinic (for acne, fighting)
- Substance counseling (for alcohol)

Females

- Early/Mid-/Late-Adolescent

- *Sexual/reproductive services and counseling*
- Mental Health Counseling
(for depression, stress)
- Sexual and reproductive health
services and counseling
(for dysmenorrhea and irregular period)

The important determinants of accessibility that the stakeholders should consider were: 1) chance to meet a doctor at the health facility, 2) convenience of time for visiting the health center, and 3) knowing about health facilities. Therefore, the policy maker should reconsider health services management in terms of manpower and service times, whereas other concerned people should play a role in disseminating information about the availability of adolescent health services in the community.

The private health sector (private hospitals/clinics and drug stores) should be invited to participate in these workshops and to work together in partnership.

2.2 Create a partnership atmosphere among stakeholders of all levels:

These included government, both national (the National Youth Bureau; the Ministry of Education) and local levels (BMA), the private health sector, and local organizations (community leaders, community health volunteers, youth leaders, housewife groups and other community volunteer organizations). The qualitative findings showed that all stakeholders agreed to work in partnership. The community workshop/forum is one important channel to convene all stakeholders to work together. For a working partnership, common objectives should be developed among the

stakeholders as the working entry point. Planning, decision-making and responsibilities are shared among the stakeholders.

2.3 *Capacity building.*

The stakeholders should understand the status of adolescent health problems clearly. The current study showed that stakeholders differed in terms of educational background and occupation. Therefore, training (such as participatory learning or workshop) is an essential mechanism for capacity strengthening for both providers and clients (adolescents). The training topics depend on the stakeholders' backgrounds and experiences. These include:

- Adolescent health and healthcare
- Teamwork, partnerships and communication skills
- Management, SWOT analysis
- Proposal writing and fund raising
- Planning, monitoring and evaluation
- Leadership.

Consequently, the stakeholders should be able to analyze their existing work, the strengths and the weaknesses of their work, and then identify ways and means to improve adolescent health by developing an action plan. According to the current findings, major health problems in adolescents were sexual/reproductive health, and mental health/substance abuse. Therefore, it is necessary for capacity building to involve people in these areas. Finally, a prime mover is needed to lead and manage the project/program.

3) Empower the political process. The information, studies and research findings are some tools to empower the political process.

3.1 More reliable evidence is needed for planning and decision-making. Therefore, the academic institution should play a major role in conducting and facilitating research/projects/programs in the community.

- 3.2 Shaping public debate. The information/research findings should be addressed as public issues for debate. Concerned people in the community (such as local organizations, volunteers, adolescents, etc.) should be the voice of the community, to debate and promote adolescent health issues with politicians and government authorities. A prime mover is needed to influence decision makers.
 - 3.3 Influencing decision-makers. The agenda related to adolescent health should be included in annual national and local plans. Political support both from the BMA and national level (MoPH, National Youth Bureau, Ministry of Education, the Office of the Prime Minister, and BMA) are needed for reliable work on adolescent health.
- 4) Empower the social process
- 4.1 Raising awareness of concerned people in the community (community organizations) about adolescent health problems, particularly sexual/reproductive health, mental health and substance abuse.
 - 4.2 Engaging communities. Concerned people in the community should be informed and invited to participate in adolescent health projects/studies. A prime mover in the community is needed to lead the work of the community. Working partnerships are needed, which create an atmosphere of belonging and sharing resources.
 - 4.3 Training and skills development for change agents. Capacity building and training for adolescents are needed; the training should include life skills training, leadership, and communication skills, plus training in convincing adolescents to participate in adolescent health programs, both for themselves and others.