# ปัจจัยที่เกี่ยวข้องกับการสื่อสารเรื่องสุขภาพทางเพศและอนามัยเจริญพันธุ์ในวัยรุ่นตอนต้นของผู้ปกครองและวัยรุ่นตอนต้น
# Factors Related to Sexual and Reproductive Health Communication in Early Adolescence among Parents and Early Adolescents

นิพนธ์ต้นฉบับ | Original Article


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## บทคัดย่อ


**วัตถุประสงค์ :** เพื่อศึกษาความสัมพันธ์ระหว่างความรู้ ทัศนคติ รูปแบบการเลี้ยงดูต่อการสื่อสารเรื่องสุขภาพทางเพศและอนามัยเจริญพันธุ์ในวัยรุ่นตอนต้นของผู้ปกครองและบุตรวัยรุ่นตอนต้น **วิธีการศึกษา:** การวิจัยความสัมพันธ์เชิงทำนาย มีตัวอย่างเป็นวัยรุ่นตอนต้นและผู้ปกครองของวัยรุ่นแต่ละรายอย่างละ 381 คน คัดเลือกตัวอย่างโดยคัดเลือกโรงเรียน 3 แห่งในจังหวัดนครนายกแบบเจาะจงแล้วเลือกนักเรียนโดยการสุ่มแบบง่าย รวบรวมข้อมูลโดยใช้แบบสอบถาม 2 ชุดสำหรับผู้ปกครองและวัยรุ่นตอนต้น ประกอบด้วยข้อมูลส่วนบุคคล และแบบสอบถามความรู้ ทัศนคติ รูปแบบการเลี้ยงดู และการสื่อสารเรื่องสุขภาพทางเพศและอนามัยเจริญพันธุ์ ทดสอบความสัมพันธ์ด้วย Chi-square test และสถิติวิเคราะห์พหุแบบขั้นตอน **ผลการศึกษา:** ผู้ปกครองที่มีความรู้และทัศนคติเชิงบวกต่อการสื่อสารเรื่องสุขภาพทางเพศฯ มีความสัมพันธ์กับการสื่อสารด้านความถี่ ความสะดวกใจและเห็นถึงความสำคัญในการสื่อสารเรื่องสุขภาพทางเพศฯ อย่างมีนัยสำคัญทางสถิติ (P-value < 0.001) เช่นเดียวกันกับวัยรุ่นตอนต้นที่มีความรู้และมีทัศนคติเชิงบวกต่อการสื่อสารเรื่องสุขภาพทางเพศฯ มีความสัมพันธ์กับการเห็นความสำคัญในการสื่อสารเรื่องสุขภาพฯ กับผู้ปกครองอย่างมีนัยสำคัญทางสถิติ (P-value < 0.001) เช่นกัน ทัศนคติเป็นปัจจัยทำนายที่ดีที่สุดของการสื่อสารเรื่องสุขภาพทางเพศฯ ในผู้ปกครองและวัยรุ่นอย่างมีนัยสำคัญทางสถิติ (P-value < 0.001 สำหรับทั้งคู่) โดยอธิบายความแปรปรวนของการสื่อสารได้ร้อยละ 10.20 และ 15.90 ตามลำดับ **สรุป:** ทัศนคติเชิงบวกเป็นปัจจัยทำนายที่ดีที่สุดในการสื่อสารเรื่องสุขภาพทางเพศและอนามัยเจริญพันธุ์ในวัยรุ่นตอนต้นของผู้ปกครองและวัยรุ่นตอนต้น ควรส่งเสริมความรู้ สร้างทัศนคติเชิงบวกและสร้างทักษะการสื่อสารเรื่องสุขภาพทางเพศและอนามัยเจริญพันธุ์ทั้งผู้ปกครองและวัยรุ่นตอนต้น



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## Abstract


**Objective:** To predict relationships between knowledge, attitudes, and parenting styles on sexual and reproductive health communication in early adolescence among parents and early adolescents. **Methods:** This predictive correlational study had 381 early adolescents and their parents as sample. Three high schools were purposively selected, and students were randomly selected. Data were collected using two sets of questionnaires for parents and early adolescents, consisting of characteristic demographics, and questionnaires on knowledge, attitudes, and parenting styles on sexual and reproductive health communication. Chi-square test and multiple stepwise regression analysis were used for statistical analysis. **Results:** Parents with positive knowledge and attitude on sexual and reproductive health communication had significant relationships with the communication on the aspects of frequency, comfortability, and importance of the communication in early adolescence with (P-value < 0.001). While in early adolescents, positive knowledge and attitude on the communication were significantly related with importance of the communication (P-value < 0.001). Attitudes were the best predictor of the communication among parents and early adolescent with statistically significant (P-value < 0.001 for both) and could predict variance of the communication by 10.20% and 15.90%, respectively. **Conclusion:** Attitudes were the best predictor of sexual and reproductive health communication in early adolescence among parents and early adolescents. Knowledge, positive attitude and sexual and reproductive health communication skills should be promoted both in parents and early adolescents.



**Keywords:** sexual and reproductive health, communication, parents, early adolescent

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## Introduction

Early adolescence is the beginning of learning and changing from childhood to maturity. They need to learn to take care of their sexual and reproductive health to live their teenage lives and grow up to be an adult appropriately. Global statistics revealed that 12 million out of 21 million female adolescents were pregnant, and 3.9 million of them have unsafe abortions which affect negatively themselves and the infants with complications such as preeclampsia, preterm birth, and low birth weight.[1] In 2009, the number of new HIV infection cases globally among adolescents aged under 15 years old was 150,000 cases, approximately.[2] In Thailand, adolescents aged 10 - 19 years old had a repeating labor rate of 11.6% in 2012 which increased to 11.9% in 2016. The morbidity rate with sexually transmitted diseases among adolescents was 161.2 per 100,000 in 2017 and increased to 175.3 per 100,000 in 2019.[3] This situation indicates a negative

effect on adolescents. Nowadays, sexual health communication between parents and early adolescents is still limited due to the Thai tradition that considers sexual topics embarrassing to talk about in the family.[4,5] This makes the attitude among parents toward sexual topics an obstacle to communicating with the adolescents. Together with neglected parenting which makes sexual communication lacking, the parent's attitude toward sexual topics leads to inappropriate sexual decisions and unwanted pregnancy.[6] Therefore, communication between parents and early adolescents is crucial to preventing the negative effect on these adolescents. This is still a significant public health problem occurring in adolescents' group and needs the impact prevention guideline.[7]

In sexual and reproductive health communication between parents and early adolescents, parents are considered the primary information resource to provide sex education to their child.[8] Sexual health communication among family members helps early adolescents have safe sexual behavior.[9,10] From the literature review, sexual and reproductive health consists of 1) sex education and sexual rights, 2) sexual development and sexual hygiene, 3) gender roles, 4) sexual attitudes and friendship skills, 5) sexual arousal and management, 6) sexual value, sexually transmitted diseases, sexual intercourse, and protection, 7) sexual negotiation skills and sexual intercourse responsibility.[11] Sexual and reproductive health communication initiation with adolescents should be started naturally by providing education on body changes and gradually adding sexual information that fits their ages. This will make both parents and adolescents open about sexual and reproductive health communication.[5] Meanwhile, if parents allow their children to share their opinion and talk rationally, it will affect the sexual attitudes of adolescents as well.[12]

Parents that lack knowledge have less sexual communication.[10,13] Most parents still have negative view toward sexual-related topics and believe that adolescents are too young to learn about sex.[14] Parents also think that sexual communication will stimulate adolescents to learn and try sexual intercourse.[14-16] Therefore, positive sexual and reproductive health communication among family members helps decrease negative impacts that might happen to an adolescent.[17]

While adolescents feel uncomfortable talking about sexual health with their parents, parents also lack listening skills and judge their children without listening to the reason. Therefore, adolescents turn to consultation with their friends or online sources which lead them solve problem incorrectly and an ultimately a negative impact.[18] Negative attitudes toward sex among adolescents lead to a decline in communication with parents.[19] When adolescents have care and support from parents, it makes them feel more comfortable and willing to consult with their parents on sexual topics.[20]

Nakhon Nayok is a province with the second-highest delivery rate among adolescents aged 15 - 19 years old of 47.1%.[3] This could be an impact from lacking sexual and reproductive health communication with their parents. Emphasizing promoting the family's role in parenting, providing knowledge, and creating positive attitudes toward a sexual topic among adolescents and parents will help adolescents to have sexual and reproductive hygiene and prevent the negative impact.

With a concern of the problem of adolescents' poor reproductive health behavior, poor sexual communication between parents and early adolescents, and a relative lack of understanding about the issues among the two parties, this present study aimed to determine knowledge, attitudes, and parenting style toward sexual and reproductive health communication in early adolescents among parents and early adolescents. This study was the first time that both parents and early adolescents were simultaneously studied. Specifically, we aimed to explore the relationships of knowledge, attitudes, and parenting styles with sexual and reproductive health communication and to predict sexual and reproductive health communication with the three factors knowledge, attitudes, and parenting styles in parents and early adolescents. Accordingly, it was hypothesized that knowledge, attitude, and parenting style were associated with and simultaneously could predict sexual and reproductive health communication among parents and early adolescents. Findings from this study was crucial for promoting knowledge and communication skills among parents and early adolescents which could ultimately promote sexual health behavior to prevent undesirable pregnancy and related complications.

## Methods

In this predictive, correlational research, the study population was early adolescents aged 10 - 13 years old and

their parents who were primary caretakers of them. Study sample was those in the study population who were early adolescents in large-sized high schools in Nakhon Nayok province, Thailand, and their parents. Parents were defined either as mother, father, grandparents, siblings, relatives, or others who raised and had the most interaction with the adolescent.

Both early adolescents and parents had to meet the eligibility criteria. For parent to be aged 10 – 13 years for at least one year, able to read and write in Thai language, and willing to participate in the study. For early adolescents, they had to be 10 – 13 years of age or studying in grade 7 or 8, able to read and write in Thai language, willing to participate, and assented by the parent to participate. However, parents who had severe illness that prevented them from taking care of the adolescents were excluded. For early adolescents, those who had dropped out and returned were excluded from the study.

Taro Yamane equation was adopted for sample size calculation.[21] The sample frame was finite with a total of 3,851 grade 7 – 8 students in 11 high schools under in Nakhon Nayok province. With a confidence interval of 95%, a total of 362 students were needed. The study of Sombutteera and Thavornpitak stated that the response rate of the questionnaire in the nursing and public health study was 87%. [22] Therefore, to compensate for incomplete data of 15%, a total of 416 participant pairs were needed (i.e., 416 parents and 416 early adolescents).

For participant selection, three of large-sized schools out of 11 schools in the study area were purposively selected. For each of grades 7 and 8 in each selected school, the number of early adolescents randomly selected was proportional to the total number of students in each grade.

**Research instruments**

Two questionnaires were set for parents and early adolescents. The first part of the questionnaire was for collecting demographic characteristics of parents and early adolescents separately. For parts 2 to 7, questions with similar content but language was adjusted to suit their different ages.

The questionnaire was developed based on literature review. The content validity was examined by three experts, specifically faculty members, specifically, one specialized in child and adolescent nursing, and two in family, child and adolescent nursing. Level of content validity was evaluated using content validity index (CVI). The questions were revised according to suggestions. The questionnaire was tested for internal consistency reliability in 60 individuals with characteristics comparable to parent and early adolescent participants (30 each). Cronbach's alpha coefficient and Kuder-Richardson 20 coefficient were estimated to reflect internal consistency reliability as appropriate for parents and early adolescents, respectively.

The **first part** collected demographic characteristics of parent and early adolescents. For parents, it collected relationship with early adolescents, age, marital status, highest academic qualifications, and occupations. For early adolescents, it collected gender, age, family type, and person who communicates sexual and reproductive health with the most.

In the **second part**, knowledge of sexual and reproductive health communication in early adolescents for parents and early adolescents were asked using 30 questions with a response of "true" or "false." Correct answers were rewarded with 1 point. With a possible total score of 0 – 30 points, knowledge was categorized as good, fair, and low (21 – 30, 11 – 20, and 0 - 10 points, respectively). score. Internal consistency reliability for parents and early adolescents was acceptable with Kuder-Richardson 20 coefficients of 0.76 and 0.71 for parents and early adolescents, respectively. Content validity was high with CVI of 0.94 and 0.98, respectively.

The **third part** assessed attitudes toward sexual and reproductive health communication. The 10 questions were rated on a 5-point Likert-type rating scale ranging from 1-strongly disagree to 2-disagree, 3-neutral, 4-agree and 5-strongly agree. Scores of questions with negative statement were reversed. With a possible total score of 10 – 50 points, attitude toward sexual and reproductive health communication was categorized into positive and negative ones (31 – 50 and 10 – 30 points, respectively). Internal consistency reliability for parents and early adolescents was acceptable with Cronbach's alpha coefficients of 0.75 and 0.70 for parents and early adolescents, respectively. Content validity was high with CVI of 0.97 and 0.93, respectively.

The **fourth part** evaluated parenting styles using 10 questions. There were found parenting styles namely strict (3 items), protective (2 items), democratic (3 items), and neglecting (2 items) styles. The response was a 5-point Likert-type rating scale ranging from 1-never to 2-rarely, 3-sometimes, 4-often and 5-always. The parenting style with the

highest total score was considered the style the participant perceived. If more than one parenting style was observed, the person was considered to view the parent's parenting style as more than one style. Internal consistency reliability for parents and early adolescents was acceptable with Cronbach's alpha coefficients of 0.71 and 0.70 for parents and early adolescents, respectively. Content validity was high with CVI of 1.00 and 1.00, respectively.

The **fifth part** evaluated sexual and reproductive health communication. There were three domain frequency of communication, being comfortable to communicate, and importance of communication. Each domain contained 10 questions. For **frequency of communication**, the 10 questions were rated on a 3-point Likert-type scale ranging from 1-never to 2-sometimes and 3-regularly. Internal consistency reliability for parents and early adolescents was high with Cronbach's alpha coefficients of 0.83 and 0.85 for parents and early adolescents, respectively. For **being comfortable in communication**, each question was rated on a 3-point rating scale ranging from 1-not comfortable to 2-moderately comfortable, and 3-very comfortable. Internal consistency reliability for parents and early adolescents was high with Cronbach's alpha coefficients of 0.85 and 0.91 for parents and early adolescents, respectively. For **importance of communication**, each question was rated on a 3-point rating scale ranging from 1-not important to 2-moderately important, and 3-very important. Internal consistency reliability for parents and early adolescents was high with Cronbach's alpha coefficients of 0.90 and 0.92 for parents and early adolescents, respectively. For the **overall 30 questions**, internal consistency reliability for parents and early adolescents was acceptable and high, respectively with Cronbach's alpha coefficients of 0.78 and 0.95 for parents and early adolescents, respectively. Content validity was high with CVI of 1.00 and 0.87, respectively.

**Participants ethical protection**

This study was approved by the Ethics Committee for Human Study of Srinakharinwirot University (SWUEC-514/2563E). The participants were provided with objective, process, and voluntary nature of the study. The survey was carried out after the written informed consent was obtained. Participants could refuse or discontinue participation at any time with no negative consequences on education and services. Results were presented as a summary not individual participant information.

**Data collection procedure**

After ethical approval, the researcher requested the school director for data collection permission. The researcher approached selected students to provide explanations. Selected early adolescents were provided with informed consent form, direction document and questionnaire to bring home. Participants, both early adolescents and their parents completed the questionnaire at home and brought the researcher the filled questionnaires and signed informed consent form the next day. This self-administered questionnaire took about 30 minutes to complete. The survey was carried out from March to June 2022.

**Data analysis**

Descriptive statistics including mean with standard deviation and frequency with percentage were used to summarize the data. In univariate analysis, levels of each of the three aspects of sexual and reproductive health communication (i.e., frequency, comfortability, and importance) were tested for association with levels of knowledge, attitudes, and types of parenting styles using chi-square test for parents and early adolescents separately. Factors with significant association with communication were further tested for prediction on the score of communication using multiple stepwise regression analysis for parents and early adolescents separately. Prediction equation for the adolescent's communication score by significant factor was formed accordingly. Statistical significance was set at a type I error of 5% (i.e., P-value < 0.05). All statistical analyses were performed using software program SPSS version 20.

# Results

Of the 416 pairs of early adolescents and their parents, 381 returned the questionnaire resulting in a response rate of 91.58%. Of the 381 parents, the majority were mothers (62.20%), 36 - 45 years old (47.80%) with a mean age of 44.34 years, married (65.62%), with primary education (30.71%), and general labors (40.90%) (Table 1). Among 381 early adolescents, more than half were female (59.10%) and in their 13 years of age (67.50%) with a mean age of 12.66 years. The majority lived with the parent (58.80%),

communicated sexual and reproductive health with mothers (40.70%) followed by friends (21.00%) (Table 2).

**Table 1** Demographic characteristics of **parents** (N = 381).

| Demographic characteristics | N | % |
|---|---|---|
| **Relationship with early adolescents** | | |
| Father | 91 | 23.90 |
| Mother | 237 | 62.20 |
| Relatives | 53 | 13.90 |
| **Age** (years), mean = 44.34, SD = 8.12 | | |
| Less than 35 | 53 | 13.90 |
| 36 - 45 | 182 | 47.80 |
| 46 - 55 | 108 | 28.30 |
| More than 56 | 38 | 10.00 |
| **Marital status** | | |
| Married | 250 | 65.62 |
| Widowed | 19 | 4.99 |
| Divorced | 54 | 14.17 |
| Separated | 46 | 12.07 |
| Others / single | 12 | 3.15 |
| **Highest education level** | | |
| Primary school | 71 | 18.63 |
| Secondary school | 117 | 30.71 |
| Vocational school | 63 | 16.54 |
| Bachelor's degree | 104 | 27.30 |
| Higher than bachelor's degree | 26 | 6.82 |
| **Occupation** | | |
| General labor | 156 | 40.94 |
| Business or trade owner | 93 | 24.41 |
| Civil servant and states enterprise employee | 85 | 22.31 |
| Farmer | 20 | 5.25 |
| Not working / unemployed | 27 | 7.09 |

**Table 2** Demographic characteristics of **early adolescents** (N = 381).

| Demographic characteristics | N | % |
|---|---|---|
| **Gender** | | |
| Male | 156 | 40.90 |
| Female | 225 | 59.10 |
| **Age** (years), mean = 12.66, SD = 0.49 | | |
| 11 | 4 | 1.00 |
| 12 | 120 | 31.50 |
| 13 | 257 | 67.50 |
| **Family type** | | |
| Parents lives together | 224 | 58.80 |
| Parents divorced or separated | 114 | 29.92 |
| Father or/and mother deceased | 43 | 11.28 |
| **The person who communicates sexual and reproductive health with the most** | | |
| Mother | 155 | 40.70 |
| Friends | 80 | 21.00 |
| Parents | 48 | 12.59 |
| Relatives | 36 | 9.45 |
| Father | 23 | 6.03 |
| Siblings | 21 | 5.51 |
| No one | 12 | 3.15 |
| Lover | 6 | 1.57 |

**Levels of study factors**

Most **parents** had a good knowledge (70.30%), a positive attitude (86.40%), and democratic parenting style (36.50%) (Table 3). The overall sexual and reproductive health communication was at a moderate level for the majority (54.90%). For each of the three aspects of sexual and reproductive health communication, the majority of parents reported communication as sometimes (58.80%), very comfortable (52.50%), and very important (65.10%).

For **early adolescents**, the majority had a good knowledge (66.70%), positive attitude (80.30%), more than one parenting style (32.30%), and a moderate level of overall sexual and reproductive health communication (53.80%). For each of the three aspects of sexual and reproductive health communication, most parents reported communication as sometimes (59.30%), moderately comfortable (61.20%), and moderately important (65.10%) (Table 3).

**Table 3** Levels of study factors (N = 381).

| Factors | Parents | | Early adolescents | |
|---|---|---|---|---|
| | N | % | N | % |
| **Knowledge of sexual and reproductive health** | | | | |
| Good | 268 | 70.30 | 254 | 66.70 |
| Fair | 111 | 29.10 | 126 | 33.10 |
| Poor | 2 | 0.50 | 1 | 0.30 |
| **Attitudes toward sexual and reproductive health** | | | | |
| Positive | 329 | 86.40 | 306 | 80.30 |
| Negative | 52 | 13.60 | 75 | 19.70 |
| **Parenting style** | | | | |
| > 1 style | 100 | 26.20 | 123 | 32.30 |
| Democratic style | 139 | 36.50 | 88 | 23.10 |
| Strict style | 114 | 29.90 | 93 | 24.40 |
| Protective style | 18 | 4.70 | 63 | 16.50 |
| Neglecting style | 10 | 2.60 | 14 | 3.70 |
| **Sexual and reproductive health communication** | | | | |
| **Overall communication level** | | | | |
| High | 127 | 33.30 | 68 | 17.80 |
| Moderate | 209 | 54.90 | 205 | 53.80 |
| Low | 45 | 11.80 | 108 | 28.30 |
| **Individual aspects** | | | | |
| **Frequency** | | | | |
| Regularly | 144 | 37.80 | 138 | 36.20 |
| Sometimes | 224 | 58.80 | 226 | 59.30 |
| Never | 13 | 3.40 | 17 | 4.50 |
| **Comfortability** | | | | |
| Very comfortable | 199 | 52.20 | 127 | 33.30 |
| Moderately comfortable | 173 | 45.50 | 233 | 61.20 |
| Uncomfortable | 9 | 2.40 | 21 | 5.50 |
| **Importance** | | | | |
| Very important | 248 | 65.10 | 165 | 43.30 |
| Moderately important | 124 | 32.50 | 195 | 51.20 |
| Not important | 9 | 2.40 | 21 | 5.50 |

**Relationships of sexual and reproductive health communication with knowledge, attitudes, and parenting styles**

Significant associations of communication **frequency** were found with knowledge and attitude among parents (P-value = 0.013 and < 0.001, respectively), and with attitude and parenting style among early adolescents (P-value < 0.001

**Table 4** Relationship between **frequency** of sexual and reproductive health communication and related factors in parents and early adolescents (N = 381).

| Factors | Sexual and reproductive health communication frequency | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Parents | | | | Early adolescents | | | |
| | Regularly (n = 144) | Sometimes (n = 224) | Never (n = 13) | P-value* | Regularly (n = 138) | Sometimes (n = 226) | Never (n = 17) | P-value* |
| **Knowledge** | | | | | | | | |
| Good | 110 (41.04) | 152 (56.72) | 6 (2.24) | | 91 (35.83) | 155 (61.02) | 8 (3.15) | |
| Fair | 34 (30.63) | 71 (63.96) | 6 (5.41) | 0.013[%] | 47 (37.30) | 70 (55.56) | 9 (7.14) | 0.260[%] |
| Poor | 0 (0.00) | 1 (50.00) | 1 (50.00) | | 0 (0.00) | 1 (100.00) | 0 (0.00) | |
| **Attitudes** | | | | | | | | |
| Positive | 130 (39.51) | 192 (58.36) | 7 (2.13) | 0.001 | 123 (40.20) | 174 (56.86) | 9 (2.94) | < 0.001 |
| Negative | 14 (26.92) | 32 (61.54) | 6 (11.54) | | 15 (20.00) | 52 (69.33) | 8 (10.67) | |
| **Parenting style** | | | | | | | | |
| More than 1 style | 35 (35.00) | 59 (59.00) | 6 (6.00) | | 35 (28.46) | 78 (63.41) | 10 (8.13) | |
| Democratic | 59 (42.45) | 77 (55.40) | 3 (2.16) | | 42 (47.73) | 44 (50.00) | 2 (2.27) | |
| Strict | 41 (35.96) | 70 (61.40) | 3 (2.63) | 0.496[%] | 39 (41.94) | 53 (56.99) | 1 (1.08) | 0.020[%] |
| Protective | 7 (38.89) | 11 (61.11) | 0 (0.00) | | 17 (26.98) | 42 (66.67) | 4 (6.35) | |
| Neglecting | 2 (20.00) | 7 (70.00) | 1 (10.00) | | 5 (35.71) | 9 (64.29) | 0 (0.00) | |

* Chi-square test.

**Table 5** Relationship between **comfortability** of sexual and reproductive health communication and related factors in parents and early adolescents (N = 381).

| Factors | Sexual and reproductive health communication comfortability | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Parents | | | | Early Adolescents | | | |
| | High (n = 199) | Moderate (n = 173) | Low (n = 9) | P-value* | High (n = 127) | Moderate (n = 233) | Low (n = 21) | P-value* |
| **Knowledge** | | | | | | | | |
| Good | 159 (59.33) | 105 (39.18) | 4 (1.49) | | 81 (31.89) | 165 (64.96) | 8 (3.15) | |
| Fair | 40 (36.04) | 67 (60.36) | 4 (3.60) | < 0.001[%] | 45 (35.71) | 68 (53.97) | 13 (10.32) | 0.009[%] |
| Poor | 0 (0.00) | 1 (50.00) | 1 (50.00) | | 1 (100.00) | 0 (0.00) | 0 (0.00) | |
| **Attitudes** | | | | | | | | |
| Positive | 183 (55.62) | 144 (43.77) | 2 (0.61) | < 0.001 | 113 (36.93) | 184 (60.13) | 9 (2.94) | < 0.001 |
| Negative | 16 (30.77) | 29 (55.77) | 7 (13.46) | | 14 (18.67) | 49 (65.33) | 12 (16.00) | |
| **Parenting style** | | | | | | | | |
| More than 1 style | 49 (49.00) | 47 (47.00) | 4 (4.00) | | 33 (26.83) | 81 (65.85) | 9 (7.32) | |
| Democratic | 81 (58.27) | 56 (40.29) | 2 (1.44) | | 36 (40.91) | 49 (55.68) | 3 (3.41) | |
| Strict | 57 (50.00) | 56 (49.12) | 1 (0.88) | 0.209[%] | 37 (39.78) | 53 (56.99) | 3 (3.23) | 0.080[%] |
| Protective | 7 (38.89) | 10 (55.56) | 1 (5.56) | | 15 (23.81) | 42 (66.67) | 6 (9.52) | |
| Neglecting | 5 (50.00) | 4 (40.00) | 1 (10.00) | | 6 (42.86) | 8 (57.14) | 0 (0.00) | |

* Chi-square test.

**Table 6** Relationship between **importance** of sexual and reproductive health communication and related factors in parents and early adolescents (N = 381).

| Factors | Sexual and reproductive health communication importance | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Parents | | | | Early Adolescents | | | |
| | High (n = 248) | Moderate (n = 124) | Low (n = 9) | P-value* | High (n = 165) | Moderate (n = 195) | Low (n = 21) | P-value* |
| **Knowledge** | | | | | | | | |
| Good | 197 (73.51) | 69 (25.75) | 2 (0.75) | < 0.001[%] | 124 (48.82) | 125 (49.21) | 5 (1.97) | |
| Fair | 51 (45.95) | 54 (48.65) | 6 (5.41) | | 41 (32.54) | 69 (54.76) | 16 (12.70) | < 0.001[%] |
| Poor | 0 (0.00) | 1 (50.00) | 1 (50.00) | | 0 (0.00) | 1 (100.00) | 0 (0.00) | |
| **Attitudes** | | | | | | | | |
| Positive | 227 (69.00) | 99 (30.09) | 3 (0.91) | < 0.001 | 144 (47.06) | 151 (49.35) | 11 (3.59) | < 0.001 |
| Negative | 21 (40.38) | 25 (48.08) | 6 (11.54) | | 21 (28.00) | 44 (58.67) | 10 (13.33) | |
| **Parenting style** | | | | | | | | |
| More than 1 style | 63 (63.00) | 34 (34.00) | 3 (3.00) | | 45 (36.59) | 70 (56.91) | 8 (6.50) | |
| Democratic | 100 (71.94) | 37 (26.62) | 2 (1.44) | | 42 (47.73) | 43 (48.86) | 3 (3.41) | |
| Strict | 73 (64.04) | 40 (35.09) | 1 (0.88) | 0.021[%] | 50 (53.76) | 38 (40.86) | 5 (5.38) | 0.215 |
| Protective | 9 (50.00) | 7 (38.89) | 2 (11.11) | | 22 (34.92) | 36 (57.14) | 5 (7.94) | |
| Neglecting | 3 (30.00) | 6 (60.00) | 1 (10.00) | | 6 (42.86) | 8 (57.14) | 0 (0.00) | |

* Chi-square test.

and 0.020, respectively) (Table 4). Significant associations of communication **comfortability** were found with knowledge and attitude among parents (P-value < 0.001, for both), and with knowledge and attitude among early adolescents (P-value = 0.009 and < 0.001, respectively) (Table 5). Significant associations of communication **importance** were found with knowledge, attitude, and parenting style among parents (P-value < 0.001, < 0.001, = 0.021, respectively), and with knowledge and attitude among early adolescents (P-value < 0.001, for both) (Table 6).

Multiple linear regression analyses indicated that among **parents**, only attitude was significantly positively associated with sexual and reproductive communication (P-value < 0.001) which could predict 10.20% of the variance of the communication. For **early adolescents**, attitude and protective parenting style were positively and negatively associated with sexual and reproductive communication (P-value < 0.001, for both) which together could predict 15.9% and 1.50% of the variance of the communication, respectively (Table 7).

**Table 7** Multiple linear regression of sexual and reproductive communication with its predictive factors (N = 381).

| Factors | $R^2$ - change | B | Beta | t | P-value |
|---|---|---|---|---|---|
| **Parents** | | | | | |
| Attitude | 0.102 | 0.752 | 0.320 | 6.573 | < 0.001 |
| Constant = 37.294, $R^2$ = 0.102, F = 43.200, P-value < 0.001 | | | | | |
| **Early adolescents** | | | | | |
| Attitude | 0.159 | 0.981 | 0.389 | 8.294 | < 0.001 |
| Protective parenting style | 0.015 | -4.587 | -0.124 | -2.645 | < 0.001 |
| Constant = 24.869, $R^2$ = 0.174, F = 39.781, P-value < 0.001 | | | | | |

For the purpose of prediction of sexual and reproductive communication, for an early adolescent side who did not receive protective parenting style, their sexual and reproductive communication would decrease by 4.587 points; and for an adolescent whose attitude score was 1 point higher, their sexual and reproductive communication would increase by 0.981 points. The equation to predict sexual and reproductive communication score is as follows:

Sexual and reproductive communication score = 24.869 + 0.981 (attitude score) - 4.587 (protective parenting style).

## Discussions and Conclusion

The study of sexual and reproductive health communication in early adolescents among parents and early adolescents in Nakhon Nayok province, Thailand, found that most of the parents in this study were mothers who were married and lived with their spouse. The mother is the most important person when a child enters early adolescent stage since the early adolescents communicate with the most about sexual health topics. It is consistent with a study of Flores and Barroso (2017) indicating that the mother was like a sexual health teacher.[10] Early adolescents would rather talk with their mother other than their father.[24] However, this study revealed that friends also influenced early adolescents after the mother for communicating sexual and reproductive health. According to previous studies, adolescents prefer communicating about sexual and reproductive health with their friends to their parents. Adolescents feel culturally prohibited, shy, and uncomfortable to communicate their sexual and reproductive health with their parents[14], and their parents will judge also and misunderstand them.[18]

In this present study, the knowledge of parents had a relationship with frequency, comfortability, and importance of sexual and reproductive health communication. This indicates that parental knowledge makes adolescents comfortable communicating in every situation. In accordance with the previous study, we found that parental knowledge was associated with the comfortability of communicating sexual and reproductive health, which is a starting point for communication between parents and adolescents.[14] When parents have the right knowledge, they will feel confident to talk with adolescents.[25] Knowledge had a relationship with communication comfortability and importance for sexual and reproductive health communication with parents. This is consistent with previous studies indicating that adolescents who know about sexual and reproductive health will view importance to communicating sexual and reproductive health with parents.[26] Knowledge also can improve the opportunity and comfort for adolescents to communicate with their parents about sexual and reproductive health.[27] Adolescents thought that their parents lacking knowledge and communication skills for sexual and reproductive health topics could lead to a decline in communication in the family.[28]

Positive attitude toward sexual and reproductive health was associated with sexual and reproductive health

communication. It was also the best predictor for sexual and reproductive health communication in both parents and early adolescents. Parents play an important role in communicating the attitude toward sexual and reproductive health to adolescents. Previous studies revealed that parents with positive attitudes toward sexual communication have a relationship with communication with adolescents when parents have a positive attitude and allow adolescents to communicate sexual topics with them.[29] Some parents thought they have a more important role to communicate with their children about sexual topics than a teacher does.[8] Even though parents perceived that they must provide sexual information to adolescents, lacking communication skills makes them afraid that this could encourage adolescents to have sex before proper age. This leads to a gap in communication between them.[30] Positive attitudes among adolescents make them more accepting and tend to consult their sexual and reproductive health topics with parents.[19,31]

Parenting style had a relationship with the importance of sexual and reproductive health communication with adolescents. However, spoiled adolescents tend to have less sexual and reproductive health communication with their parents. Adolescents perceived that they were parented with more than one style. Meanwhile, their parents perceived that they provided a democratic parenting style in which they can communicate, listen, and take care of adolescents' sexual health and reproductive health. This is consistent with a previous study revealing that adolescents with parenting of good care, listening, and being allowed to share their opinion have a proper sexual communication with their parents.[20]

This present study has certain limitations. The sample in this study was early adolescents aged 12 to 13 years. This narrow age range could limit generalization to 10 – 11 years old adolescents. Only large-sized schools were purposively selected, therefore generalization of the results to small-sized schools could be cautioned. Results from this study can be applied to sexual and reproductive health promotion, body changing, and sexual hygiene. It can be used to encourage parents to monitor, observe, and educate adolescents to take care of their sexual health appropriate to their age. Parents should also be educated on gender values, sexual intercourse, and preventing sexual risk to adolescents so they understand more about changes in adolescents' way of life. The results could be applied in creating a program for sexual and reproductive health communication skills development in early adolescents.

In conclusion, this present study showed that parents are important persons in promoting sexual and reproductive health when their children enter early adolescents, especially mothers whose children are willing to communicate with. Parents should have a positive attitude toward sexual and reproductive health to encourage communication among the family. Mothers should realize the importance of their role as a communicator, have more opportunity to strengthen a positive attitude, understanding, and knowledge about adolescents thought and behavior that have changed over time. Parents should express love and parenting in a flexible pattern which will refine an adolescent to be responsible to take care of their sexual and reproductive health.

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