ORIGINAL ARTICLE

Prevalence and Determinants of the Utilization of Sexual and Reproductive Health Services in the Teen Health Kiosk of a Public Secondary School in the City of Dasmariñas

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ABSTRACT

Objective. Despite the provision of local health policies promoting the utilization of sexual and reproductive health (SRH) services of adolescents, SRH services utilization remains very low and little information is known concerning the factors which may influence adolescents' use of these SRH services. This study aimed to determine the prevalence and determinants of school-based SRH services utilization among secondary school students.

Materials and Methods. This is a cross-sectional study that used a self-administered questionnaire to gather data among students in one public secondary school in the City of Dasmariñas. A total of 24 sections from Grades 8 to 12 were randomly selected using stratified cluster sampling. Both descriptive and inferential statistics were used to analyze the data using Epi Info version 7.3.2.1.

Results. Among 1,218 students who answered the questionnaire, 168 students (13.8%) utilized the SRH services in the Teen Health Kiosk (THK) during SY 2019-20. Students with favorable attitudes towards SRH issues (predisposing factor) were twice more likely to utilize the SRH services (Adjusted odds ratio, AOR 1.75, 95% CI 1.12–2.74) and those who have positive perceived accessibility on the SRH services (enabling factor) were 2.5 times more likely to utilize the SRH services (AOR 2.46, 95% CI 1.66 – 3.66).

Conclusion. Attitudes towards SRH issues and perceived accessibility to SRH services were found to be determinants of SRH services utilization in the THK of the selected public secondary school in the City of Dasmariñas. Even with the marked increase in the utilization of SRH services in the THK from 0.2% in SY 2018–19 to 13.8% in SY 2019–20, intensified efforts are still needed in order to target students' attitudes on SRH and accessibility of THK and the SRH services it offers to its clients. It is recommended that the existing THK Club be strengthened as this will play a significant role in changing the attitudes of students towards SRH issues, thus increasing the utilization of SRH services. Additionally, formulating an SRH policy at the school level targeting THK's accessibility will be helpful in increasing the utilization of school-based SRH services. For one, a policy mandating THK service providers to deliver services beyond school hours may be discussed such that it can also cater students who are attending the school during weekends (i.e. ALS students, Open High students). Likewise, policy makers in the City Schools Division Office including their top management and personnel from the Health and Nutrition Unit as well as school administrators must endeavor to provide a more conducive THK where privacy and confidentiality can be maintained at all times and clients can freely discuss SRH issues with the THK service provider. An initiative to provide a separately detached room for the THK is encouraged in order to provide a more suitable counselling area and to ensure privacy and confidentiality of student clients and their shared information.

Key Words: adolescents, sexual health, reproductive health, utilization, Teen Health Kiosk

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INTRODUCTION

Sexual and reproductive health (SRH) is a pressing issue that threatens the overall health of adolescents. Adolescents are defined by the World Health Organization as individuals aged 10 to 19 and comprise more than 1.2 billion people around the world. Since adolescence is the phase in life when people usually start exploring, adolescents have the tendency to try out experiences and opportunities in terms of sexual identity and practice of risky sexual behaviors such as engagement in unsafe sex,[1] which may lead to extremely higher risk of violence, reproductive tract infections and other related infections, including HIV/AIDS. Undeniably, the SRH of adolescents is compromised due to the overall increasing trend in these vulnerabilities.

Sexual and reproductive health is defined by The United Nations Population Fund (UNFPA) as the state of complete physical, mental, sexual, psychological and social well-being of individuals in terms of issues relevant to the reproductive system.[2] It is suggested that a good SRH means that people can have both a safe and satisfying sex life and can freely reproduce depending on the time and context it was done. Cognizant to alleviate the risks adolescents experience regarding their SRH, public investments in health-related programs have been implemented in the Philippines. For one, Department of Education (DepEd) Region IV-A supported the implementation of school-based Adolescent Health and Development Program (AHDP), which advocates improvement on adolescent health and strengthening of teenage pregnancy prevention. Consequently, school-based SRH services have been adopted by the City Schools Division of Dasmariñas. The LuzonHealth Project of the United States Agency for International Development (USAID) which aimed to increase accessibility of SRH services to adolescents and youth, facilitated in making several public and private high schools in Cavite and Batangas as convergence sites in adopting a three-pronged approach. This approach involved three contact points among adolescents in order to deal with the increasing incidence of adolescent pregnancies in these provinces. This three-pronged approach include the following: 1) establishment of Teen Health Kiosk (THK) in schools, 2) youth-friendly Rural Health Unit (RHU) and 3) Teen Parents' Clinic (TPC). Specifically, the THK is a facility established in selected public secondary schools aimed to promote and increase awareness among students regarding their SRH, to decrease the occurrence of teenage pregnancies and sexually transmitted infections (STIs), to provide valuable information and counseling to students who have inquiries regarding their SRH and to provide SRH services for teenage moms and students in general.

The determinants (independent variables) considered in this study included three factors that may influence SRH services utilization, namely predisposing, enabling and need factors. Predisposing factors represented one's tendency to use health care services which included the individual's socio-demographic profile (age, sex, grade level and parental presence) and health beliefs such as knowledge and attitudes towards SRH. Enabling factors, on the other hand, included both the individual's personal / familial know-how such as awareness on SRH services, as well as community / school resources including accessibility of SRH services in the school's THK. Need factors represented the individual's perceived needs for SRH services including sexual behaviors.

Given these, this study aimed to determine the prevalence and determinants of school-based SRH services utilization among students in a selected public secondary school in the City of Dasmariñas. The results of this study is significant to both health and education administrators and policy makers as they will provide useful information to guide them in ensuring the delivery of effective school-based health care services through developing appropriate structures and targeted interventions as a platform for effective utilization. Furthermore, these will help in the recommendation and development of a health policy at the school level regarding the overall operation and service delivery as well as the enhancement of obtaining the SRH services of the THK. The policy which is to be recommended and developed will be aligned with the context of the school and the needs of its stakeholders.

MATERIALS AND METHODS

Study design

This study employed a cross-sectional study design and utilized both descriptive and analytic approaches.

Study setting

The study was conducted in one selected public secondary school in the City of Dasmariñas. Within the province of Cavite, the City of Dasmariñas ranked first in cases of teenage pregnancies among the neighboring cities and towns in Cavite. Specifically, this particular school was chosen due to the relatively low utilization (0.15 percent) of SRH services in its THK in SY 2018-19. More so, it was selected since it ranked as the top contributor in terms of the number of teenage pregnancies recorded in the City of Dasmariñas. During SY 2018-19, it contributed approximately 28% (15 out of 53 cases) to the total number of teenage pregnancies in the City of Dasmariñas.

Study population

The target population of this study were the students in one public secondary high school. Specifically, high school students were categorized into two: junior high school (JHS) students and senior high school (SHS) students.

Inclusion criteria for JHS students' sample population are as follows: (1) enrolled in the school in the current academic year (2019-20), (2) enrolled as a Grade 8, Grade 9 or Grade 10 student and (3) 10–16 years old. Meanwhile, included in the sample population of SHS students are those:

(1) enrolled in the school in the current academic year (2019 – 2020), (2) enrolled as a Grade 11 or Grade 12 student and (3) 16 years old and above. Excluded from participating in the study were those who were absent, for any reasons, during the time of data collection, those who have already participated in similar studies and those who were not able to submit the informed assent / consent form and/or informed parental consent form during the time of data collection, even though they were given permission by their parent / guardian to participate in the study.

Sample size calculation

Using the G-Power software, at least 1,004 enrolled students were included in this study to achieve a 95% level of confidence and 5% minimum tolerable error, given an adjusted odds ratios (AOR) of 0.78. The AOR used came from a related study entitled "Equity of Access to Reproductive Health Services Among Youths in Resource-Limited Suburban Communities of Mandalay City, Myanmar" by Thin Zaw et al. done in 2012. In this study, it was found out that sex is associated with the use of SRH services. In the study, females are more likely (AOR = 0.78, 95% CI = 0.68, 0.90) to use SRH services than boys. In order to meet the minimum required sample size, a total of 24 sections from Grades 8 to 12 were randomly selected using stratified cluster sampling, based on the percent distribution of sample population in each grade level. An additional of 20 percent was added to this minimum required sample size in order to account for the possible non-response of the respondents. Thus, a total of 1,205 students were included in the study.

Survey questionnaire

The measurement tool used was a modified self-administered questionnaire adapted from a questionnaire designed by John Cleland as part of the UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP). The self-administered questionnaire was divided into seven sections to include all the variables used in this study. Section A asked about the respondent's socio-demographic profile which included age, sex, grade level and parental presence. Section B asked about the awareness of respondents on the existence of THK, source of information regarding its existence and available SRH services it offers. Meanwhile, perceived accessibility to the school-based SRH services was asked in Section C. In this section, perceived accessibility of SRH services were assessed given the location, operating schedule, structure of facility, number of service providers and perception of others on the use of SRH services. On the other hand, utilization of SRH services was asked in Section D. Specifically, the types of SRH services used by the respondents were asked. More so, the respondent was asked whether s/he was referred to a health / educational facility outside the school as well as the type of referral facility the respondent was referred to. Lastly, Sections E to G asked sensitive topics including the attitudes towards SRH issues, knowledge on SRH and sexual behaviors, respectively.

The level of knowledge of the individual on sexual and reproductive health topics such as (a) reproductive physiology, (b) contraception and (c) HIV/STIs was measured by the total scores of each respondent. Scores ranged from zero (minimum) to seventeen (maximum), on 17-item "True" or "False" questions from the survey questionnaire. Respondents who got a score of 70%, that is 12 correct answers out of the 17 questions, were considered as knowledgeable on SRH. Meanwhile, each domain on SRH knowledge was measured using the mean scores of the respondents. Attitudes towards SRH was defined as the individual's attitudes toward key SRH topics and issues such as (a) need for information towards SRH, (b) source of information on SRH, (c) use of contraceptives and (d) discussion of SRH issues with partner which was measured by the total scores of each respondent ranging from 9 (minimum) to 45 (maximum) on nine statements using 5-item Likert scale from the survey questionnaire. Respondents who got a score of 70%, that is a score of 31 out of 45 on the 5-item Likert scale, were considered as having favorable attitudes towards SRH. Meanwhile, each category of attitudes towards SRH was measured using the mean score of the respondents across the 5-item Likert scale.

Enabling factors, on the other hand, included both the individual's personal/familial know-how, such as awareness on SRH services, as well as community/school resources including accessibility of SRH services in the school's THK. In this study, awareness on school-based SRH services referred to the respondent's awareness on the existence of THK in the school which was measured by answering a "Yes" or "No" question in the survey questionnaire. The positive response was further validated with a question on the source of information regarding the existence of THK and type of SRH services offered in the THK. Choosing any one of the given sources of information and available SRH services was regarded as being aware on school-based SRH services.

Perceived accessibility of SRH services in the THK was assessed given its location, operating schedule, structure of facility, number of service providers and perceptions of others on the use of SRH services which was measured using the total scores of respondents ranging from zero (minimum) to five (maximum) on 5-item "Yes" or "No" questions from the survey questionnaire. Respondents who got a score of 70%, that is an answer of "Yes" to 4 out of 5 questions, were considered as having positive perceived accessibility of SRH services in the THK. Meanwhile, each component on SRH services accessibility was measured using frequencies and percentages.

Lastly, need factors represented the individual's perceived needs for SRH services including sexual behaviors. In this study, sexual behavior referred to the different sexual behaviors of an individual such as (a) use of drugs and alcohol prior to or during sexual activity, (b) non-engagement in safe sex communication, (c) having sex with multiple partners,

(d) sexual desire and (e) inconsistent use of condoms during sexual intercourse, which was measured using the total scores of each respondent ranging from zero (minimum) to twenty (maximum), on 20-item Yes or No questions adapted from the Sexual Risk Survey (SRS). Respondents who got a score of 50%, that is an answer of "Yes" to 10 out of 20 questions, were considered as having negative sexual behavior. Meanwhile, each component of the sexual behavior was measured using frequencies and percentages.

Pretesting of questionnaire

A pretest-retest of the survey questionnaire was done in order to evaluate the clarity and understandability as well as to determine the duration of the process. This was conducted in Congressional Integrated High School, a public secondary school located near the study area and included ten enrolled high school students (two students, one male and one female, in each grade level from Grade 8 to Grade 12 with the same characteristics as the sample population). The pretesting site was purposively selected in order to avoid introducing bias to the actual sample population.

The validity and cultural appropriateness of the survey questionnaire were ensured with the help of experts in the field of adolescent sexual and reproductive health from the University of the Philippines Manila College of Public Health and the University of the Philippines Population Institute (UPPI). With the help of the Education Program Supervisor (EPS) in English of the Schools Division of Dasmariñas, back-translation of the survey questionnaire was done. Consequently, the survey questionnaire was modified and finalized based on the feedback of the respondents from the pretest-retest.

Outcome measure

The dependent variable of this study, utilization of SRH services for SY 2019-20, referred to the respondent's visitation to the school's THK and availment of SRH services after the establishment of THK in 2015 which was measured by answering a "Yes" or "No" question from the survey questionnaire. The positive response was further validated with a question on the type of SRH services used. Choosing any one of the given SRH services was considered as service utilization.

Statistical analysis

The data were described using frequencies, percentages, proportion, mean and SD. Analytic approaches including t-test and bivariate and multiple logistic regression, were then used in order to determine whether these factors are associated with the respondents' utilization of SRH services in the THK.

Ethical considerations

Prior to data collection, this study has received research ethics approval from the University of the Philippines Manila Research Ethics Board (UPMREB). To ensure voluntary participation and avoid coercion, informed assent forms and informed parental consent forms were given to all qualified respondents aged 17 years old and below. On the other hand, for those qualified respondents aged 18 years old and above, informed consent forms were given. Furthermore, a meeting with the school administrators, administrators from the City Schools Division Office (CSDO) and THK service providers was arranged in order to share the consolidated report on the analysis of the research findings and take appropriate actions based on the results of the study.

During data collection, students who gave their assent/consent and were given consent by their parents were given a sealed envelope containing the survey questionnaire. On the other hand, students who did not give their assent/consent and whose parents did not give their consent were given a sealed envelope containing the alternative questionnaire about collaborative assessment. After the allotted time, the hired enumerators asked the respondents to stop answering and were asked to put their sealed envelope in a drop box placed in the classroom's front table. Afterwards, the hired enumerators secured the drop box and left the classroom immediately.

RESULTS

Socio-Demographic Characteristics

Out of 1,297 students invited to participate in the study, only 1,218 students gave their assent/consent and were given consent by their parents or guardians, yielding a 94% (1,218/1,297) response rate.

Out of these, 40.6% were males (n=495) and 59.4% were females (n=723). About 71% of the participants were aged 10-16 years. Sixty-seven percent (67%) were enrolled in junior high school (JHS). Majority of the participants lived with both of their parents (60.3%) (Table 1).

SRH Services Utilization in the THK

Out of 1,218 respondents who participated in the study, 13.79% (n=168) reported SRH service utilization (Table 2).

Table 1. Distribution of socio-demographic characteristics of respondents, 2019 (N=1,218)

Socio-demographic characteristics		n	%
Sex	Male	495	40.6
	Female	723	59.4
Age (in years)	10-16	859	70.5
	17 and above	359	29.5
Grade Level	JHS	816	67.0
	SHS	402	33.0
Parental Presence	Living with one parent only	276	22.7
	Living with both parents	734	60.3
	Living with guardian	199	16.3
	Living alone	9	0.7

JHS, Junior high school; SHS, Senior high school

Table 2. Proportion of students who utilized SRH services in the THK, 2019 (N=1,218)

Utilization of SRH Services	Frequency (n)	%
User	168	13.79
Non-User	1,050	86.21

SRH, Sexual and reproductive health; THK, Teen health kiosk

Table 3. Predisposing characteristics of students who utilized SRH services in the THK (N=1,218), 2019

Variables	Category	SRH Services Utilization	
		Yes, n (%)	No, n (%)
Sex	Male	69 (13.94)	426 (86.06)
	Female	99 (13.69)	624 (86.31)
Age (years)	10–16	109 (12.69)	750 (87.31)
	17 and above	59 (16.43)	300 (83.57)
Grade Level	JHS	108 (13.24)	708 (86.76)
	SHS	60 (14.93)	342 (85.07)
Parental Presence	Living with one parent only	34 (12.32)	242 (87.68)
	Living with both parents	103 (14.03)	631 (85.97)
	Living with guardian	29 (14.57)	170 (85.43)
	Living alone	2 (22.22)	7 (77.78)
Knowledge on SRH	Knowledgeable	46 (21.60)	167 (78.40)
	Unknowledgeable	122 (12.14)	883 (87.86)
Attitudes towards SRH	Favorable	117 (12.84)	794 (87.16)
	Unfavorable	51 (16.67)	255 (83.33)

SRH, Sexual and reproductive health; THK, Teen health kiosk; JHS, Junior high school; SHS, Senior high school

Compared to the utilization of SRH services in the THK during SY 2018–19, the utilization rate during SY 2019–20 was higher, a notable increase from 0.15% to 13.79%.

Determinants of SRH Services Utilization in the THK

Predisposing Factors

SRH service utilization was higher among males (13.94%), aged 17 years old and above (16.43%), enrolled in SHS (14.93%), living alone (22.22%), knowledgeable on SRH (21.60%) and with unfavorable attitudes towards SRH (16.67%) (Table 3).

After performing the t-test, it was found out that the mean scores of knowledge on reproductive physiology (p = 0.0066), contraception (p = 0.0004) and STDs / HIV (p = 0.0029) of those who utilized the SRH services were significantly different from the mean scores of those who did not utilize the SRH services in the THK (Table 4).

Also, after performing the t-test, it was found out that the mean scores in all of the domains of the attitudes towards SRH issues (p>0.05) of those who utilized the SRH services were not significantly different from those who did not utilize the SRH services in the THK (Table 5).

Using bivariate analysis, those aged 17 years old and above (COR 1.38, 95% CI [0.96, 1.94]), unknowledgeable on SRH (COR 0.50, 95% CI [0.34, 0.73]) and with favorable attitudes towards SRH issues (COR 1.35, 95% CI [0.94, 1.93]) were found to be associated with the utilization of SRH services in the THK (Table 6).

Table 4. T-test on the difference between the mean scores on SRH knowledge of SRH services users and non-users, 2019

Knowledge on SRH	Utilization of SRH Services		p-value
	Yes	No	
	Mean score + SD	Mean score + SD	
Reproductive physiology	3.14 ± 1.21	2.86 ± 1.27	0.0066*
Contraception	2.57 ± 1.49	2.13 ± 1.47	0.0004*
STDs / HIV	3.03 ± 1.80	2.56 ± 1.89	0.0029*

**significant difference, p<0.05*

Table 5. T-test on the difference between the mean scores about attitudes towards SRH issues of SRH services users and non-users, 2019

Attitudes on SRH Issues	Utilization of SRH Services		p-value
	Yes	No	
	Mean score ± SD	Mean score ± SD	
Need for SRH information	11.42 + 2.87	11.37 + 2.77	0.8452
Source of SRH information	11.66 + 3.07	11.83 + 2.73	0.4595
Use of contraceptives	6.33 + 1.74	6.38 + 1.61	0.7204
Discussion of SRH issues with partner	3.89 + 1.25	3.92 + 1.15	0.7391

Meanwhile, there was no evidence of association in terms of sex (COR 1.03, p=0.8652), grade level (COR 1.17, p=0.3746) and parental presence specifically those living with both parents (COR 0.57, p=0.4925) with the utilization of SRH services in the THK (Table 6).

Enabling Factors

SRH service utilization was higher among those who reported accessible SRH services in the THK (44.67%) (Table 7).

Using bivariate analysis, positive perceived accessibility on the use of SRH services (COR 2.28, 95% CI [1.55, 3.34]) was found to be associated with the utilization of SRH services in the THK (Table 8).

Need Factor

SRH service utilization was higher among those with negative sexual behavior (30%) than those with positive sexual behavior (13.38%) (Table 9).

Using bivariate analysis, positive sexual behavior (COR 0.36, 95% CI [0.16, 0.81]) was found to be associated with the utilization of SRH services in the THK (Table 10).

Factors Associated with the Utilization of SRH Services in the THK

Multiple logistic regression analysis showed that those with favorable attitudes towards SRH issues were two times

Table 6. Bivariate analysis of predisposing factors associated with utilization of SRH services in the THK (N=1,218), 2019

Variable	Category	Utilization of SRH Services		COR (95% CI)	p-value
		Yes, n (%)	No, n (%)		
Sex	Male	69 (13.94)	426 (86.06)	1.03 (0.74 – 1.43)	0.8652
	Female	99 (13.69)	624 (86.31)	1.00	
Age (years)	10 – 16	109 (12.69)	750 (87.31)	1.00	0.0690*
	17 and above	59 (16.43)	300 (83.57)	1.38 (0.96–1.94)	
Grade Level	JHS	108 (13.24)	708 (86.76)	1.00 1.17 (0.83–1.64)	0.3746
	SHS	60 (14.93)	342 (85.07)		
Parental Presence	Living with guardians	29 (14.57)	170 (85.43)	0.60 (0.12–3.04)	0.5374
	Living with one parent only	34 (12.32)	242 (87.68)	0.49 (0.10–2.48)	0.3909
	Living with both parents	103 (14.03)	631 (85.97)	0.57 (0.12–2.80)	0.4925
	Living alone	2 (22.22)	7 (77.78)	1.00	
Knowledge on SRH	Knowledgeable	46 (21.60)	167 (78.40)	1.00	
	Unknowledgeable	122 (12.14)	883 (87.86)	0.50 (0.34–0.73)	0.0003†
Attitudes towards SRH	Favorable	117 (12.84)	794 (87.16)	1.35 (0.94–1.93)	0.1012*
	Unfavorable	51 (16.67)	255 (83.33)	1.00	

*SRH, Sexual and reproductive health; THK, Teen health kiosk; JHS, Junior high school; SHS, Senior high school; *significant at bivariate, p<0.25; †significant at bivariate, p<0.05; COR, Crude odds ratio*

Table 7. Enabling characteristic of students who utilized SRH services in the THK (N=1,218), 2019

Variables	Category	Utilization of SRH Services	
		Yes, n (%)	No, n (%)
Perceived accessibility	Positive	88 (44.67)	109 (55.33)
	Negative	80 (26.40)	223 (73.60)

SRH, Sexual and reproductive health; THK, Teen health kiosk

Table 8. Bivariate analysis of enabling factor associated with utilization of SRH services in the THK (N=1,218), DIHS, 2019

Variable	Category	Utilization of SRH Services		COR (95% CI)	p-value
		Yes, n (%)	No, n (%)		
Perceived accessibility	Positive	88 (46.56)	101 (53.44)	2.28 (1.55–3.34)	<0.0001*
	Negative	80 (26.40)	223 (73.60)	1.00	

*SRH, Sexual and reproductive health; THK, Teen health kiosk; COR, Crude odds ratio; *significant at bivariate, p<0.05*

Table 9. Need characteristic of students who utilized SRH services in the THK (N=1,218), 2019

Variable	Category	Utilization of SRH Services	
		Yes, n (%)	No, n (%)
Sexual Behavior	Positive	159 (13.38)	1,029 (86.62)
	Negative	9 (30.00)	21 (70.00)

SRH, Sexual and reproductive health; THK, Teen health kiosk

Table 10. Bivariate analysis of need factor associated with utilization of SRH services in the THK (N=1,218), DIHS, 2019

Variable	Category	Utilization of SRH Services		COR (95% CI)	p-value
		Yes, n (%)	No, n (%)		
Sexual behavior	Positive	159 (13.38)	1,029 (86.62)	0.36 (0.16–0.81)	0.0128*
	Negative	9 (30.00)	21 (70.00)	1.00	

*SRH, Sexual and reproductive health; THK, Teen health kiosk; COR, Crude odds ratio; *significant at bivariate, p<0.05*

Table 11. Multiple logistic regression analysis of factors associated with the utilization of SRH services in the THK (N=1,218), 2019

Variable	Category	Utilization of SRH Services		AOR (95% CI)	p-value
		Yes, n (%)	No, n (%)		
Age (years)	10–16	109 (12.69)	750 (87.31)	1.00	0.2127
	17 and above	59 (16.43)	300 (83.57)	0.77 (0.52–1.16)	
Knowledge on SRH	Knowledgeable	46 (21.60)	167 (78.40)	1.00	
	Unknowledgeable	122 (12.14)	883 (87.86)	1.22 (0.79–1.90)	0.3659
Attitudes towards SRH	Favorable	117 (12.84)	794 (87.16)	1.75 (1.12–2.74)	0.0149*
	Unfavorable	51 (16.67)	255 (83.33)	1.00	
Perceived accessibility	Positive	88 (44.67)	109 (55.33)	2.46 (1.66–3.66)	<0.0001†
	Negative	80 (26.40)	223 (73.60)	1.00	
Sexual behavior	Positive	159 (13.38)	1,029 (86.62)	0.38 (0.13–1.15)	0.0874
	Negative	9 (30.00)	21 (70.00)	1.00	

*SRH, Sexual and reproductive health; AOR, Adjusted odds ratio; *significant, p<0.05; †significant, p<0.001*

more likely to utilize SRH services in the THK than their counterparts (AOR 1.75, 95% CI [1.12, 2.74]). Also, SRH services utilization was found to be 2.5 times higher among students who have positive perceived accessibility on the SRH services in the THK than their counterparts (AOR 2.46, 95% CI [1.66, 3.66]) (Table 11).

DISCUSSION

SRH Services Utilization in the THK

A total of 1, 297 students were invited to participate in the study. Only 1, 218 students gave their assent/consent and were given consent by their parents or guardians, yielding 94% (1, 218 / 1, 297) response rate. The six percent (6%) non-response rate might be due to the sensitive nature of the topic which included attitudes on key SRH issues, knowledge on SRH and sexual behaviors. Respondents, who were mostly minors (aged 17 years old and below) and their parents were concerned about the study, which was about sexual and reproductive health, thereby not giving consent for their child to participate in the study.

Around 14% of the respondents reported SRH services utilization during SY 2019–20 (Table 2). Compared to the utilization of SRH services in the THK from SY 2018–19, the utilization rate during SY 2019–20 was higher, a notable increase from 0.15% to 13.79%. Possible reasons for the increase in the utilization of SRH services included classroom orientation of THK by teachers who were also SRH service providers in the THK, development of THK Facebook page and seminars about SRH services in the THK attended by the students.

This finding, however, was lower compared with the studies conducted by several authors in Ethiopia: 21.2%,[3] 38.5%,[4] 33.8%,[5] and in India: 24%.[6] The possible reason for this inconsistency might be due to the differences in the socio-demographic characteristics of the respondents, differences in the accessibility of SRH facility in the study area and variety of SRH services offered by the SRH facility. In these foreign studies, respondents were not only limited to adolescents attending a public school. Some of the authors focused on male intravenous drug users as their study respondents in India,[6] adolescents aged 15–19 years in every household in the Ethiopian study area[5] and secondary school adolescents in both public and private schools, also in Ethiopia.[3,4] Moreover, these authors considered the religion of respondents and parents' educational attainment and income, factors which may have an effect on the utilization rate of SRH services.

On the other hand, although it was mentioned that SRH services utilization was higher among those who reported accessible SRH services in the THK in this study, this was still lower compared to the results of the foreign studies as their study was not only limited to the utilization of SRH services from health facilities within the school, but also from other health facilities outside the study area such as hospitals, community clinics and private clinics. This may have increased perceived accessibility of SRH services by respondents in the foreign studies. Lastly, the aforementioned foreign studies also included other SRH services such as HIV and HCV testing, provision of condoms and contraceptives; services not offered by the THK in this particular study, thereby contributing to the increase in the utilization of SRH services in the given foreign studies, compared to this study.

Determinants of SRH Services Utilization in the THK

Predisposing Factors

SRH services utilization was higher among males, aged 17 years and above, enrolled in the SHS, living alone, knowledgeable on SRH and with unfavorable attitudes towards SRH issues (Table 3).

In terms of sex, the results of this study were inconsistent with the findings of several authors where more females used SRH services than males.[7-11] Nevertheless, it was consistent with the data from more recent published studies, which cited that more males tend to utilize SRH services than females.[12-14] This may be explained by the fact that aside from family planning, which is mostly utilized by female respondents,

male respondents were utilizing the more common SRH services offered by the THK such as SRH information an education and prevention and management of STIs. The high proportion of males who have experienced premarital sex, along with other sexual behaviors such as having sex with other men, as revealed by the Young Adult Fertility and Sexuality (YAFS) Study done in the Philippines in 2013, may explain the tendency to visit the THK more often to monitor their health and seek help in terms of sexual and reproductive health issues.

These results, however, did not mean that females who experienced teenage pregnancy were not concerned about their health and current situation. Based on the study, there were also female respondents who utilized SRH services such as family planning in the THK. The school where the study was conducted perennially faced teenage pregnancies and remained the top contributor to the city's number of teenage pregnancies. According to the THK service provider, most of the cases of teenage pregnancies in the school were reported in the lower grade levels, from Grade 9 and 10. Females in the younger age group and in the lower grade levels use SRH services in the THK possibly because they were concerned about their status and health and they were unknowledgeable or lacked sufficient knowledge on SRH. This supported a study which revealed that the SRH knowledge and score increased as one got older and enrolled in higher grade level.[15]

In the same way, the results of this study disagreed with the data from other studies showing that health services utilization was higher in the younger age group.[16,17] However, it was consistent with the findings of other studies citing that older age was linked with higher use of SRH services like HIV counselling and testing.[12,18,19] With regards to grade level, this study affirmed another finding, which showed that senior (higher grade) students were more likely to use SRH services than the lower grade students.[14] Other studies, however, mentioned only educational level as the closest counterpart of grade level. Some studies mentioned that those who completed higher level of education[20] or attended formal schooling[5] have the tendency to use SRH services more often because they have acquired more knowledge on different SRH services and used them for reasons related to preventive and curative health care.

These variations may be explained by the fact that those in the higher grade levels and were already knowledgeable on SRH still chose to use SRH services in the THK possibly because they think what they know about SRH was still not enough or limited; thus, they still visit the THK to ask more information and be educated more on SRH. As previously mentioned, even though more information on SRH was supposed to be taught in higher grade levels, teachers still perform selective discussions of SRH topics which they thought are age-appropriate to the students. Therefore, there is a tendency that essential knowledge on SRH was still not taught to students even though they were already in the senior grade levels.

Further, the results of this study were consistent with the findings of other studies that cited adolescents who were not co-residing with both their parents to be about two times more likely to utilize SRH services than those who were co-residing with their parents.[6] When someone lives alone, opportunities to have parental conversations and talk about topics related to sex and reproductive health lessens, thus, those who were living alone and/or not co-residing with their parents tend to visit the THK in order to seek for more SRH information and education.

Moreover, it also confirmed other study findings that the youth who were knowledgeable on the type of SRH services were more likely to use the service.[4,12] This study showed that among the three domains of SRH knowledge, knowledge on reproductive physiology gathered the highest mean score, compared to that of contraception and STDs/HIV. This might be due to the curriculum of the school wherein as early as Grade 8, lessons on reproductive physiology were incorporated in subjects such as in Science and Health. This is in contrast to contraception and STDs/HIV which were taught or mentioned only in higher grade levels, specifically in senior high school (Grade 11 and 12). Also, those who were knowledgeable on SRH were found to be enrolled in the higher grade levels. This might be the result of differences in opportunities to share information and discuss SRH matters with each other.

After performing t-test, it was also revealed that the SRH knowledge mean scores of those who utilized SRH services in the THK significantly differs from the SRH knowledge mean scores of those who did not utilize SRH services in the THK. This may suggest that SRH information and education offered by the THK and were sought by some student clients supplemented the SRH discussion in class and was helpful since they gained knowledge on SRH topics such as reproductive physiology, contraception and STDs/HIV, thus the higher mean scores of the SRH services users in these topics compared to the mean scores of the SRH services non-users.

In terms of the adolescents' attitudes towards SRH issues, the results of this study were inconsistent with other studies that mentioned SRH services utilization was higher among adolescents who had discussed SRH issues with their sexual partners and discussed family planning with their family or relatives, peers and teachers, respectively.[21,22] However, even though most students reported having unfavorable attitudes towards SRH issues, t-test revealed that the mean scores in all of the domains of the attitudes towards SRH issues ($p>0.05$) of those who utilized the SRH services were not significantly different from those who did not utilize the SRH services in the THK.

Both those who utilized and did not utilize the SRH services in the THK believed that SRH issues need to be taught in school for all, even for those who were not in premarital sexual relationships, and that parents, as well as the professionals, including teachers, school nurses and

school doctor, were the best sources of SRH information regarding SRH. They believed that being educated on SRH topics and issues is important in order to be informed on the consequences of engaging in high-risk sexual behaviors, thereby minimizing the chances of them engaging in risky sexual behaviors. In addition, they believed that the use of contraceptives such as condoms, as well as discussing SRH issues with partner, are important, especially for those who are in a sexual relationship, in order to prevent unintended pregnancies as well as contraction of STDs/HIV. SRH services utilization by those who have unfavorable attitudes towards SRH issues may be explained by the fact that they still believed that utilizing the SRH services in the THK may reduce the risks and consequences brought about by their actions, especially the practice of risky sexual behaviors and that their sexual and reproductive health will be improved once they use the SRH services in the THK.

Enabling Factors

Even with the notable increase in SRH service utilization after two consecutive academic years, the school has still not done much on health promotion campaigns based on the relatively low level of awareness on the existence of THK and those reporting the SRH services in the THK as accessible. This may be justified by the fact that adolescent health may not be a top priority of the school despite conducting seminars in the past focusing on adolescent health. With the very large number of enrollees in the school, the school administration tended to prioritize the basic needs of the students and teachers such as provision of adequate classrooms and a more conducive learning environment.

At the time of the study, the THK operated within school hours only, from 8 am to 5 pm, Mondays to Fridays. In addition, only two teachers were assigned as THK service providers. There were times when there was no available THK service provider to attend to visiting student clients because the two teachers were not in the *Edukasyon sa Pagpapakatao* (EsP) department but teaching in their classes. As mentioned earlier, there was no single detached room intended for the THK, which was located inside the EsP department. This physical set-up compromised the student clients' privacy and confidentiality since their conversation with the THK service provider could be overheard. These observations contradicted the findings of a study which revealed that students were seven times more likely to use SRH services if the school they attended provided SRH services in its health department or clinic.[13] Clearly, even though the THK established in this school readily offers SRH services, factors such as the THK's location, structure, operating schedule, number of service providers and other people's perception on the use of SRH services, hindered the students to access the THK and SRH services. This may be further supported by the results of this study which showed that out of the 168 students who utilized the SRH services in the THK, less than 50% reported accessible SRH services.

Positive perceived accessibility to the SRH services in the THK was associated with the utilization of SRH services in the THK. This implies that perceiving the SRH services in the THK as accessible, in terms of operating schedule, structure, number of service providers and perception of others on the use of SRH services, encourages use of the SRH services that the THK offers. This result also suggests that in order to increase SRH services utilization in the THK and curb the cases of teenage pregnancy, the school should prioritize measures on how to make SRH services in the THK more accessible to all students in the school.

Need Factors

Based on the study, around 13% of those with positive sexual behavior reported SRH services utilization in the THK. Meanwhile, 30% of those with negative sexual behavior also reported SRH services utilization. This was consistent with the results of some authors who cited that those who were sexually active were 14 times more likely to use SRH services[13] and 4.32 times more likely to use SRH services.[23] It is also in agreement with the findings from other journals which reported that respondents who had experienced sex were six times more likely to use SRH services[3] and four times more likely to use SRH services.[20] This is likewise consistent with the findings of other authors who revealed that perceived susceptibility including one's perception of being at risk of acquiring STIs/HIV from being sexually active and perceived high severity including expectation of becoming pregnant from having experienced sex were significant determinants of SRH services use.[24,25] As defined in this study, those who have positive sexual behavior may have had sexual experience in the past as well and may have encountered sexual and reproductive health problems which urged them to visit the THK and seek help. Also, those who have positive sexual behavior still found themselves vulnerable to sexual and reproductive health problems, thus, visiting the THK for relevant SRH services in order to avoid the threats and irreparable consequences brought about by sexual vulnerability.

This results suggest that the youth, especially those in the younger age group, tend to explore and engage in risky sexual behaviors, which may lead to several SRH problems, posing threat to their overall health. This was consistent with the findings of YAFS Study done in the Philippines in 2013, which revealed that the proportion of males who began sexual activity before age 18 increased from 14% in 1994 to 25% in 2013. In the study's context, students in the lower grade levels were only starting to acquire the SRH information and education they needed, specifically starting Grade 8 were some SRH topics like reproductive physiology, were incorporated in the curriculum. However, this information might not be enough for them and they might still lack sufficient knowledge and life skills on SRH. Younger teens tend to explore or ask their peers who, at this point, are very influential in their decision-making.

Factors Associated with the Utilization of SRH Services in the THK

Favorable attitudes towards SRH issues and having positive perceived accessibility on SRH services in the THK were associated with the utilization of SRH services in the THK. These findings were consistent with a study which found out that discussion with health workers was a determinant of SRH services utilization among secondary school youths.[3] Interestingly, it contradicted another result from the same study which revealed that those who have heard SRH information from teachers were 64% less likely to utilize SRH services.[3]

In this study, having favorable attitudes towards SRH issues meant that students highly believed that SRH information should be taught in schools, that parents and professionals were good sources of SRH information, that the use of contraceptives was important and that SRH issues should be discussed by partners. If the students have these attitudes towards SRH, they were two times more likely to utilize the SRH services in the THK. This can be explained by the fact that students may have heard SRH information and were encouraged by their teachers whom they interact with most of the time inside the school. In addition, students may have also been influenced by their parents, especially those who were living with both of his/her parents. Again, based on literature, these groups of people were the most common sources of SRH information. Similarly, peers (classmates, friends and partners in relationship) may have also influenced them to use SRH services since they have a major influence in the dynamics of their social life and decision making.

Reportedly, positive perceived accessibility on the SRH services in the THK, makes an individual three times more likely to utilize the SRH services in the THK. In this particular study, accessibility of the SRH services in the THK was measured in terms of location, operating schedule, structure of facility, number of service providers and perception of others on the use of SRH services. Specifically, students were more likely to use SRH services in the THK if these services were accessible in terms of operating schedule and structure of THK, number of THK service providers and perception of others on the use of SRH services in the THK.

Limitations

The findings of this study may be generalized for the study locale only and may not be true for all public secondary schools in the City of Dasmariñas. Also, the results gathered by this study are only limited to the factors (predisposing, enabling or need) which may be associated with the utilization of SRH services in the THK. This study neither looked into the association of the factors with each other, nor determined the barriers, perceptions and experiences of students in obtaining SRH services from the THK. Also, as this study only used survey questionnaire to gather data, biases may have been introduced such as recall or self-reporting bias.

CONCLUSION

Despite the marked increase in the utilization of SRH services in the THK for two consecutive school years, intensified efforts focusing on the improvement in the utilization of school-based SRH services are still needed. Such efforts must be refocused to promote health-integrated services which target attitudes of students towards SRH issues and perceived accessibility to SRH services in the THK. It is very important that, not only the school administrators and health service providers, but also health policy makers, understand the context in which SRH services are provided in order to deliver more appropriate and effective health services to students.

To effect change in the attitudes of students towards SRH, it is recommended to strengthen the school's THK Club as this will play a significant role in changing their attitudes towards SRH issues. Likewise, the General Parents-Teachers Association (GPTA) should be reinforced in order to increase parental involvement since parents also play a key role in influencing the attitudes of their children towards SRH. It is also recommended to develop SRH policy and redesign the guidelines of the THK at the school level to promote accessibility of the SRH services in the THK. For one, a policy mandating THK service providers to deliver services beyond school hours may be discussed such that it can also cater to students who are attending the school during weekends (i.e., ALS students, Open High students). Likewise, policy makers in the CSDO including their top management and personnel from the Health and Nutrition Unit as well as school administrators must endeavor to provide a more conducive THK where privacy and confidentiality can be maintained at all times and clients can freely discuss SRH issues with the THK service provider. An initiative to provide a separately detached room for the THK is encouraged in order to provide a more suitable counselling area and to ensure privacy and confidentiality of student clients and their shared information. More so, strict implementation of CSE across all grade levels is recommended to widen SRH information dissemination and improve school-based utilization of SRH services.

Since this study serves as a baseline study on the utilization of school-based SRH services, future studies are needed to be conducted in order to document and evaluate the impact of the utilization of school-based SRH services. Specifically, a qualitative study may be conducted in order to have an in-depth discussion about the facilitating factors and barriers to the utilization of sexual and reproductive health services.

Statement of Authorship

All authors participated in data collection and analysis, and approved the final version submitted.

Author Disclosure

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