

A Literature Review on the State of High School Sex Education Implemented by School Nurses

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Abstract

Objective: In recent years, increases in sexually transmitted infections, cervical cancer caused by HPV, and abortions due to unwanted pregnancy among those in their 20s have become serious issues that threaten fertility. This study aims to identify issues in need of attention and the difficulties experienced by school nurses in teaching sex education in high schools pre-emptively before these students become sexually active in order to promote responsible sexual behaviors for the prevention of STIs. **Method:** ICHUSHI Web Ver. 5 and CiNii were queried for literature published between 2000 and May 2022. Search terms were “*yōgokyōyu*” [school nurses], “*seikyōiku*” [sex education], “*seikansenshō*” [sexually transmitted infections/diseases], and “*kōkōsei*” [high school students]. In addition, we limited the search to Japanese literature only, due to differences in cultural background and the roles of school nurses. **Results & Observations:** Sex education is taught by multiple faculty members and implemented into multiple subjects such as health & physical education and home economics. There are differences in the content taught by school nurses and other faculty. As specialists in health and hygiene, school nurses demonstrate high awareness and positive attitudes toward sex education. Additionally, while they play a central role in sex education, they face difficulties due to having no position in school health plans, differences in awareness among faculty, busy schedules, difficulty securing time, and failure to coordinate with other faculty. It is necessary to consider school-wide policies that systematize sex education as a continuous subject. Furthermore, while they have many opportunities to undertake consulting duties on sexuality, there is uncertainty among school nurses on their ability

to meet student needs. Therefore, the development of teaching materials and opportunities for school nurses to improve their teaching skills is absolutely essential.

Keywords

School Nurses, High School Students, Sex Education

1. Introduction

In recent years, increases in sexually transmitted infections, cervical cancer caused by HPV, and abortions due to unwanted pregnancy among those in their 20s have become serious issues that threaten fertility [1]. High school students' knowledge about sex most commonly comes from friends or older schoolmates, followed by school, the Internet, and *manga* comics [2]. Reports show that sex education courses and awareness-raising programs have increased students' knowledge of sexually transmitted infections and have had a positive effect on students' understanding of sex [3] [4]. However, it is difficult to say that sex education has led to changes in sexual behavior or preventative behavior related to sexually transmitted infections.

The cultural background of Japan is such that parents and guardians are reluctant to talk about sex, leaving the burden of educating the young about sex-related topics to schools. Exacerbating this situation, after the harsh criticism and labeling of sex education booklets and practices as being “excessive” or “going too far” that occurred in 2002, many schools and teachers are wary of touching on the subject [5].

Outside Japan, the *International technical guidance on sexuality education* (ITSE), which is based on the research and practice of experts in sex education from countries around the world, was first published worldwide in 2009 and then revised in 2018 [6]. Among its key concepts, the section titled “Sexual and Reproductive Health” recommends teaching learners about sexual intercourse at an age of 9 - 12 years. Meanwhile, Japan's official curriculum stipulates that teaching about sexual intercourse must be avoided in schools. It does so through two provisions: “the process leading to human impregnation shall not be covered” and “the process of pregnancy shall not be covered.” [7] [8]. Additionally, the official curriculum also uses the language “*sei ni kansuru shidō*” [guidance on sexuality] rather than “*seikyōiku*” [sex education], from the perspective that it is important to consider the effect of gender on interpersonal relationships. The reasoning for this is that *shidō* [guidance/instruction] can be implemented through a good combination of group and individual instruction if necessary based on situational judgment at the individual school level, as opposed to the stricter interpretation that would be attributed by the term “*seikyōiku*”.

The “*Sukoyaka oyako 21*” [Healthy Parents & Children 21] initiative was created in 2001 with the aims of improving health standards for mothers and

children and bringing up the next generation of children in a healthy manner. Based on current issues, the program refocused its attention in 2015 on sexual issues among teens, aiming to educate high school students on the physical effects of sexual behavior, such as sexually transmitted infections [9]. For students of college age, who are in a sexually active period of their lives, there are essentially no opportunities for sex education or to learn about sexually transmitted infections. For this reason, it is vital to begin covering these sexuality-related topics during high school, providing these students with continuous education which incorporates the relationship between sexually transmitted infections and fertility in order to reduce the spread of such infections [10]. Thus, attention is being focused on advancing sex education and awareness programs in the school curriculum in order to provide high school students with proper knowledge.

Sex education in Japan is mandated based on the official curriculum guidelines, as described in “Adolescence and Health” and “Married Life and Health” parts of the “Health at Every Stage of Life” section of the explanation of the Health and Physical Education Course Guidelines, as well as in “Modern Infectious Diseases and Their Prevention”, which covers AIDS and sexually transmitted infections [11]. While the central role in teaching health and physical education is held by health and physical education teachers, there are also cases in which school nurses have been issued dual appointments and used their expertise to teach the subject. In many cases, they also play a central role in “*tokubetsu katsudō*” [Special Activities] classes. In addition, since such instruction often uses certified textbooks, ensuring that students retain the content covered largely depends on the teacher’s skill.

Accordingly, the objective of this study was to identify potential points of improvement for the future, as well as difficulties in implementation and their causes based on the state of sex education in high schools implemented by school nurses, in order to encourage responsible sexual behaviors for the prevention of sexually transmitted infections.

2. Research Method

ICHUSHI Web Ver. 5 and CiNii were queried for literature published between 2000 and May 2022. In addition, we limited our search to Japanese literature only, due to differences in cultural background and the roles of school nurses. The search terms were “*yōgokyōyu*” [school nurses], “*seikyōiku*” [sex education], “*seikansenshō*” [sexually transmitted infections/diseases], and “*kōkōsei*” [high school students]. The search process is shown in **Figure 1**. The search returned 300 hits from ICHUSHI and 196 from CiNii, from which we excluded duplicate literature. Our selection criteria were original works found in academic journals. We then examined the content and excluded literature that did not cover school nurses or high school students, duplicate literature, and literature reviews. The resulting 15 works and 3 hand-searched works were included in the analysis.

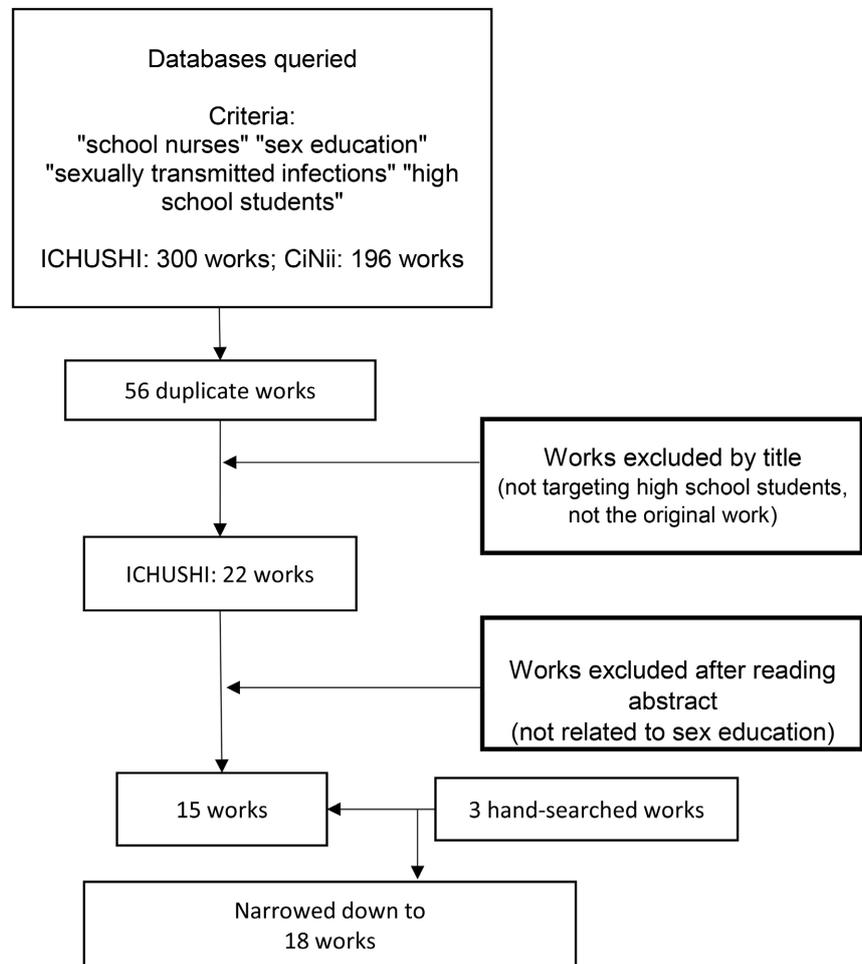


Figure 1. Selection of works.

Method of Analysis

We organized the selected literature by creating a review matrix sheet which lists the authors, year of publication, study design, subjects of study, study objective, and study results. After considering the contents of each work, we decided to focus our analysis on two points: the state of sex education implemented by school nurses, and the difficulties and challenges they face in teaching sexual education. These are indicated below as citations 12 - 29 (**Table 1**).

3. Results

1) Summary of target literature and annual trends (**Table 1**)

Categorizing the target literature by era, there were two works from the year 2000-2005, three works from 2006-2010, six works from 2011-2015, six works from 2016-2020, and one work from 2021 to the time of this study. Since the subject of research was high school sex education, 12 of the works pertained to school nurses' practices.

As shown in the table of literature, the studies included four qualitative studies (semi-structured interviews), ten quantitative studies, two practical reports,

Table 1. Citations.

Literature number	Authors/Date of Publication	Study Design/Subjects	Purpose	Results
[12]	Kondo Abbott, Fusae, <i>et al.</i> 2001	Quantitative 81 school nurses	To investigate sexual issues among high school students and the state of conducted sex education.	Sex education was mainly provided by physical education teachers, while the school nurses taught about HIV/AIDS, pregnancy, reproductive organs, abortion, STDs, and intersexual relationships. The school nurse teachers were involved through individual counseling, and their counseling topics were, in order of frequency: intersexual relationships, pregnancy, abortion, contraception, and other sexual problems, with 70% to 80% of the counseling related to sexual activity and abortion.
[13]	KASHIRO Kimiko 2004	Quantitative 20 school nurses 53 health and physical education teachers. 24 home economics teachers	To investigate the state of sex education conducted by health & physical education teachers, home economics teachers, and school nurses working a high school and their needs.	The content taught by more than 90% of the health & physical education teachers consisted of AIDS, menstruation, contraceptive methods, and the psychological and behavioral differences between men and women, while for the home economics teachers it was pregnancy and menstruation. The school nurses taught more specialized content dealing with the psychological and incidental aspects of sexual behavior, such as AIDS, STDs, and contraception. More than half of the teachers wanted an outside instructor specialized in sex education, and felt that sex education using only on-campus resources would be difficult.
[14]	HOSAKA Aiko, <i>et al.</i> 2006	Qualitative 2 school nurses	To describe the efforts of two school nurses working in different environments; one urban and one rural.	While there were some differences in problems regarding sexually transmitted diseases between schools, there were no regional differences between urban and rural areas. School nurses had a sense of difficulty in dealing with the problem of sexually transmitted diseases because they were not only consulted by current students, but also by graduates, and because they were unable to take the desired preventive actions.
[15]	TSUBOI Ryūta 2006	Quantitative 180 high school students 97 male 83 female	To investigate the results of a collaborative class with a midwife and a school nurse using HIV as a topic for incorporating perspectives of sex education into a first-year civics/contemporary society class at a high school.	In a post-class survey, 78 respondents described “making wise decisions and behavioral choices about sexual behavior as a human being,” and 33 of them described “thinking deeply about sexuality.” Regarding HIV infection, only 5 respondents were concerned about “discrimination and unfair prejudice against infected people. 122 students responded that they understood how to prevent sexually transmitted infections, while 7 responded that “abstinence is the key to prevention.”
[16]	SHIMOMURA Junko, <i>et al.</i> 2010	Quantitative 169 high school students	To investigate the matters that need to be considered when providing sex education to high school students, through the practice of sex education for high school students by a school nurse.	98% of the students responded that the sexual health lecture was good. The reason was they “felt comfortable learning about it.” The high evaluation was due to the fact that the school nurse gave consideration to the use of language, etc., based on their assessment of the high school students’ feelings of embarrassment and differences in the level of interest, and that they prepared in advance by understanding the needs of both the students and the teachers.

Continued

[17]	ISHINO Akiko, <i>et al.</i> 2012	Quantitative 106 school nurses	To specify items to be considered in school health for the smooth implementation of safe HPV vaccination and cervical cancer prevention.	Regarding HPV vaccination, school nurses believed that the basic knowledge that HPV is a cause of cervical cancer and can be prevented with a vaccine was important for upper elementary school students, junior high school students, and their parents. In addition, they believed that only knowledge that can be used immediately in accordance with each stage of development was necessary. Although a notice from the Ministry of Education, Culture, Sports, Science and Technology would allow them to provide education on cervical cancer, they felt it was difficult to teach the topic at their own individual discretion.
[18]	SUGIHARA Toyoko 2012	Quantitative 176 high school students (79 male, 93 female)	To discuss the survey results of the health class conducted under the theme of "Becoming an Adult: Love/Life" and the perceptions of sex, and consider what sex education should look like in the future.	20% - 30% of boys and girls had some knowledge before the health lecture, but with the addition of the lecture, nearly 80% of the students had correct knowledge. 70% said they would go to a clinic if they contracted a sexually transmitted disease. Among the free responses, there were some comments such as "it does not concern me, I am not interested," etc. Sex education should take into account the ambivalent attitudes of high school students.
[19]	KAWAGUCHI Mariko 2013	Practical report	To report the barriers felt in practicing adolescent sex education.	Sex education is an important and indispensable part of life, but even as times change in Japan, individual perceptions of sex as taboo have not changed. With the spread of unprotected sexual networks, telling adolescent students who lack concrete knowledge of contraception and preventing sexually transmitted diseases that "life is important" is ineffective. School nurses have difficulty providing guidance based on scientific evidence because sex education is mistaken for teaching sexual anatomy, and they get caught up in terms related to the genitalia and sexual intercourse.
[20]	TAKAHASHI Yūko 2014	Quantitative 27 school teachers	To clarify the influence of the organizational structure for school health on the promotion of school health activities and the role played by school nurses in this process.	48.2% of the teachers were "willingly involved in the implementation of school health activities," 80.8% "exchanged information with school nurse teachers," 26.9% "exchanged opinions with the school organization on issues of student health solutions," and 32% "coordinated among different subjects." The roles of the school nurse were "dissemination of information" and "interpersonal communication," and through these roles, to encourage teachers and staff to "be aware of their active involvement in school health activities and to recognize their own role in school health.
[21]	SHIKAMA Kumiko 2014	Quantitative 89 school nurses	To clarify the state of awareness and efforts of high school school nurses in sex education, to make comparisons between nurse teachers and teachers who are in-school collaborators, and to consider measures for promoting sex education.	School nurses were likely to attend workshops and purchase books, which they selected with key words related to sexuality. They stated that sex education "allows students to expect positive changes" and recognized the need for sex education not only for current issues but also for students' futures. However, they had difficulty in finding time for sex education, difficulty in gaining understanding from others, uncertainty about their own teaching methods, and difficulties in group instruction.

Continued

[22]	MATSUURA Kenchō 2015	Feature article	To consider the future of sex education	School sex education emphasized health learning and group health lectures. Knowledge and understanding were the main focus. While there is a weak link between knowledge and sexual behavior, academic ability and sexual behavior are closely related, and rational behavior is inhibited in adolescence when emotions are high. As the gap in sexual maturity among children continues to widen, emotional, individualized support, and personalized support are important to overcome this situation.
[23]	AOYAGI Chiharu 2016	Qualitative 2 school nurses	To identify the difficulties and challenges that school nurse teachers working in high schools experience in providing sex education.	The difficulties felt by the school nurses were “no placement in the curriculum, lack of an in-school guidance system, inadequate teaching skills, difficulty in situation assessment, and inability to raise funds for expenses. The reasons for this were that the school nurses were too busy to collaborate with the teachers or to improve their own teaching skills. Tasks for the future are to provide sex education as a form of human education that can be applied to future life, to examine teaching methods, to collaborate with specialized institutions, proper placement in the curriculum, and assessing students situations in order to provide sex education that meets the needs of students.
[24]	OCHIAI Katsuko 2016	practical report school nurse	To consider issues related to education on sexuality through the practice of preventative education and support in high schools.	To address children’s sexual health issues, sexuality-related knowledge and behavioral skills are not enough. It is necessary to provide education that fosters unbiased values, a sense of human rights, and the ability to make rational decisions, as well as to enhance self-esteem.
[25]	GUNJI Natsumi 2016	Quantitative 262 second-year high school students	To implement a lesson design to teach about prevention of sexually transmitted diseases and examine how the effectiveness of the lesson design differs by gender.	Familiar concerns for boys were using a condom, and for girls, being considerate of their partner. In terms of STD prevention, only girls mentioned refusing to have sexual intercourse as a preventive measure. After the class, both boys and girls recognized the risk of contracting sexually transmitted diseases. Girls’ knowledge of sexually transmitted diseases and sense of risk was higher than that of boys.
[26]	HOSAKO Kyōko, <i>et al.</i> 2017	Quantitative 454 first-year high school students	To survey high school students attending puberty classes on 10 topics: secondary sexual characteristics, fertilization, the process of pregnancy, fetal development, childbirth, sexually transmitted diseases, human rights, sexual violence, sexual concerns, and contraception to obtain foundational data for sex education based on differences awareness by gender.	The most understood item for both boys and girls was fertilization, at 62.4% for boys and 47.2% for girls. This was followed by infection at 49.0% for boys and 40.1% for girls, while understanding of secondary sexual characteristics was low for both sexes. Boys’ understanding was significantly higher than girls’ in secondary sexual characteristics, fertilization, sexual violence, sexual problems, and contraception, while there were no differences between boys and girls in the topics of pregnancy, fetal development, childbirth, and human rights.

Continued

[27]	SEKINE Shinako, <i>et al.</i> 2018	Quantitative 320 high school students	To clarify the state of sex education in high schools and examine its relationship with the school system	In terms of the school structure in sex education, 37.2% - 42.5% of the respondents indicated that they had support from the administration and cooperation from other teachers. Concerning the psychological and physiological aspects of sex education content and aspects related to sexual activity, more than 80% of the schools had implemented 18 out of 37 items. Schools that had the cooperation of the administration and other teachers, a school nurse in charge of sex education, the presence of a specialist with medical knowledge who could be consulted and training, and meetings with parents implemented more sex education content.
[28]	KIKUCHI Minako 2018	Qualitative 11 school nurses	To investigate the approaches employed by school nurses to build trust with students at the initial stage of health consultation and counseling.	The seven core categories to building trust with students were "Approaches to motivating students to visit school nurse's office", "Consideration of physical factors in students, Building a trusting relationship with students utilizing the student's positive reactions as an indication of progress", "Continuation of relationships while maintaining distance", "Approaches that failed to build a trusting relationship", "Trial and error in building a trusting relationship", and "Approaches to understanding physical factors in student health".
[29]	AKIZUKI Yuri, <i>et al.</i> 2021	Qualitative 3 school nurses	To examine the experiences of school nurses working in high schools in teaching about sexuality and their recognition of high school students' sexual issues, as well as their experiences with and perceptions of fertility education.	High school nurses listed the following categories of sexual issues: "menstruation, pregnancy and childbirth, sexual assault, gender dysphoria, and counseling boys on sexuality." Their experiences in teaching about fertility were "counseling girls who are losing weight, counseling students with menstrual irregularities, counseling students with eating disorders, and counseling students in sexual relationships with multiple partners." They recognized the possibility of incorporating fertility into the lecture on menstruation which is held before school trips, and of teaching about fertility in the context of having students consider a life design for forming a happy family in the future.

one feature article, and one workshop. There were nine works on the state of sex education taught by school nurses, two works on sex education as taught by school nurses and other teachers, five works on high school students who participated in sex education, one opinion piece on sex education, and a single work on fertility. Works had surveyed topics such as the topics covered in sex education at school, sex education materials created with the guidance of the local board of education or created from prior research, teaching experience, collaboration with others in teaching sex education, high school students' knowledge and impressions of health education, and future issues in need of attention.

2) The state of sex education implemented by school nurses

In school sex education, hygienics and group health instruction were emphasized. Knowledge and understanding were the main focus [22]. As for the psychophysiological aspects of sex education, school nurses played a central role, supporting administrators and other faculty. Most of the schools offering sex

education that could be consulted had a specialist, held workshops, and provided informational opportunities for parents and guardians [27]. School nurses' involvement in sex education included collaboration with physical education teachers, home economics teachers, social studies teachers, and visiting lecturers [13] [15]. There were differences in the content taught by school nurses compared to that taught by physical education and home economics teachers, with school nurses being in charge of covering the incidental and psychological aspects of sex, such as HIV/AIDS, pregnancy, the reproductive organs, abortion, STIs, intersexual relationships, and contraception [12] [13]. They also more often attended workshops related to sex education and purchased books on sexuality to use for sex education [21]. School nurses were involved in individual counselling with students. The most common topics students consulted them about were, in order of frequency: intersexual relations, pregnancy, abortion, contraception, and other sexual problems. Sexual activity and abortion accounted for between 70% and 80% of this counseling [12]. Questions about STIs surged in frequency year after year, not only from current students, but also from students who had previously graduated [14]. In addition, they offered guidance on fertility to girls who were losing weight or had menstrual irregularities, students with eating disorders, and students in sexual relationships with multiple partners [29]. To build student trust in the early stages of counseling, school nurses used approaches such as motivating students to visit the nurse's office, considering physical factors for each student, treating positive reactions as indicators of progress, and maintaining distance while continuing the relationship [28].

Of high school students surveyed who attended a traditional sex education lecture, 20% - 30% had correct knowledge before the lecture, while nearly 80% did after completing it [18]. Both male and female students had concerns about contracting STIs, with female students being more concerned. The most familiar concerns among the students were condom use for boys, and for girls, being considerate of their partners [25]. While both boys and girls had a high degree of understanding of fertilization, boys showed higher understanding of secondary sex characteristics, fertilization, sexual abuse, sexual concerns, and contraception [26]. On the other hand, there were also students who had no interest in sex and submitted responses such as "it has nothing to do with me", and "I don't care" [18]. In study by Shimomura, *et al.*, 98% of students surveyed responded positively to a health lecture on sexuality, often mentioning the way the class was conducted as a reason. Lecturer preparedness was a clear factor in helping the class go smoothly; identifying differences between students' interest and levels of embarrassment, careful word choice, and understanding the needs of both the students and teachers all contributed to high evaluations [16].

3) Difficulties faced by school nurses and challenges in implementing sex education

Over half of school nurses had difficulty with sex education using only in-school resources and expressed a desire for assistance from external specialists

[12]. Many students consulted school nurses about STIs, who had difficulty helping due to the students being unable to take the desired preventative actions [14]. While school nurses could teach about cervical cancer being caused by HPV if they had a notice from MEXT, they were reluctant to cover such topics at their personal discretion [17]. Sex education was sometimes mistaken for sexual anatomy, and nurses had difficulty teaching a scientifically-based curriculum, becoming caught up in the terminology of the sex organs and sexual intercourse [19]. Nurses also faced difficulties in securing time for sex education, lack of understanding from others, uncertainty about their own teaching methods, and group instruction [21]. Other issues were also mentioned, such as sex education having no defined placement in the curriculum, lack of an in-school guidance system, school nurses being underqualified in teaching, difficulty assessing situations due to large differences between individuals, and inability to raise funds [23]. School nurses also had difficulties stemming from being too busy to cooperate with teachers or to study to improve their own teaching skills [23].

The roles of the school nurse are the dissemination of information and interpersonal communication. Through these roles they are expected to encourage teachers and staff to “be aware of their active involvement in school health activities and to recognize their own role in school health” [20]. Several areas in need of improvement were mentioned: implementing “sex education as human education” in a way that will be useful for students’ futures, investigating teaching methods, cooperating with specialized institutions, placement in the curriculum, and assessing students’ situations in order to provide sex education which meets their needs [23]. Additionally, a need was recognized for education which equips students with unbiased values and an awareness of human rights, which fosters rational judgement, and increases self-esteem [24]. Moreover, the different levels of interest in sexuality necessitated sex education that took into account the ambivalent attitudes of this age group [18]. Since the difference in students’ sexuality only grow wider as they mature, emotional and individual support are necessary [22]. Finally, Akizuki, *et al.* suggested that it is important to teach students about fertility in sex education in order to have them consider their future life plans [29].

4. Observations

1) Summary of target literature and annual trends

MEXT’s official curriculum guidelines are revised every 10 years. The amount of literature on sex education has increased from 2015 onward, following the 2009 revision and evaluation of the second “Healthy Parents & Children 21” initiative. Guidance on sexuality in schools has developed based on these guidelines, which were amended in 2017 and 2018 in light of problematic sexual behaviors and diseases that have surfaced amidst the sudden and rapid societal and lifestyle changes of recent years. Starting in 2022, they will be updated annually [30]. Additionally, according to reports about the Healthy Parents and Children

21 initiative based on the Ministry of Health, Labor and Welfare's Basic Act on Education as well as other related measures, there is now a focus on sexual issues among teens and the proportion of high school students who are aware of the physical effects of sexually transmitted infections [31] [32]. It is expected that efforts related to sex education in high schools will attract more attention in the future.

2) The state of sex education implemented by school nurses

Sex education was taught by multiple faculty members and implemented into multiple school subjects such as health & physical education and home economics. It was reported that "health & physical education" accounted for 84.4% of the breakdown of subjects, and content was taught in a group lecture style [23]. In 2008, MEXT indicated that, because children's physical and mental growth and development varies from person to person, differentiating which content should be covered in a group setting and which should be taught individually, rather than covering everything in a group setting, is an important consideration for more effective teaching of sexuality-related content [33]. That is, it is important to determine which content should be taught in a group setting, and to have an annual teaching plan built on common understanding and close cooperation school-wide. Meanwhile, because more students, including graduates, have been seeking personal counseling about issues related to sexuality, help with interpersonal relationships such as friendships or male-female relationships, and physical/emotional advice, it is essential to secure the time not only for health instruction and conveying information through study, but also for personal consultation and human education, to build students' character and give them the tools to live rich and caring lives.

The content taught by school nurses differed from that taught by other faculty; they focused on the incidental and psychological aspects of sex and high-risk topics such as STI prevention, contraception, induced abortion. This difference compared to other faculty may stem from school nurses' role as specialists in health and hygienics. Furthermore, school nurses' high level of awareness and positive attitude toward learning about sex education to acquire this expertise is demonstrated by higher rates of participation in workshops and purchasing of sex-education-related materials compared to other teachers.

High school students approach sexual maturity as their bodies develop and grow, but there are differences in this development between the genders. In addition, being a part of a generation of so-called digital natives [34], current-day high school students are surrounded by an abundance of sex-related information without realizing it due to the growth of social media. As high school students' thinking, judgement, and behavior is highly influenced by family, friends, and those around them as well as by psychosocial influences such as those from the mass media, so do the trends of the generation change. Consistent with the reports of sexual polarization (presence or lack of interest in sex) in the 7th National Survey of Sexual Behavior Among Youth [2], we observed an increase in the

number of students who were uninterested in sex. Nurses had assessed students' situations and needs in advance and students evaluated them highly. From this, the conclusion can be drawn that striving to understand the subjects, timing, and trends is essential to implementing effective sex education, leading to greater understanding of the content.

Nōzu states that the most important things are “to not fall into loaded teaching habits that lead students to the desired conclusions, not to impose one-sided values and ideas that are convenient for the instructor, and to promote creative and critical thinking by ensuring children have time and space to think freely” [35]. In other words it is necessary to design teaching methods which ensure that students have sufficient time to think for themselves.

In the “Health at Every Stage of Life” section of the high school curriculum guidelines, students study health issues at each developmental stage, such as “adolescence and health”, “marriage and health”, and “aging and health”, it is stipulated that reproductive functions are to be covered in relation to these studies as necessary [11]. However, sex education in Japan focuses on menstruation, pregnancy, and childbirth, and rarely covers male sexuality at all [36]. There is little opportunity for students to learn, for example, that the STI chlamydia, which is common in young people, can lead to infertility; or about assisted reproductive technology. Despite the fact that there is little opportunity for sex education after high school, life events such as marriage, pregnancy, childbirth, and parenting await young people in the years that follow. In short, it is necessary to consider the contents of sex education so that students can form a life plan accounting for generational changes, developments in reproductive technology, sexual diversity, and fertility.

3) Difficulties faced by school nurses and challenges in implementing sex education

School nurses are considered to play a central role in guidance on sexuality in schools. It is also regarded as important to provide guidance based on developmental stages in related subjects such as physical education (gym class), health & physical education, and in special activities, while promoting a common understanding school-wide [23]. However, while the necessity of sex education is recognized, it is hardly the case that this approach to sex education fits with the growth process. One contributing factor may be the difficulty of implementing sex education as a school subject and coordinating with other teachers due to the lack of detailed instructional content tailored according to need and age in the official curriculum. Sex education was mainly handled by school nurses, health & physical education teachers, and home economics teachers, etc. It is thought that differences in the teachers' attitudes, positioning, and awareness regarding sex education varied with the age of the teachers. MEXT states in “Concerning Sex Education” that it is important to address sex education throughout school educational activities and that it is necessary to determine the distribution of associated roles and responsibilities [37]. However, it was clear that the teachers

were too busy with their work to secure time to spend on sex education, and that cooperation among them was not progressing. For this reason, there may be a tendency for schools to request professional external lecturers with medical knowledge rather than relying on teachers to advance sex education at high schools. However, the lectures given by outside instructors are one-shot and one-way, and such lectures do not constitute a program of continuous sex education which follows the growth process. Therefore, in order to provide effective sex education to high school students, it is essential to consider school-wide policies for the placement of sex education in the school health plan and to systematize it as a continuous school subject.

Meanwhile, it was suggested that disparities in knowledge about sexuality among students and even among schools, have resulted in increased individual counseling. High school students are easily influenced by their environment and are sensitive to changes in the times and society, and their attitudes toward sexuality are changing. In addition, they lack opportunities to learn through conversation and relationships with others, and with the rise of social media, communication tools have become one-way. Furthermore, because these students are less cautious than adults about the people they connect with on social media, there have been reported cases of students talking with strangers on the Internet through direct messages, befriending them, and eventually meeting up in person, leading them to encounter sex-related trouble. At the same time, there are individual differences in students' sexual development which must be assessed through post-group-lecture surveys and individual guidance. For these reasons, we believe it is crucial for school nurses to build trusting relationships with students and to make emotional support available to them.

Over 70% of school nurses had been consulted about being sexually active [38]. The breakdown of the most common sex-related questions from high school students were, in order of frequency: male-female relationships, pregnancy, and abortion [39]. However, many school nurses are not confident in their ability to consult on matters of a sexual nature and are anxious about it. School nurses would benefit from more cooperation with highly specialized midwives, as well as the development of specialized workshops and more beneficial teaching materials to improve their sex education teaching skills.

5. Conclusions

In this study we examined the state of sex education implemented by school nurses for high school students and were able to identify the difficulties they face, as well as related issues to consider going forward.

- 1) Sex education is taught by multiple faculty members and implemented into multiple subjects such as health & physical education and home economics. There are differences in the content taught by school nurses and other faculty. As specialists in health and hygienics, school nurses demonstrate a high awareness of sex education and are proactive toward acquiring the necessary

expertise.

2) Individual students develop and mature at different rates. They are also likely to encounter an abundance of sex-related information and are highly influenced by their environment and societal trends. Because of this, school nurses must adjust their teaching methods according to students' situations and current trends. It is essential to secure sufficient time for students to think for themselves.

3) Although sex education in Japan ends in high school, and there are fewer opportunities for young adults to acquire this knowledge, it is necessary to consider sex education content that will help students plan for their futures. This includes reproductive medicine and sexual diversity, which develop with the changing times, as well as fertility.

4) School nurses play a central role in sex education. However, they have difficulties caused by various issues such as having no placement in the curriculum, gaps in awareness between faculty, lack of time, and being unable to collaborate with other faculty. It is essential to consider school-wide policies for the placement of sex education in the school health plan and to systematize it as a continuous school subject in order to provide effective sex education.

5) Although school nurses often conduct individual counseling on sexuality, since many feel underconfident and anxious about handling the topic, it is crucial to develop easy-to-use teaching materials and offer workshops for them to improve their teaching skills.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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