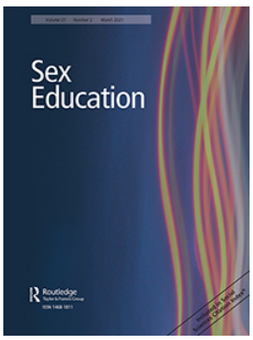

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Investigating the 'C' in CSE: implementation and effectiveness of comprehensive sexuality education in the WHO European region

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ABSTRACT

The purposes of this paper are: to assess how comprehensive sexuality education (CSE) is implemented in schools in the World Health Organisation's European Region; and to investigate the evidence supporting its effectiveness. Data were collected in 2016–2017, using a validated questionnaire sent to representatives of governmental and nongovernmental institutions in 25 countries of the WHO European Region. Theresults demonstrated that, in nine countries, sexuality education can be classified as comprehensive; in ten countries it is non-comprehensive; in four countries there is no programme in place; and two countries were excluded from theanalysis. In contrast to non-comprehensive sexuality educationprogrammes, CSE programmes address a wider range of topics, including the social, emotional and interpersonal aspects of sexuality. Furthermore, teachers are more often trained to deliver sexuality education and participatory teachingmethods are widely used. CSE programmes are more valued by pupils as a source of information on sexuality, based on national survey results. The availability of CSE programmes coincides with more effective contraceptive use andlower teenage fertility rates. However, more rigorous research is needed to establish a causal relationship between CSE and adolescent sexual and reproductive health indicators.

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Comprehensive sexuality education; schools; europe; central Asia; sexual and reproductive health; young people

Introduction

The term comprehensive sexuality education (CSE) has been widely used in the literature over the past decade. In the USA, it has mainly been used to distinguish sexuality education from 'abstinence-only education', a term which became popular in that country in the 1990s. CSE was then sometimes referred to as 'abstinence+' education, where the '+' referred to education about contraception (Advocates for Youth 2001; Collins, Alagiri, and Summers 2002).

In Europe, the concept of CSE followed a different approach and hence also has a different meaning. It was introduced by the International Planned Parenthood Federation (IPPF) in 2006 (IPPF (International Planned Parenthood Federation) 2006),

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but the term only became widely used after it had also been adopted by the United Nations Population Fund (UNFPA (United Nations Population Fund) (2014), 2015) and the United Nations Educational, Scientific and Cultural Organisation UNESCO (United Nations Educational, Scientific and Cultural Organization) (2015), 2018), the two United Nations agencies currently most active in the field of sexuality education. However, until 2018, the precise meaning of the word 'comprehensive' was not clear, because it tended to be used differently by different authors and agencies (Hague, Miedema, and Le Mat 2017).

The concept encompasses the contents and approaches of sexuality education programmes that should meet various quality criteria, the most important criterion being that the information provided should be scientifically accurate, complete and adapted to the level of understanding of pupils of different ages and developmental stages. A widely accepted definition of CSE was developed for the second edition of the *International Technical Guidance on Sexuality Education*, which was published in 2018 by UNESCO and five other United Nations organisations. The definition reads as follows:

> Comprehensive sexuality education (CSE) is a curriculum-based process of teaching and learning about the cognitive, emotional, physical and social aspects of sexuality. It aims to equip children and young people with knowledge, skills, attitudes and values that will empower them to: realise their health, well-being and dignity; develop respectful social and sexual relationships; consider how their choices affect their own well-being and that of others; and, understand and ensure the protection of their rights throughout their lives (UNESCO (United Nations Educational, Scientific and Cultural Organization) 2018, 16).

The current paper is based on an assessment study of school-based sexuality education (Ketting and Ivanova 2018; Ketting et al. 2018) conducted by the German Federal Centre for Health Education (BZgA), a WHO Collaborating Centre for Sexual and Reproductive Health, and the European Network of the International Planned Parenthood Federation (IPPF EN). The study was implemented in 2016–2018. The purpose of this paper is twofold: (1) to assess what CSE in schools means in practice throughout the WHO European Region, and (2) to reflect on the extent to which CSE as practised aligns with some core indicators of adolescent sexual and reproductive health behaviours and outcomes.

Our research was conducted when the new (2018) UN definition was not yet available. In this study, therefore, we used the definition suggested by the European Expert Group on Sexuality Education in 2010, which was at that time called 'holistic sexuality education':

> Sexuality education means learning about the cognitive, emotional, social, interactive and physical aspects of sexuality. Sexuality education starts early in childhood and progresses through adolescence and adulthood. It aims at supporting and protecting sexual development. It gradually equips and empowers children and young people with information, skills and positive values to understand and enjoy their sexuality, have safe and fulfilling relationships and take responsibility for their own and other people's sexual health and well-being (WHO Regional Office for Europe and BZgA 2010, 20).[1]

The European Expert Group was convened in 2008 by BZgA and the WHO Regional Office for Europe[2] and has worked actively to promote the implementation of CSE since that time. Members of the group include representatives of research institutions, governmental and nongovernmental organisations (NGOs) and international organisations such as International Planned Parenthood Federation European Network (IPPF EN), UNESCO and UNFPA. For its first activity, the Expert Group developed the *Standards for Sexuality*

Education in Europe (WHO Regional Office for Europe and BZgA 2010). This publication, which is available in 13 European languages, has been widely used across Europe for the development and/or adaptation of national sexuality education programmes (Ketting and Ivanova 2018).

The 2018 report, *Sexuality Education in Europe and Central Asia* (Ketting and Ivanova 2018) which forms the basis for this study, fills a gap that had appeared because previous studies had become outdated; in most participating countries, significant progress had been made in sexuality education since the year 2000 in terms of introducing or improving school-based sexuality education. In addition, the issue of comprehensiveness of sexuality education programmes and their impact, which is addressed in this paper, had not been analysed in detail in earlier studies. This information will be useful for refining attempts to develop such programmes further.

Materials and methods

The study was conducted in 25 of the 53 Member States of the WHO European Region, including five Central Asian countries.[3] The 25 selected countries mirror the entire Region in terms of geographical spread (north-south and east-west) and level of socioeconomic development. They are also fairly representative of the region in terms of the dominant religion in each country.

Study design

We utilised a cross-sectional design. Data were collected by means of a specially developed questionnaire, which was sent by email to representatives of responsible government agencies and NGOs active in this field. The NGOs were, in all cases except one, the national member associations of IPPF EN; government respondents were identified via contacts provided by IPPF EN and local member associations, BZgA, UNFPA and other experts in the field. The questionnaire itself was based on two earlier assessments of the status of sexuality education in Europe performed by BZgA and IPPF EN in 2006 and was piloted in two countries – Bosnia and Herzegovina and the Netherlands. Data collection took place between October 2016 and June 2017 in English and in Russian. Data collection closed on 1 July 2017. Descriptive statistics and narrative review were used to analyse and present the data. Where applicable (e.g. availability of survey sample size) a comparison of proportions and rates was performed. More details on the research methods used are provided in the study report (Ketting and Ivanova 2018).

Study instruments

Questionnaire

The questionnaire consisted of 33 open-ended and closed questions with several subquestions, covering five themes: (1) national laws, policies and standards for sexuality education; (2) implementation of sexuality education; (3) opposition and barriers to sexuality education; (4) youth-friendly sexual and reproductive health services; and (5) core data on young people's sexual and reproductive health available in the country. The questionnaire included a glossary defining and explaining different terms, such as CSE.

The questionnaire was partly based on data collection tools from two earlier studies on sexuality education published in 2006 (IPPF EN (International Planned Parenthood Federation European Network) 2006; BZgA 2006). A pilot test of the questionnaire was undertaken in two of the participating countries, and the questionnaire was adapted where necessary.

Respondents

Two respondents were selected per country: (1) a representative of the national (non-governmental) family planning or sexual health organisation, being a member of IPPF EN (with one exception); and (2) a representative of a government agency that had a responsibility for sexuality education (Ministry of Education or Health).

Data elements

Comprehensive Sexuality Education (CSE). The 2010 definition of CSE mentioned above was treated as a binary variable, in the sense that a programme can be either comprehensive or not comprehensive. A definition of CSE was presented first, followed by questions about the respondents' perception of the (dominant) type of sexuality education in their country, in terms of being in line with the presented definition of CSE. Three questions were used to assess whether the dominant type of sexuality education was comprehensive or not:

> Question 1c: *Is the law or policy (mentioned in the previous question as the legal basis for SE) generally supportive or restrictive of comprehensive sexuality education? (see Glossary).*
>
> Question 4a: *How would you characterise the overall approach?* Pre-coded answers were: *(Very) comprehensive; Abstinence + prevention of pregnancy and STIs/HIV; Abstinence only; Other (to be filled in).*
>
> Question 13b: *Do these teaching guidelines reflect a comprehensive approach (see Glossary) to teaching sexuality education?* (Respondents had previously been asked whether teaching guidelines did exist).

If the answers to all three questions above were affirmative ('Yes' for questions 1 c and 13b and '(very) comprehensive' for question 4a), sexuality education in that country was characterised as comprehensive. If one or more answers were 'No' or did not characterise sexuality education as '(very) comprehensive', it was defined as non-comprehensive. Responses to the three questions from both government and NGO representatives were identical in all but one case, which was resolved via email and Skype communication with the two respondents.

Content of sexuality education programmes. The content of sexuality education programmes was assessed using a question listing 15 pre-defined sexuality education topics plus two open topics. The topics were chosen from a wide variety of known programmes in different countries. Respondents could indicate whether listed topics were discussed extensively, only briefly, not dealt with at all, or were unknown to the respondent. 'Extensively' was given score 2, and 'briefly' score 1; the remaining response categories scored 0. If a completed questionnaire from a government representative was unavailable, we assumed responses would have been the same as those provided by the NGO representative.

In order to find out at aggregate level which of the listed topics were most and least taught in classrooms, we used the following calculation. The score for each topic for all 19 responding countries combined was obtained as follows. There were two potential respondents per country and 19 (responding) countries, resulting in a maximum score of $2 \times 19 = 38$. If a topic was *extensively* dealt with, an additional score of '2' was given; if it was 'only briefly' dealt with, the score was '1'. The four countries that did not report having sexuality education (Bulgaria, Georgia, the Russian Federation and Serbia) did not answer this question. Two other countries (Albania and Bosnia and Herzegovina) were eliminated from this analysis for other reasons (see details below). The number of countries in this part of the analysis, therefore, was 25 minus 4, and minus 2, making a total of 19. The theoretical maximum score at aggregate level is 2x2x19 = 76. These scores were used to compare the content of CSE programmes with that of non-CSE programmes.

Teacher training and use of participatory teaching methods. To assess this, we utilised responses to the following two questions:

> Question 12: *Are teachers usually specially trained to provide sexuality education?*
>
> Question 13 c: *Do [these] teaching guidelines reflect a participatory teaching approach to teaching sexuality education?*

We provide summaries of the answers in the results section.

School as a source of information on sexual and reproductive health issues, according to young people. Respondents were asked if there were data available from national representative surveys among young people that could indicate whether the school had been a source of information on *sexual and reproductive health* issues. Where such surveys existed, respondents were asked to provide the percentage of young people considering school as a source of information on sexuality, and the related references of the publications.

Sexual behaviour, contraceptive use and teenage fertility rates. Additional data on sexual and reproductive health indicators for young people were collected, using available national or multi-country data sources. These included the periodic WHO Health Behaviour of School-aged Children (HBSC) survey, national survey data provided by respondents, and demographic data on adolescent fertility rates from the World Bank (2016). The latest HBSC report (WHO Regional Office for Europe 2016) is based on data collected in 2013/14. HBSC includes three questions for 15-year-old boys and girls that are related to sexual behaviour: (1) Ever had sexual intercourse?; (2) Use of oral contraception (birth control pill) at last sexual intercourse?; (3) Use of condom at last sexual intercourse? The majority of European countries participate in this periodic survey.

Results

Unless indicated otherwise, all the information presented here originates from the answers to the questionnaire distributed as part of this research.

Questionnaire response

A total of 25 non-governmental and 16 government organisations responded to the questionnaire. In three cases – Germany, Ireland and Switzerland – questionnaires were filled in together by government and NGO representatives. Opinions on the subject may, of course, differ between the two types of respondent, but discrepancies in factual answers had to be resolved. This happened in only one case, and the discrepancy was resolved through email and Skype contact. Government entities that did not reply to the request were based in countries that were classified as having 'non-CSE' programmes.[4]

Exclusion of two countries from the current study

By using the answers to the three questions related to comprehensiveness (see Methods), 11 out of 25 countries were defined as having a comprehensive approach to sexuality education. However, two of the 11 countries were excluded from the current analysis. The first one is Bosnia and Herzegovina, because a comprehensive programme has only been implemented in the capital, Sarajevo, and not (yet) in the rest of the country. Additionally, this programme is not mandatory and very few pupils (fewer than 10%) choose to attend it. The second country excluded is Albania which, at the end of 2016, was in the process of rolling out a national sexuality education programme. Although this is a comprehensive programme, implementation was still at an early stage at that point. The training of teachers, for example, had only recently begun, and a curriculum and related handbook had not yet been finalised. For this reason, it could not be expected that the programme would already have had a measurable influence on adolescent sexual and reproductive health indicators. The total number of countries in the current analysis is therefore 23.

Comprehensiveness of sexuality education in the study countries

Table 1 presents an overview of the comprehensiveness of sexuality education programmes in the 23 study countries. Besides the nine countries with clearly comprehensive programmes, ten reported that programmes were less than comprehensive, and four reported not having any sexuality education programme in schools.

The countries with comprehensive programmes are mostly those in the north-western part of Europe, where sexuality education tends to have a rather long history, e.g. Sweden, where sexuality education became mandatory in 1955. Other Scandinavian

Table 1. Overview of countries by comprehensiveness of sexuality education.

Comprehensive sexuality education	Non-comprehensive sexuality education	No sexuality education
Austria	Cyprus	Bulgaria
Belgium (Flemish part only)	England	Georgia
Czech Republic	Ireland	Russian Federation
Estonia	Kazakhstan	Serbia
Finland	Kyrgyzstan	
Germany	Latvia	
Netherlands	North Macedonia	
Sweden	Spain	
Switzerland	Tajikistan	
	Ukraine	

countries started one to two decades after Sweden. Estonia initiated the development of a curriculum shortly soon after it gained independence in 1991. This development has been extensively described and evaluated elsewhere (Ketting, Haldre, and Part 2012; Haldre, Part, and Ketting 2012). In the Netherlands, sexuality education has almost always had a comprehensive character despite the fact that there is no national sexuality education curriculum. Schools have a choice of curricula developed by different organisations. In the northern, Flemish-speaking part of Belgium, sexuality education is well developed, in contrast to the southern, French-speaking part (not included in this study) where development has been much slower. Switzerland also has comprehensive sexuality education curricula in place in all the three main language areas. Austria, the Czech Republic, Finland and Germany complete the group of countries with comprehensive curricula. Programmes in Austria and Germany are clearly comprehensive, but in the Czech Republic this is less clear because the indicators are quite vague, and schools and teachers have considerable autonomy in deciding what they want to teach. Therefore, it is uncertain whether comprehensive approaches are used in all schools in the country.

In ten countries in our sample, sexuality education teaching is non-comprehensive. In Cyprus, sexuality education officially started in 2011, and became a part of health education. Implementation has been slow, and the subject is mandatory only in state schools. In Ireland, there seems to be a discrepancy between legal regulations on the one hand that call for comprehensive approaches, and the practice of sexuality education on the other, which often tends to be 'abstinence-only' education. This is rare in Europe, and Ireland is an exception in this respect. England also does not meet the standards of comprehensiveness. The reason is that sexuality education is not yet mandatory in fee paying schools and independent academies (it is supposed to become mandatory in late 2020), but also because the curricula tend to be limited in terms of the issues addressed, focusing almost exclusively on disease prevention, with a positive approach to sexuality rather lacking. In the Central Asian republics – Kazakhstan, Kyrgyzstan and Tajikistan – several pioneering initiatives have been undertaken, often with the support of UNFPA, but it is still too early for the introduction of nationwide CSE programmes. In Latvia, the situation is mixed, because the law does not clearly support a comprehensive approach and there is substantial within country variation in sexuality education in practice, partly because of the large Russian-speaking minority, which is less committed to sexuality education than the Latvian population. In North Macedonia, sexuality education is not implemented countrywide, mainly because of outright political opposition from the previous centre-right government, which had been in power for 10 years (2006–2016). Under the new social-democratic government (in power since 2016), there may be space for new developments. In Spain, no supportive national law on sexuality education has yet been adopted. The national government leaves the subject to be managed by regional and local authorities, which leads to considerable diversity across the country. Also, in Spain, teachers rarely give sexuality education lessons themselves; instead, specialists from outside (e.g. from NGOs) are invited. If the teaching of sexuality education is done by an official from a Spanish IPPF member association, the approach is usually comprehensive. However, a specialist from a more conservative organisation may also deliver the lessons. Finally, in Ukraine, there is a legal basis, in the form of a Resolution of the Cabinet of Ministers of Ukraine, for sexuality education in schools. Sexuality education topics are,

or can be, integrated into several mandatory teaching subjects in primary and secondary schools, such as health education. But there is wide variation across the country in terms of the attention paid to sexuality-related issues. A clear national sexuality education curriculum is lacking.

There are four countries in our sample where sexuality education is hardly present: Bulgaria, Georgia, the Russian Federation and Serbia. One or two issues may be addressed in biology lessons in these countries, particularly with respect to the prevention of HIV infection. In Bulgaria, a completely new and comprehensive sexuality education programme has been developed and accepted by the parliament but had not yet reached implementation when our data collection was finished. In Georgia, a sexuality education curriculum has been developed with assistance from UNFPA but, because of strong opposition from the Georgian Orthodox Church, implementation has been postponed for the time being. In the Russian Federation, there has not been a sizeable sexuality education initiative in the recent past. Finally, in Serbia, there has been a successful pilot of a sexuality education programme in the province of Vojvodina, but this has not been followed up since 2014. No other sexuality education programme has been implemented since then in the country.

Topics addressed in sexuality education

Data on the topics addressed in sexuality education were obtained from 19 of the 23 countries in the survey; four others did not respond, mainly because respondents felt they were not sufficiently informed. Table 2 presents an overview of the results, by order of prominence of each topic, for all countries combined.

The biological aspects of sexuality and body awareness are the most frequently addressed topics. They are usually included in biology lessons and textbooks, and therefore teaching often does not require a special sexuality education curriculum. They can therefore also be covered in countries that do not have such a curriculum. HIV and AIDS is the second most prominent teaching topic, followed by STIs. These two subjects were also mentioned by respondents in countries where sexuality education in schools is weakly developed. What these three topics have in common is that they can be taught

Table 2. Topics addressed in sexuality education by rank order*.

No.	Main topics dealt with	Total score
1	Biological aspects and body awareness	66
2	HIV/AIDS	63
3	Sexually transmitted infections (STIs)	58
4	Love, marriage and partnership	55
5	Pregnancy and birth	50
6	Contraception	50
7	Gender roles	46
8	Mutual consent to sexual activity	40
9	Sexual orientation	35
10	Sexual abuse and violence	32
11	Access to safe abortion	31
12	Online media and sexuality	30
13	Domestic violence	29
14	Human rights and sexuality	25
15	Sexual pleasure	18

* The maximum score is 76 (see Methods).

in a way that is very much reduced to the biological and technical aspects (for instance description of body parts, symptoms of STIs, and protective measures against HIV infection).

Further down the table, starting with love, marriage and partnership, the topics focus less on biological aspects related to sexuality and more on the emotional, social and interpersonal aspects which are heavily related to social and cultural norms. These are the topics that generally receive less attention, and that tend to be almost absent in non-comprehensive programmes. The strong emphasis given by international organisations on sexuality education as a human right is not reflected in the teaching topics in most of the surveyed countries. Finally, the sex-positive issue of sexual pleasure is by far the least common topic taught. Based on questionnaire responses, the widest range of topics was addressed in programmes that could be classified as 'comprehensive'. For example, in Sweden, ten topics were extensively addressed.

Teacher training and use of participatory teaching methods

Training for teachers in the delivery of sexuality education is still rare. In the countries with comprehensive programmes, it is only in Estonia, Finland and Sweden that most or all teachers have been trained. The reason is that in these countries (excluding Estonia) sexuality education teaching has for quite a long time been integrated into the training programmes of new teachers. In Estonia, sexuality education training has, for the last couple of years, also been part of the training of new teachers in the two universities of the country. In Switzerland, the training of teachers depends partly on the language region in the country; overall, it is estimated that about half of all sexuality education teachers in Switzerland have been specially trained. In the other countries with CSE programmes, the training of teachers varies between occasional and very rare. In-service training programmes for teachers are usually short, lasting for two to three days, or for four days in some cases. In countries where sexuality education programmes are not comprehensive, even fewer teachers have been trained. Only in Ukraine large numbers of teachers have been trained. Here, sexuality education is integrated into the 'basics of health' curriculum. Since 2007, several pedagogical universities in major cities have introduced special training in the 'basics of health'. However, the sexuality part of the 'basics of health' curriculum is limited, and the teacher training has a strong focus on HIV prevention.

In all nine countries with CSE programmes, it was reported that participatory teaching methods were used, suggesting that pupils are actively involved in the learning process. Only one respondent from one of the nine countries (Czech Republic) remarked that this might not be the case everywhere in the country. The overall pattern of replies suggests that, where sexuality education is clearly comprehensive, the standard in teaching sexuality education is the use of participatory or interactive teaching methods. Where sexuality education is not comprehensive, such methods may be used occasionally. Where the term 'sexuality education' does not apply, interactive teaching is non-existent, or at least very rare.

School as a source of information on sexual and reproductive health issues

In 14 of the 23 countries (60.8%), data on the role of the school as a source of information on sexual and reproductive health issues were available from a representative survey among young people. The results are shown in Table 3. As data collection was not standardised across the 14 countries, the wording of the survey questions, as well as the youth samples, differ. This could influence the answers given by the pupils.

Table 3. Percentage of young people mentioning the school as a source of information on sexual and reproductive health issues.

Comprehensive sexuality education	Non-comprehensive sexuality education	No sexuality education
Austria 84%	England 40%	Bulgaria 25%
Belgium (Flemish) 86%	Kazakhstan 50%	Georgia 10%
Estonia 76%	Kyrgyzstan 18%	
Germany 83%	North Macedonia 2%	
Netherlands 93%	Spain 22%	
Sweden 50%	Ukraine 33%	
Average: 78.6%	**Average: 27.5%**	**Average: 17.5%**

Sources: Various national youth surveys provided by respondents. *Unweighted averages.

The results suggest that comprehensive sexuality education programmes are an important source of information for young people, whereas non-comprehensive programmes are less frequently perceived as a source, although there are a few exceptions, e.g. Kazakhstan, where 50% of young people mention the school as a source of information on sexual and reproductive health. In countries with comprehensive sexuality education programmes, almost four in five respondents (79%) answer that the school had been a source of information on sexual and reproductive health. With only half of the young people saying this in Sweden, this country is the exception in this category. The reason for this is unknown. In the 'non-comprehensive' category, the average percentage of affirmative answers is slightly more than one quarter (27.5%), but there is a large variation between countries. Finally, in the two countries that have not implemented sexuality education programmes, the average percentage of young people that mentioned the school as a source of information is low (17.5%). The relatively high percentage in Bulgaria (25%) could be due to the fact that some sexuality education may have taken place in schools, although the new national law endorsing sexuality education has not yet been implemented. In Georgia, there is hardly any school sexuality education.

In summary, the survey data suggest that sexuality education in schools is an important source of information on sexuality for young people, if the programme is comprehensive (see Table 3). If the programme is not comprehensive, far fewer young people tend to mention the school as a source of information.

Correlations with sexual behaviour, contraceptive use and teenage fertility rates

A total of 17 countries in our study participate in HBSC.[5] The 2016 HBSC report (WHO Regional Office for Europe 2016) shows that in the nine countries of our sample with comprehensive sexuality education programmes, the percentage of sexually active 15-year-old boys and girls (or their partners) who had used oral contraception is 43.2% (Table 4). In countries without comprehensive programmes,[6] the figure was only 18%. These

percentages might suggest that high levels of oral contraceptive use among 15-year-old sexually active adolescents tend to coincide with the provision of comprehensive SE in schools (difference 25%; $p < 0.05$; 95% CI [24%; 26%]). Condom use in this age group also tentatively correlates with the type of sexuality education; it is 68.2% in the comprehensive group versus 65.4% in the non-comprehensive group (difference 3%; $p < 0.05$; 95% CI [1.9%; 4.1%]).

Table 4 also provisionally suggests that countries with CSE programmes tend to have lower teenage fertility rates than countries without CSE programmes. The results might suggest that, for all European countries with comprehensive programmes combined, the average adolescent fertility rate (births per 1.000 women aged 15–19 years) is 6.9; if programmes are not comprehensive or are absent, it is 18.1 (incidence rate difference 0.011; 95% CI (0.0012; 0.0208); $p = 0.03$).

Table 4. SRH indicators by comprehensiveness of sexuality education in 17 countries of the WHO European Region.

Comprehensiveness of sexuality education (17 European countries)[1]	% Oral contraceptive use[2]	% Condom use[2]	% Ever had sexual intercourse[2]	Adolescent fertility rate[3]
Comprehensive SE (9 countries)	43.2	68.2	20.3	6.9
Non-comprehensive SE (8 countries)[4]	18*	65.4	20	18.1

(1) *Source*: This study.
(2) *Source*: HBSC 2016.
(3) *Source*: World Bank 2019: births per 1,000 women aged 15–19 years.
(4) 'Non-comprehensive' and 'no sexual education' combined.
*The Russian Federation did not have these data available. Unweighted averages for all countries.

Finally, an important argument which is often used by opponents of school sexuality education is that it could motivate young people to start sexual activity earlier. We have looked at the percentages of young people who had already started having sexual relations at age 15 according to the 2016 HBSC report, and compared it with the type of school-based sexuality education in the country (Table 4). In countries where young people were exposed to CSE, on average 20.3% were sexually active at age 15 and, in countries without comprehensive programmes, the figure was 20%. These numbers might suggest that exposure to CSE does not influence the average age at first intercourse.

Discussion

In this paper, provisional answers can be given to two core questions in the area of sexuality education. First, we have described what CSE in schools means in practice in the WHO European Region. Second, we have explored to what extent CSE might correlate with some core indicators of adolescent sexual and reproductive health. Both questions are highly relevant, because sexuality education has increasingly been integrated into school curricula in Europe during the past two decades (Ketting and Ivanova 2018). In this process, CSE has become the main model adopted, a view shared by the international expert organisations that are active in this area, particularly UNESCO (2009, 2015, 2018),

UNFPA (2014, 2015) and the WHO Regional Office for Europe and BZgA (2010). Our study collected data from a wide variety of countries and looked at various characteristics of sexuality education and adolescent sexual and reproductive health.

Of the 23 countries analysed in this paper, nine were classified as having comprehensive sexuality education programmes in schools; ten had programmes that did not sufficiently meet the criteria of being comprehensive; and four did not (as yet) have sexuality education programmes in schools. Programmes focused on teaching abstinence only seem to be rare in the region, since only in Ireland reference was made to this type of sexuality education; conversely, this approach to sexuality education has been widespread in the USA (Santelli et al. 2006).

CSE programmes were identified in most countries of north-western Europe; only two additional CSE programmes were found in countries that had been part of, or under the influence of, the former Soviet Union – the Czech Republic and Estonia. In southern and south-eastern Europe and in Central Asia, CSE programmes are yet to be seen. This geographical pattern was to be expected, as it takes many years to develop CSE programmes, including the preparation of teaching materials and lesson plans, the training of teachers and roll-out throughout the country.

We measured comprehensiveness by asking respondents to reflect on their programmes in three different ways against the (presented) definition of CSE. Our analyses reveal that programmes that have been defined as comprehensive tend to share some important additional characteristics. First, the topics that are discussed tend to be more numerous and broader in scope and content than in other types of programme. Non-comprehensive programmes tend to limit themselves to teaching about the biological aspects of sex and disease prevention, in contrast to the behavioural aspects,, whereas broader (CSE) programmes also tend to include the social, emotional, interpersonal and, in a few cases, even the positive aspects of sexuality. Second, teachers of CSE programmes tend to be more often trained for the job than is otherwise the case. Third, the use of interactive and participatory teaching methods is much more usual in comprehensive than in non-comprehensive programmes. Our data support the view that these characteristics are essential to good quality CSE teaching. The second edition of the *International Technical Guidance on Sexuality Education* (UNESCO 2018) includes a new definition of CSE, but also an overview of ten core characteristics of CSE. We recommend that future research on CSE programmes uses those ten core characteristics to assess how comprehensive a programme is. This will ensure uniformity and more robust assessment and follow the international consensus.

CSE programmes are most often mentioned by young people as an important source of information about sexuality, according to national surveys (e.g. the Netherlands – by 93% of young people); whereas this is only the case for a relatively small minority of pupils if programmes are not comprehensive. These findings might suggest that pupils perceive only CSE programmes as engaging and informative.

CSE also coincides with a relatively high status of young people's sexual and reproductive health. Where CSE programmes are in place, the use of modern, reliable methods of contraception (e.g. oral contraception) is more prevalent than elsewhere (43.2% vs. 18%). Similarly, CSE teaching in a country coincides with a low teenage fertility rate (6.9 vs 18.1 births per 1.000 women aged 15–19 years). At the same time, the data from countries suggest that the availability of CSE does not encourage young people to start sexual activity

at a young age, since the percentage of young people having their first intercourse before or at age 15 is similar (20.3% vs. 20%) in countries with and without CSE, respectively.

Finally, our research shows that it is useful to differentiate between various types of and approaches in sexuality education. The question 'Did you ever get sexuality education in school?' is too simple to be used any longer in research on this issue. Instead the question should also address the type of sexuality education that is provided and/or experienced, because only this will provide us with relevant insight.

Limitations

Our article has a number of limitations based upon the nature of the enquiry. First, it contains several simplifications which enabled us to collect and interpret our data in a way that allowed for cross-country comparison. While this enabled us to draw conclusions on the overall status of sexuality education in the entire WHO European Region (which was our aim), the necessary simplifications also led to results that are somewhat preliminary and in need of additional empirical research

By asking representatives of both government and nongovernmental organisations to provide answers to our survey questions, we aimed to elicit a fairly realistic picture of the implementation of sexuality education in the various countries. However, we acknowledge that the information received might, in some cases, differ from the actual situation in individual schools in some of the surveyed countries. We did not verify the information we received by asking school principals or teachers for confirmation, as this would not have been within the scope of our research.

Another simplification is related to treating CSE as a binary variable in our calculations of its effectiveness (where sexuality education is classified as either comprehensive or not comprehensive). While we acknowledge that there might be a spectrum ranging from not comprehensive to fully comprehensive, we chose this approach to enable us to make comparative calculations with ease.

Finally, our research is descriptive and exploratory in nature and therefore has limitations of its own. Data presented and discussed in this study originate mostly from a cross-sectional survey (Ketting and Ivanova 2018). Our own and additional data collected via different surveys (e.g. the HBSC survey), do not allow the drawing of causal conclusions with respect to the impact of CSE programmes on sexual and reproductive health indicators. Moreover, it is impossible to control for other in- and across-country cofounders such as the availability of youth-friendly sexual and reproductive health services and policies, parent-child communication, quality and regional coverage of CSE etc., as these data are very heterogeneous, or not available at all. Thus, the results provided in Table 4 should be interpreted with caution.

Conclusion

The findings of this study stress the importance of differentiating between the types of sexuality education programme implemented in schools. Both comprehensive and non-comprehensive sexuality education programmes vary in teaching methods, topics addressed, and so on. To demonstrate the relationship between comprehensiveness of sexuality education programmes and sexual and reproductive health behaviours and

outcomes of young people (e.g. contraceptive use and adolescent fertility), a rigorous mixed-methods prospective study design is recommended, which may shed light on the effectiveness of CSE programmes in impacting upon and improving these indicators.

Notes

1. This definition is slightly longer in the cited publication, but the above version was included in the survey questionnaire for this research project. The word 'comprehensive' in the definition in the questionnaire replaced the word 'holistic', because the term 'comprehensive' had become more common after 2015.
2. BZgA is a WHO Collaborating Centre.
3. Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Czech Republic, Estonia, Finland, Republic of North Macedonia (at the time of data collection FYR Macedonia), Georgia, Germany, Ireland, Kazakhstan, Kyrgyzstan, Latvia, Netherlands, The Russian Federation, Serbia, Spain, Sweden, Switzerland, Tajikistan, Ukraine, the United Kingdom.
4. There was an impression that in the non-responding countries there was hardly any government involvement in the topic.
5. Countries not taking part in the HBSC are: Cyprus, Georgia, Kazakhstan, Kyrgyzstan, Serbia and Tajikistan.
6. Because data were only (and partly) available in two countries in the 'No sexuality education category, these countries have been placed in the 'non-comprehensive' category.

Disclosure statement

No potential conflict of interest was reported by the authors.

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