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Sexual and reproductive knowledge, attitudes and behaviours in a school going population of Sri Lankan adolescents.

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Abstract

The reproductive and sexual health of adolescents is an important health concern and a focus of global attention. In Sri Lanka, a lack of understanding about adolescent reproductive and sexual health needs is a matter of national concern.

A survey was undertaken to examine the sexual knowledge, attitudes and behaviours of school going adolescents in Sri Lanka. A random sample of schools was selected from one district. Data were collected by a self-completion questionnaire and analysed using SPSS. Response rate was 90%.

2020 pupils (26% boys, 74% girls) aged 16-19 years (mean = 16.9) participated, the majority Singhalese (97%).

Most reported a good parent-child relationship (88%). A minority (34%) discussed sexual issues with parents. Health professionals were the preferred source of sexual information (32%) rather than parents (12.5%) or friends (5.6%). Less than 1% demonstrated satisfactory sexual and reproductive knowledge levels. 1.7% were sexually active (30 boys vs 5 girls), the majority with same age partners. 57% used contraception at first intercourse.

There is an imperative to address the lack of sexual and reproductive knowledge. A minority of school going adolescents become sexually active. These individuals are potentially vulnerable and services need to be developed to meet their needs.

Keywords: Adolescence, sexual health, sexual knowledge, sexual behaviour, Sri Lanka

Introduction

The reproductive and sexual health of adolescents has been recognised as an important health concern and has been the focus of considerable global attention for many years. In the twenty years since adolescent reproductive health was identified as an area for specific action at the International Conference on Population and Development in 1994, substantial efforts have been directed towards understanding and addressing the specific needs of this population. Notwithstanding this, in many parts of the world, the reproductive health needs of adolescents are often poorly understood or neglected [1] especially in South Asian countries such as Sri Lanka [2,3] where the current paucity of information has been identified as an area of concern at national policy level [4].

The adolescents of Sri Lanka are required to negotiate their sexual development and transition to adulthood within the context of complex and often competing traditional social and cultural values and attitudes and those espoused by an increasingly globalised society. There is little public awareness about adolescent reproductive health in the country. Cultural taboos that preclude discussion of sexual matters within and between generations are common in South Asia [5,6,7]. In India, a desire to adhere to traditional values uncorrupted by knowledge of sexual matters creates reluctance for any explicit communication about matters associated with sex. [8] In this environment, it is difficult for parents, teachers and community leaders to openly discuss key issues among themselves or with adolescents. Nair et al [9] found very low levels of communication about sexuality: in their study only 5% of teachers and 1% of parents reported that they had discussed sexual issues with adolescents. The indications are that channels of communication, such as mother-daughter discussions, teacher - student discussions or peer-to-peer programmes through which adolescents might receive information on safe sex, relationships, reproductive health and related issues are not widely available to South Asian adolescents [7].

School based sex education programmes play an essential role in equipping adolescents with the knowledge they require to make informed sexual and reproductive decisions and to protect their health. [10] A substantial body of evidence indicates the effectiveness of curriculum based interventions in improving sexual knowledge and reducing sexual risk among adolescents in developed and developing countries. [11, 12] The effectiveness of any school based programme is dependent on access to education. Sri Lanka, which has very high levels of schooling, is well placed to benefit from such an approach: the country has a 92% literacy level and nine years compulsory schooling. Upper secondary school enrolment rates are 55% for boys and girls aged 15-19 years, greater than that in other South Asian countries [13,14].

A school based adolescent sexual and reproductive health (ASRH) education programme has been provided in Sri Lanka for forty years. The first programme was introduced by the Department of Education in 1973 and development over subsequent years resulted in an expanded programme which was introduced in secondary schools in 1996. [15] However, the indications are that these initiatives have had limited effect to date. A national adolescent survey conducted almost 10 years ago with 15-19 year olds reported very low levels of knowledge about reproductive processes, contraception and sexual health in their groups of school going and out of school adolescents. [3] Knowledge levels in all three areas were higher in those out of school, though in both groups knowledge levels increased with age and socio-economic status. De Silva et al [15] similarly reported low knowledge levels in their population of 10-24 year olds with extremely low levels among the younger age groups.

Adolescent sexual behaviour has received limited attention in Sri Lanka although two national surveys provide some insights. In a study conducted by UNICEF, 6% of school-going 14-19 years olds reported having engaged in heterosexual intercourse whilst 20% reported knowing of friends who were sexually active. Boys were substantially more likely to report heterosexual activity than girls for themselves (14% vs 2%) and their friends (40% vs 11%). The mean age of first intercourse was 15.3 years for boys and 14.4 years for girls [3]. De Silva et al [15] confined themselves to indirect questions of sexual activity in their study because they considered it inappropriate to ask the adolescents in their study about their own sexual behaviour. In their sample of 15-17 year olds, 27% of males and 11% of females reported knowledge of unmarried peers with experience of sexual intercourse. The extent to

which any of these findings might accurately reflect actual sexual activity levels in this population is difficult to determine. The sensitivity of the topic may result in substantial under reporting of own sexual behaviour, however knowledge of others' behaviour is likely to be a poor proxy indicator in this context because it relies on the adolescents having an accurate knowledge of their peers' sexual behaviour

The indications are that contraceptive usage is low among those who do become sexually active. In the school going group in the UNICEF study [3], 24% of those who were sexually active had ever used condoms and 17% had used condoms at last sexual intercourse. Two hospital based studies involving pregnant adolescents similarly reported low contraceptive awareness and lack of contraceptive usage largely attributable to lack of knowledge and fear of side effects [16,17]. These difficulties are compounded by problems of access: in common with many other developing countries, unmarried adolescents in Sri Lanka face considerable difficulties accessing family planning or reproductive health services because they are only available to, or perceived to be only available to those who are married. [4,18]

The literature identifies substantial areas of concern and suggests that Sri Lankan adolescents are ill equipped to make informed decisions about sexual activity and protect themselves from the unwanted consequences. However, ten years have elapsed since the UNICEF study and further work is indicated to determine the extent to which progress has been made. Additionally, a more detailed understanding of those adolescents who do become sexually active and the surrounding circumstances is required in order to identify the needs of this population and inform development of reproductive health policy and practice. This paper presents the findings of a survey examining the sexual and reproductive knowledge, attitudes and behaviours of school going adolescents in Sri Lanka which was conducted as part of a larger study exploring adolescent sexuality.

Method

Recruitment of study participants

The study was undertaken in Badulla District in the central hill country. The district has around 860,000 residents and socioeconomic characteristics comparable with those in other parts of the country. [19] The study population comprised all those adolescents aged 16 - 19 years who were studying in classes from Grade 11 to 13 in government schools within the district in the study period 01/01/2010 to 30/06/2010. The proportion of boys and girls registered in grades 11 -13 at the time were roughly equal. The sample frame used for recruitment of respondents was the 'Register of schools' of the Department of Education. Schools are organised into five geographical zones in the district and sampling occurred across all five zones.

The study population comprised all those aged 16-19 years who were registered in state schools in the two year period July 2007 - June 2009. Based on a desire to estimate the proportion of sexually active adolescents (estimated to be 30%) with an accuracy of +/-5% and an anticipated non-response rate of 15% and using standard methods for sample size calculation [20], a target sample size was set at 404 for each school zone giving a total sample size of 2,020.

The sampling approach was as follows. One school was randomly selected from each school zone and visited for data collection. At an initial visit one of the research team explained the study in detail to all those eligible to participate including issues of

confidentiality and anonymity. The adolescents were then given an information letter and consent form for their parents to sign. The researcher returned one week later to collect data. Only those pupils returning signed consent forms participated in the study. Following completion of data collection at the first school, a subsequent school was randomly selected and visited, and the process was repeated until the sample size was achieved. Within each zone, schools were visited until a minimum of 400 students completed the questionnaire. The number of respondents recruited per school ranged from a minimum of 80 to a maximum of 110. The recruitment rate was 90%.

Data collection

Data were collected by means of a self completion questionnaire covering a range of topics including: socio-economic background, social circumstances, attitudes towards premarital sex, sexual and reproductive knowledge and sexual practice. The content of the questionnaire was informed by prior empirical and conceptual work and developed in collaboration with key stakeholders including adolescents, medical officers, parents, teachers, youth workers and sociologists to ensure that it was acceptable for use in an educational setting. Terms deemed too explicit were replaced by less explicit terms and some closed questions were replaced by open questions to address concerns about promotion of sexual activity. The questionnaire was developed in Sinhala and the final version was translated to English and Tamil using a rigorous back and forward translation approach. Subsequently a pilot study was conducted with a small group of volunteer students (male and female) outside the study area to test comprehensibility and acceptability. This involved some re-ordering of the questions and the process for administering the questionnaire.

The questionnaire was administered by medical officers in the school hall with separated seating to ensure privacy. Specific measures were taken to ensure that teachers were not involved and had no access to the completed questionnaires to improve accuracy of responses.

Data analysis

Data underwent consistency, logical and range checks prior to analysis in SPSS. Descriptive statistics were performed on all questions. Open questions and direct questions and answers were categorised as binary responses for analysis purposes. Analysis consisted of descriptive statistics and chi square tests for differences between boys and girls.

The study was approved by the ethics committee of the Sri Lankan Medical Association, a UK university faculty ethics committee and the Sri Lankan provincial education ministry.

Results

Demographic and socio-economic characteristics of the respondents

The total number of respondents was 2020 of which 521 (25.8%) were boys and 1499 (74.2%) were girls. They ranged in age from 16 to 19 years (mean =16.9 (SD = 0.735)). The median age of the girls was 17 years of age (49%) whilst the boys tended to be younger with a median age of 16 years (56%). The vast majority of the sample were Sinhalese (97%) with

the remainder comprising Tamil (n = 24, 1%) and Moor (n =29, 1%). Socioeconomic and demographic details are provided in table 1.

Table 1: Demographic characteristics of the school adolescents by gender

Characteristics	*Total N = 2020*		*Male N = 521*		*Female N = 1499*	
	N	*%*	*N*	*%*	*N*	*%*
Age in years						
16	748	37.0	289	55.5	459	30.6
17	891	44.1	159	30.5	732	48.8
18	355	17.6	65	12.5	290	19.3
19	26	1.3	8	1.5	18	1.2
Ethnicity						
Singalese	1967	97.4	512	98.3	1455	97.0
Tamil	24	1.2	4	0.8	20	1.4
Moor	29	1.4	5	1.0	24	1.6
Religion						
Buddhism	1946	96.3	507	97.3	1439	96.1
Hinduism	6	0.3	1	0.2	5	0.3
Islam	30	1.5	4	0.8	26	1.7
Catholicism/Christianity	38	1.9	9	1.7	29	1.9

Social support and sources of information

A range of questions were asked of the adolescents aimed at characterising their home environment and family relationships. The vast majority (91%, n = 1837) felt that they lived in a peaceful home environment. The main reasons given for a poor home environment by the remaining 9% were economic difficulties and father's alcohol consumption. A high proportion reported close parent-child relationships although these were more likely with a mother than a father. 88% of the girls and boys were very close to their mother as compared to 67% of the girls and 70% of the boys who were very close to their father. However a substantial minority of boys and girls (11% of the boys and 15% of the girls) reported that it was not easy at all to discuss matters of importance with their mother (11% and 15% respectively) or their father (15% and 13% respectively).

The next set of questions explored the parent-child relationship in more detail and other important sources of information and support. The respondents were asked to identify their most important source of general support through the question 'if you have a question, who do you find it most easy to discuss it with?' Girls were most likely to turn to their parents (57%) as compared to the boys (34%). One third of the boys (32%) and one fifth of the girls (21%) said they would turn to a friend.

The adolescents were then asked to specifically identify their most likely source of sexual advice and support and their preferred source of sexual information. The three groups of people they would be most likely to turn to discuss sexual issues with were: parent (34%), friend (26%) or sibling (14%). However there was substantial difference in the male and female responses. Whereas almost half of the girls (45%) identified a parent as their most likely source of support, very few (2.9%) of the boys did so. A friend (28%) or a sibling (23%) was the most common source of support for boys. Over one third of the boys and

almost one fifth of the girls stated that they had no-one with whom they could discuss sexual matters.

Responses to the question that asked 'from whom would you most like to learn regarding sexual issues' are provided in table 2. As it shows, there was general consensus between the boys and girls about their preferred source of sexual information with medical professionals identified as the preferred source by nearly two fifths of the respondents. Just 10% preferred to learn about this subject from teachers. It is worthy of note that whilst parents and peers were the most important source of support to adolescents, they were not the preferred source of sexual information with only 14% of the girls and 1% of boys wanting to learn about sexual issues from parents.

Table 2: Respondents' preferred sources of information on sexual issues

	Total N=2020		**Male N=521**		**Female N=1499**		χ^2	**p**
	No.	**%**	**No.**	**%**	**No**	**%**		
Health personnel	413	20.4	99	19.0	314	20.9		
Doctor	367	18.2	100	19.2	267	17.8		
Parents	253	12.5	43	8.3	210	14.0	*37.9*	**<0.0001**
Book/Journal	235	11.6	47	9.0	188	12.5		
Teacher	185	9.2	49	9.4	136	9.1		
Friend	114	5.6	41	7.9	73	4.9		
TV/Radio	28	1.4	16	3.1	12	0.8		
Sibling	4	0.2	1	0.2	3	0.2		
Any other	421	20.8	125	24.0	296	19.7		

Sexual and reproductive health knowledge

Reproductive health knowledge of the respondents was assessed through four questions. Two questions explored basic biological knowledge by asking whether they were aware that it was possible to become pregnant or to contract a sexually transmitted infection (STI) at first intercourse. It allowed 'yes' 'no' or 'don't know' responses. Less than one quarter of the respondents knew that it was possible to become pregnant or to acquire an STI at first intercourse. Two further open-ended questions which required them to name a method of preventing pregnancy or an STI sought to determine if they had sufficient basic knowledge to protect themselves from pregnancy or infection. Only 1 in 10 could correctly name a method of contraception. Among those that did, the most common responses were: tablets (boys 4% girls 9%), tablets and condoms (boys 2 %, girls 0.7 %), family planning methods (boys 0.76 %, girls 0.4 %). A minority of boys (3%) and girls (2%) named abortion as a method of preventing pregnancy. Only 6% of the total sample could identify a means of preventing transmission of a sexually transmitted infection. The most commonly identified methods were: condoms (boys 1.5 %, girls 0.2 %), not to have sexual contacts (boys 1.5 %, girls 1.9 %), not to have sexual contact with unknown persons (boys 1.9 %, girls 1.7 %), not to have sexual contacts before marriage (boys 0.5 %, girls 0.1 %), and to have one partner (boys 0.95 %, girls 1.5 %).

Overall, only 0.4% of the total sample answered all four of these questions correctly and demonstrated a satisfactory level of sexual knowledge.

Two further questions assessed specific knowledge of fertility and sexually transmitted infections. Knowledge of fertility was assessed by the question 'Given that a girl is having an intimate sexual relationship, at what time during her monthly menstrual cycle do you think pregnancy is most likely to occur?' with four possible responses and a 'don't know' option. The vast majority stated that they did not know. Among the small proportion who did give an answer, no-one identified the correct phase of the cycle.

Awareness of specific sexually transmitted infections was assessed by asking respondents to state whether they had heard of four named infections. As table 3 indicates, they were most likely to have heard of AIDS - over 80% of both boys and girls - with a smaller majority reporting awareness of gonorrhoea. Trichomoniasis, which is less well known and less common than the other infections, was included to provide some indication of the accuracy of responses because it is unlikely that many of the adolescents would have heard of this infection.

Table 3: Respondents' awareness of sexually transmitted infections

	Total N=2020		**Male N=521**		**Female N=1499**	
Knowledge on STI	**No**	**%**	**No**	**%**	**No**	**%**
Have heard of AIDS	1674	82.9	419	80.4	1255	83.7
Have heard of gonorrhoea	1553	76. 9	366	70.2	1187	79.1
Have heard of syphilis	440	21.8	89	17.1	351	23.4
Have heard of trichomoniasis	102	6.9	36	4.4	66	5.0

Sexual attitudes

Attitudes to sexual activity were explored through three questions that asked about the acceptability for boys and girls of their age to have: i) a relationships that was more than friendship and ii) a sexual relationship, and also the acceptability of premarital sexual intercourse. The majority of adolescents did not consider sexual relationships of any kind acceptable at their age. Only 28% (n=566) of the respondents reported that it was acceptable to have relationships that were more than friendship. However, boys were significantly more likely than girls to consider these relationships acceptable (39% vs 24%, chi squared test $p = 0.001$). Intimate sexual relationships were acceptable to only 11% (n= 227) of the total sample. Again, there was a significant difference in the proportion of boys and girls who considered these relationships acceptable (21% vs 8% $p < 0.001$). The majority of respondents did not consider premarital sexual intercourse to be acceptable, a viewpoint that was more strongly held by girls than boys and more strongly applied to girls than boys. 53% of girls agreed or strongly agreed that boys should be virgins at marriage as compared to 83% who considered that girls should be. Among the boys, 44% agreed or strongly agreed that boys should be virgins at marriage as compared to 66% who considered that girls should be.

Sexual behaviour

Staged questions ascertained the extent to which the adolescents had engaged in different levels of sexual relationship by asking whether they had: i) experienced a sexual relationship and ii) an intimate sexual relationship (taken to indicate sexual intercourse). Four further questions explored the surrounding circumstances: whether it was consensual, related feelings, and contraceptive usage.

The responses indicated that a minority of the adolescents had been involved in any kind of sexual relationship. Just 3.4% (n = 69) of the total sample reported that they had experienced a sexual relationship, comprising 46 boys and 23 girls. Age at first sexual experience ranged from 12 to 19 for the girls (mean 16.36 and SD 1.74), and from 10 to17 years (mean 15.28 and SD 1.8) for the boys. 40% (n = 28) had initiated sexual relationships below the age of 16 years (50% of the boys and 22% of the girls). A substantial minority of those who reported having had a sexual relationship (n=16, 23%) reported non-consensual sexual experience (either that they had not wanted it to happen or that it had happened forcefully). When asked how they felt after their first sexual experience, 51% were glad that it had happened, 26% were not sure and 23% reported regret. Girls were slightly more likely than boys to report regret (26% vs 22%).

Responses indicated that only 1.7% (n = 35) of the respondents had engaged in an intimate sexual relationship. Far more boys than girls reported that they were sexually active (30 vs 5). The age of first sexual intercourse for girls ranged from 12-17 (mean 15, SD 2.05) whilst that for boys ranged from 13-17 years (mean 15, SD 1.05). 16 boys and 3 girls experienced first intercourse below the age of 16. In the majority of cases, the boys' first intercourse was reported to be heterosexual (n = 14, 70%), and to involve partners who were the same age (n = 8, 47%), younger (n = 4, 24%) or 2-5 years older (n = 3, 18%), raising questions about who the sexual partners of these adolescent boys are.

There were striking differences in the male and female experience of first intercourse. A little over half of the boys (53%) reported that they had wanted it to happen and were subsequently glad that it had happened. By contrast, none of the girls had wanted it to happen. Two girls reported feelings of ambivalence and three reported that it had been non-consensual. Reflecting on their feelings afterwards, one girl was glad it had happened, three were not sure and one expressed regret. All the girls considered that they had been too young whereas two thirds of the boys (n=20) felt that they were the right age.

Nearly two thirds of the sexually active respondents (57%) reported using contraception at first intercourse. Among this proportion, the males reported using condoms and the females reported using the contraceptive pill. Among those who did not use contraception, the main reason given was that sex was unplanned (n = 13, 37%). A slightly higher proportion (63%) reported ever use of contraception.

Discussion

This study indicates alarmingly low levels of sexual and reproductive knowledge in this group of older adolescents, a comparable situation with that found among adolescents in Pakistan. [21] Although ten years have elapsed since the UNICEF survey [3] there is little indication that sexual knowledge has improved despite the recommendation from that report that improving knowledge on reproductive health among adolescents should be viewed as a priority issue.

The majority of respondents lacked awareness of the risks associated with first intercourse and lacked contraceptive awareness. These findings compare with those reported elsewhere. Williamson et al. [18] conducted a synthesis of several studies from developing countries, many of which reported inaccurate perceptions of pregnancy risk among young women, limited understanding of modern contraceptives and general misconceptions about how to use them properly.

The evidence suggests that school-going Sri Lankan adolescents are currently ill-prepared to protect themselves from the unwanted consequences of sexual activity. They lack access to informal sources of information and support with a substantial proportion of boys and girls reporting that they had no-one with whom they could discuss sexual matters. The level of educational coverage in the country provides an ideal infrastructure within which to ensure that the majority of adolescents acquire adequate sex education. Although the data suggest that most will not embark on sexual relationships until they leave school, a substantial proportion will not continue into tertiary education and thereafter may have little opportunity to acquire the knowledge they need. The characteristics of effective sex education interventions in schools in developing countries have been identified [11] and could be used to develop the existing curriculum and ensure a more comprehensive and effective programme.

The question arises as to who should deliver school based ASRH programmes. This study indicated that health professionals were the preferred source of information which may indicate a desire for factually accurate information or a preference for acquiring that information in a detached and professionally defined context. It may also reflect the current situation where there is little sharing of sexual knowledge through non-medicalised information networks. The sustainability of a comprehensive ASRH programme is likely to rely on teachers as the main provider of that programme. However there are substantial problems to be overcome. A previous study indicated that there are problems with the skills, confidence and attitudes of teachers towards ASRH teaching [22]. Few teachers are involved in sexual discussions [23,24] and they commonly rely on health professionals to provide this education, however health professionals also lack the confidence to deliver sex education [22]. Dawson et al [22] identified the value of a collaborative approach to ASRH education and this has clear benefits, however all those involved need to receive adequate training to equip them with the knowledge and skills they require and adequate ongoing support at a local and national level. A programme of reproductive health training for school teachers has been initiated by the National Institute for Education [12] and may go some way to meet this need. Expanding the scope of this training and providing it as interprofessional education for teachers and health professionals would provide opportunity for shared learning and help to foster collaborative partnerships which could form the basis of effective ASRH education.

This study indicates that only a small proportion of school going adolescents in Sri Lanka are sexually active, a substantially lower proportion than that reported in a range of other developing countries. [25] Furthermore, the 2% rate among 16-19 year olds in this study represents a substantially lower prevalence than the 6% rate reported for the 14-19 year olds in the UNICEF study despite the inclusion of younger people in that study. Both rates are much lower than those indicated through indirect questions. [3,15] We cannot dismiss the possibility that the differences reflect substantial under reporting, perhaps because the study was conducted on school premises. Interestingly however, the gender proportions in the two studies are comparable; with boys being far more likely than girls to report being sexually active than girls in all recent studies. Similar differences were reported for adolescents in India. [5] Although this is a recurrent difference, there is no ready explanation. The UNICEF proposed that boys may be initiated into sexual activity through commercial sex workers, However as most of the boys' first intercourse was with someone of their own age in this study, it does not support that proposition although as there was a low response

rate to this set of questions, we cannot dismiss this explanation. Further work is indicated to better understand the situation.

Those who did indicate that they were sexual active are a small and potentially vulnerable group. The fact that none of the girls consented to first intercourse, and felt that they were too young for it to have happened, is a matter of concern. It indicates the vulnerability of this small group of girls and highlights the fact that they are ill prepared to embark on sexual relationships, lacking the required knowledge and skills to protect themselves from unwanted consequences. The attitude demonstrated by this population towards adolescent sexuality suggests a socio-cultural milieu in which premarital sexual activity is proscribed with disproportionate social sanction of girls. In this situation, those who do become sexually active have little opportunity for peer support and lack any evident means by which to develop the knowledge and skills that they require to protect themselves from unwanted consequences. Under these circumstances it is encouraging that a little more than half of them had used contraception at first intercourse and nearly two thirds had ever used contraception. However, there is clearly much to be done to increase initial and ongoing use of contraception in this group. Currently the Sri Lankan school education system neither addresses the issues of contraception nor allows medical personnel who go to schools for health education to discuss this topic. Furthermore adolescents face substantial difficulties in accessing contraceptive services which are offered to those who are married. [4] This study indicates the need to find acceptable strategies to meet the needs of that minority of students who are sexually active; to provide them with the information and support to enable informed sexual decision making, to empower them with the skills to avoid unwanted sexual encounters and to provide them with access to contraceptive services. This will require systematic, sustained and co-ordinated programmes of activity that involve all relevant Government sectors including health, education and social welfare. The importance of community support for such programmes is essential [26] and involving key stakeholders including policy makers, schools, parents and adolescents in their development and implementation will ensure that that they are acceptable and appropriate. It is also important to build rigorous evaluation into the process to determine their effectiveness.

There are some limitations to the study. It was confined to school going adolescents and conducted in state schools and the findings cannot be readily generalised to those outside the educational system or ethnic minority populations who were under-represented. Only 26% of the sample were boys, primarily because fewer were attending school at the time of data collection and therefore available for recruitment. However, there was no indication that those included differed systematically from those not included.

Collecting data on such sensitive topics in a school setting may have caused some under-reporting. Although our approach was designed to limit this as far as possible and the very high completion rates provide some indication that the questions were acceptable, the importance of protecting their sexual reputations may well have led to under reporting of sexual activity among the girls. Finally, the need to rephrase the most sensitive questions to satisfy stakeholder anxieties may have increased ambiguity and inaccurate reporting although the pilot processes did not indicate that the questions were difficult for adolescent respondents to comprehend. The small number of sexually active cases identified precluded the possibility of undertaking robust multivariate analyses to identify risk factors. This suggests the need for larger-scale surveys and also in-depth qualitative work to understand

the factors leading to early sexual initiation, given that this group appears to be ill-prepared and vulnerable.

Conclusion

This study has gone some way to filling important gaps in our understanding of the sexual and reproductive health needs of adolescents in Sri Lanka. It is essential that the findings are translated into concrete action at policy and practice levels, however the challenges are substantial. In order to address the needs of adolescents and protect vulnerable groups, it is essential that a systematic and co-ordinated programme of action is developed and implemented.

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