

# Identifying the gaps: Knowledge, attitudes and practices of urban-based healthcare providers towards adolescent contraception in Jamaica

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## Abstract

Objective:

Health care providers (HCPs) may serve as facilitators or barriers to access. We explore the knowledge, attitudes and practices of HCPs in Jamaica to identify gaps which may lead to unmet contraceptive needs for adolescents.

Methods:

A cross-sectional study design was utilized to collect data from urban-based HCPs through a self-administered questionnaire regarding knowledge of, attitudes towards and practices in adolescent contraception. Summative knowledge and attitude scores were generated.

Descriptive and inferential statistical analyses were performed.

Results:

One hundred and forty-four HCPs participated with a female predominance (n=127; 88.2%) and median (IQR) age of 36 (20) years old. HCPs mean (SD) knowledge score 1.95 (0.81) negatively correlated with age (r= -0.279; p<0.01) and length of time working as an HCP (r= -0.287; p<0.01). Pharmacy staff had lowest mean (SD) scores, 13.4 (4.48); p<0.05. Mean attitude score did not differ significantly by marital status or religion. As HCPs' length of time in practice increased there was a decrease in the attitude scores ( $\beta$ = -0.380; p<0.05).

Conclusion:

There is need for capacity-building of HCPs to deliver active contraceptive counselling and provide modern, effective, evidence-based contraceptive services to adolescents in Jamaica. Review and revision of guidelines, policies and laws governing delivery of sexual and reproductive health services is recommended.

Key words: adolescents, contraception, providers, Latin America and the Caribbean

## INTRODUCTION

Sexual activity among adolescents continues to be a public health concern throughout the Caribbean, with Jamaica, a middle-income country, having the third highest adolescent fertility rate in the English-speaking Caribbean with 18% of all live births to an adolescent.<sup>1</sup> Adolescent pregnancy, attended by health, education, and socioeconomic consequences, often significantly alters adolescent girls' life trajectories.<sup>2,3</sup> Assuring adolescents' sexual and reproductive health (SRH) needs are adequately met, is key to combating high rates of adolescent pregnancies, illegal or unsafe abortions and sexually transmitted infections in this vulnerable sub-population.<sup>4</sup>

Health care providers (HCPs) play a critical role with adolescents more likely to initiate and continue the contraceptive of their choice if discussed comprehensively with them by their HCP.<sup>5,6</sup> Studies in low- and middle-income countries report insufficient HCP training and low sense of self-efficacy in delivering adequate adolescent SRH services, citing the need for more pre-service and in-service training.<sup>7</sup> Attitudinal bias among HCPs has also been cited as a barrier to delivery of adolescent SRH and contraceptive services.<sup>8-10</sup> Health care services in Jamaica including SRH services, delivered by nurses, midwives and physicians, may be accessed free of cost at public health centres and hospitals within our 4 regional health authorities. The South-Eastern regional health authority (SERHA) is the largest, with a network of 92 health centres and 9 hospitals.

The delivery of contraceptive health services to adolescents by HCPs is guided by the local legal and policy framework, which recognizes 16 years as the age of consent for medical, dental or surgical care as well as for sex. The Reproductive Health Policy Guidelines (2004) were developed by the Ministry of Health to facilitate provision of SRH services to adolescents under 16 years when necessary, while the Child Care and Protection Act (2004) requires HCPs to report sexual activity by minors under 16 years. This legal framework may present contradictory pathways in clinical practice and has anecdotally influenced HCPs' decisions regarding provision of SRH services to adolescents. In Jamaica, abortion is a felony under the Offences Against the Person Act (revised 2014) except for protection of the mother's health.

Whilst Jamaican physicians report high confidence levels in discussing sexual activity and contraception with adolescents,<sup>11</sup> gaps in knowledge and attitudinal bias have been reported among HCPs in the Caribbean.<sup>12</sup> Given the high adolescent fertility rate in Jamaica, a review of these concerns is timely. This study aimed to explore HCPs knowledge, attitudes and practices regarding provision of contraceptive services to adolescents in Jamaica and identify gaps that may be mitigated. These data may help to inform revision of the legal and policy framework and guide strategic planning directed at improving adolescent SRH services.

## METHODS

A cross-sectional study design was employed and data collected using a self-administered questionnaire. The study was conducted in the Kingston and St. Andrew (KSA) health department in SERHA, within the Jamaican metropolis. Study participants included physicians, midwives/nurses, pharmacy staff, social workers and adherence counsellors (who work with persons living with HIV to optimize adherence with antiretrovirals) working within the KSA Health Department. Ethical approval for conduct of the study was obtained from Mona Campus Research Ethics Committee and approval to proceed from the KSA health department.

### *Data Collection*

Recruitment was performed by a researcher (SM) at public health centres that provide SRH services (N=26), through individual discussion with HCPs as well as at monthly staff meetings for HCPs within the KSA health department. After providing written informed consent, participants completed a paper-based, self-administered questionnaire anonymously, which was placed in a sealed box and subsequently collected by the research team, maintaining confidentiality and anonymity of the participants. HCPs whose responsibilities did not include provision of SRH services were excluded, as well as those who were absent from their substantive post for an extended period of time (e.g., maternity or long vacation leave).

### *Instruments*

A questionnaire previously used in another lower middle-income country was utilized with five questions added to assess HCPs' knowledge of relevant adolescent SRH.<sup>13</sup> The 40-item questionnaire gleaned socio-demographic

data, HCPs' training and experience in SRH, attitudes towards adolescent contraception, knowledge regarding adolescent SRH issues and contraceptive counselling and prescribing practices. Questions explored whether participants had ever provided contraceptive counselling, demonstrated how to use a condom to male or female clients, the frequency with which they prescribed various types of contraceptives to adolescents under 16 years and 16 years and older.

The instrument was piloted with 20 non-study HCPs and minor adjustments made for cultural variations prior to administration in the field. Data were collected over a 2-month period.

A summative knowledge score was generated using answers to 5 questions - age of sexual consent and medical consent in Jamaica, the best time to initiate the oral contraceptive pill in adolescents who request it, maximum time post unprotected sexual intercourse the emergency contraceptive pill (ECP) can be administered [14] and use of the intrauterine contraceptive device (IUCD) in nulliparous adolescents. Correct answers were scored 1, incorrect answers scored 0, with maximum summative score of 5.

An HCP attitude score was similarly generated using HCPs' level of agreement with six statements: 1) providing contraceptives for adolescents promotes sexual promiscuity; 2) Adolescents should not be provided with contraceptives because Jamaican culture does not support premarital sex; 3) It is better to tell sexually active adolescents to abstain from sex when they ask for contraceptives rather than give them contraceptives when they request it.; 4) Health care providers should provide contraceptives for adolescents in the healthcare facilities ; 5) adolescents should be given contraceptive counselling before they become sexually active, and 6) Adolescents do not require parental consent before contraceptives are provided. Negatively worded statements (1-3) were reverse coded – strongly agree 1, agree 2, undecided 0, disagree 3, and strongly disagree 4. The positively worded statements (4-6) were scored as follows - strongly agree 4, agree 3, undecided 0, disagree 2, and strongly disagree 1. The maximum attitude score possible was 24.

Data analysis was done using Stata version 13.1. Chi-square tests explored relationships between categorical variables, independent student t-test and analysis of

variance (ANOVA) determined relationships between categorical and continuous variables. Multivariate linear regression models were utilized to determine association between HCPs' knowledge and attitude scores and other variables. Statistical significance was determined at the 5% level.

## RESULTS

A total of 144 healthcare providers participated in the study, including physicians (n=56; 38.9%), nurses - registered nurses, public health nurses and nurse practitioners (n=44; 30.6%); midwives (n=21; 14.6%), pharmacy staff (n=16; 11.2%) and social workers/ adherence counsellors (n=7; 4.9%). Sociodemographic data are summarized in Table 1, with a female predominance (n=127; 88.2%;  $p<0.01$ ), median age of 36 years (range 22-70y; IQR 20y). Nurses were most likely to have received continuing education in adolescent SRH ( $p<0.001$ ) and to be a parent of an adolescent ( $p<0.001$ ), while physicians were younger ( $p<0.01$ ) and had been in practice for the shortest length of time ( $p<0.001$ ).

### *Access and availability of sexual and reproductive health services*

Participants reported on the sexual and reproductive health services available at their health centers, as outlined in Table 2. These included contraceptive counselling (n=128, 88.9%), HIV counselling and testing (n=112, 77.8%) and STI treatment (n=130, 90.3%). The male condom (n=130, 90.3%), combined oral contraceptive pill (COCP) (n=114; 79.2%) and medroxyprogesterone injection (n=128; 88.9%) were the most frequently available contraceptives in their health centres.

### *Health care providers' knowledge of adolescent sexual and reproductive health issues*

Most HCPs (n=134; 93.7%) knew the age of sexual consent in Jamaica, while forty-four participants (31.7%) recognized 16 years was also the age of consent for medical care. Four participants (n=4) knew the ECP can be administered up to 120 hours post unprotected coitus, with most HCPs (n=105, 73.9%) selecting a maximal 72 hrs. Ninety-eight (87.5%) participants would delay starting the COCP in the absence of medical contraindications, while 85 (63.4%) participants

**Table 1. Socio-demographic data on participating healthcare providers**

	Doctor n (%)	Nurse n (%)	Midwife n (%)	Other n (%)	Total n (%)	p-value
Sex						0.006
Male	12 (21.8)	1 (2.3)	0	3 (13.0)	16 (11.1%)	
Female	43 (78.2)	43 (97.7)	21 (100)	20 (87.0)	127 (88.2%)	
Religious affiliation						0.065
Christian					130 (91.6)	
traditional	19 (33.9)	9 (20.9)	4 (19.1)	2 (9.1)	34 (23.9)	
non-traditional	31 (55.4)	33 (76.7)	16 (76.2)	16 (72.7)	96 (67.6)	
Other religion	6 (10.7)	1 (2.3)	1 (4.8)	4 (18.2)	12 (8.5)	
Union status						0.163
In union	24 (42.9)	28 (63.6)	11 (52.4)	12 (52.2)	75 (52.1)	
Single	30 (53.6)	12 (27.3)	7 (33.3)	9 (39.1)	58 (40.3)	
Has received continuing education in adolescent SRH	14 (25.0)	32 (72.7)	15 (71.4)	8 (34.8)	69 (47.9)	p<0.001
Parent of an adolescent	7 (12.5)	21 (47.7)	2 (9.5)	8 (36.4)	38 (26.6)	p<0.001
Age, years						p<0.01
Mean (SD)	33.2 (8.5)	42.6 (9.8)	42.7 (17.8)	41.5 (12.2)	38.5 (11.9)	
Median (range; IQR)	29 (23-60;12)	41.5(24-62;13.5)	32 (22-70;33)	44 (25-62;23)	36 (22-70; 20)	
Duration working as a healthcare provider	4.5 (1-30;9)	18 (1-40; 13)	13 (0.5-49; 25)	10 (3-37;14.5)	10 (0.5-49;	p<0.001

*SD – standard deviation*

*IQR – interquartile range*

acknowledged the IUCD can be used in nulliparous adolescents, with no difference by HCP category (Table 3).

The mean (SD) knowledge score 1.95 (0.81) did not differ significantly by HCP category and was negatively correlated with age ( $r = -0.279$ ;  $p < 0.01$ ) and length of time working as an HCP ( $r = -0.287$ ;  $p < 0.01$ ). The duration of time working as an HCP was the only significant predictive factor with a strong negative effect ( $\beta = -.505$ ) on mean knowledge scores using a multivariate linear regression model.

#### *Participants' Attitudes toward Contraception*

Most participants agreed with contraceptive counselling for adolescents prior to onset of sexual activity ( $n = 134$ , 93.7%) and that contraceptives should be accessible to sexually active adolescents at healthcare facilities

( $n = 104$ , 73.8%). Tables 4 and 5 further detail HCPs attitudes, with physicians more likely to disagree that contraception promotes sexual promiscuity in adolescents, closely approaching statistical significance ( $p = 0.054$ ). Thirty (21.1%) HCPs supported advising abstinence in preference to dispensing contraceptives to a sexually active adolescent requesting contraception. Physicians were more likely to disagree that adolescents required parental consent prior to receiving contraceptives ( $p < 0.05$ ).

Seventy-six (52.8%) HCPs agreed condoms should be available in schools, with thirty (20.8%) providers endorsing this for all adolescents, others limiting to 16 years ( $n = 43$ ; 29.9%) or 18 years ( $n = 3$ ) and older. Thirty-five (25.2%) HCPs felt all sexually active adolescents should be able to access the ECP without a prescription, while others supported age restrictions - 16 years ( $n = 35$ ;

**Table 2. Availability of Sexual Reproductive Health Services and Contraceptives in Health Centres Reported by Participants**

<b>Sexual and reproductive health service</b>	<b>Available (n, %)</b>
Contraceptive counselling	128 (88.9)
Pregnancy testing	100 (69.4)
STI testing	99 (68.8)
HIV counselling and testing	112 (77.8)
Male condom	130 (90.3)
Female condom	31 (21.5)
Emergency contraceptive pill	13 (9.0)
Combined oral contraceptive pill	114 (79.2)
Medroxyprogesterone injection	128 (88.9)
Intrauterine contraceptive device	44 (30.6)
Subcutaneous implant	9 (6.3)
Diaphragm	4 (2.8)
Spermicide	5 (3.5)
STI treatment	130 (90.3)
Post-abortion care	20 (13.9)

25.2%) and 18 years (n=24; 17.3%) and older (see Table 5).

HCPs' overall mean (SD) attitude score towards adolescent contraception was 15.84 (4.54) with pharmacy staff having lowest mean (SD) scores (13.4 (4.48);  $p < 0.05$ ). Longer duration of practice by HCPs had a negative effect on the mean attitude score with every incremental increase (years) in duration of practice resulting in a 0.38 reduction in attitude score ( $\beta = -0.380$ ). Mean attitude score did not vary significantly by marital status, having had an adolescent child or religion, nor was it significantly influenced by having had continued education (Table 6).

Providers' contraceptive practices are shown in Table 7. Sixty-one (43.0%) HCPs had ever demonstrated condom use to a male adolescent. Midwives were most likely to have demonstrated condom use to a female adolescent ( $p < 0.001$ ), while pharmacy staff were least likely to have given contraceptive counselling to an adolescent ( $p < 0.01$ ). Abstinence was the most frequently advised contraception for adolescents less than 16 years old (n=59; 76.6%), while condoms were most frequently recommended in adolescents 16 years and older (n=70; 90.9%). Midwives were more likely to prescribe

injectables ( $p < 0.01$ ), while physicians were the HCPs that most frequently prescribe the ECP to adolescents above and below 16 years ( $p < 0.01$ ) and the subcutaneous implant in those 16 years and older ( $p < 0.01$ ).

#### *Improving adolescent sexual health services for adolescents*

In response to an open-ended question enquiring of obstacles faced in the provision of contraceptive services, 4 main themes were identified – inadequate resources, attitudes and beliefs of adolescents, legal barriers and partner/ parental involvement. Most of these were similarly expressed across HCP categories with the exception of legal barriers which were endorsed more so by midwives ( $p < 0.05$ ).

Eighty-six (60.4%) participants (physicians 36; nurses 21; midwives 14; other 15) responded with suggestions to improve provision of contraceptive services to adolescents. The most highly endorsed recommendation across HCP categories was improved education for adolescents, parents, and the general public regarding contraception for adolescents (n=63, 72.4%). Other recommendations included logistic and infrastructural changes (n=28; 32.6%) including better supply of contraceptives and development of teen centers; We

**Table 3. Healthcare Providers Knowledge regarding adolescent sexual health issues**

Question posed	Options	No. of providers selecting option n (%)
The age of consent for sexual activity in Jamaica is <i>(Correct Answer: 16 years)</i>	14 years 16 years 18 years	1 (0.7%) 134 (93.7%) 8 (5.6%)
The age of consent for medical, surgical or dental healthcare in Jamaica is <i>(Correct Answer: 16 years)</i>	14 years 16 years 17 years 18 years	7 (5%) 44 (31.7%) 2 (1.4%) 86 (61.9%)
The <b>maximum</b> time after unprotected sex that the emergency contraceptive pill can be used is <i>(Correct Answer: 120 h or 5 days)</i>	1 day 2 days 3 days 5 days	16 (11.3%) 17 (12%) 105 (73.9%) 4 (2.8%)
For adolescents who wish to start on the oral contraceptive pill and have no medical reasons why they cannot, the best time to start them on it is: <i>(Correct answer: Immediately)</i>	Immediately Day 14 cycle Day 1 of next period 1 <sup>st</sup> Sunday after next period starts Last day of next period	14 (10.6%) 2 (1.5%) 95 (72%) 1 (0.8%) 20 (15.2%)
The intrauterine contraceptive device should only be used in adolescents who have been pregnant before <i>(Correct answer: False)</i>	True False	49 (36.6%) 85 (63.4%)

counselling for adolescents (n=16; 18.6%) and training for healthcare workers in SRH (n=11; 12.8%). Legal and policy changes to optimize minors’ access to SRH services (n=9; 10.5%) were recommended and endorsed more by midwives (p<0.01).

**DISCUSSION**

In this study we explored the knowledge, attitudes, and practices of urban-based healthcare providers in Jamaica regarding contraception for adolescents. While most providers displayed a positive attitude towards adolescent contraception, key findings included HCPs’ suboptimal knowledge of evidence-based recommendations for contraceptives for adolescents with potential for missed

opportunities, the need for more active contraceptive counselling and improved logistics with revision of the legal and policy framework to guide provision of contraceptives for adolescents.

found the longer providers had been practicing, the lower their knowledge of adolescent SRH, suggesting long held beliefs guide their practices rather than an evidence-based approach. This may place adolescents at risk of having unmet contraceptive needs, with reduced exposure to LARCs. Knowledge surrounding adolescent contraceptive issues was outdated, with few HCPs aware of extended use of the ECP and persistence of the myth that IUCDs should not be used in nulliparous adolescents.

<sup>14,15</sup>

**Table 4. Health Care Providers' Attitudes Towards Adolescent Contraception**

HCP Category	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	X <sup>2</sup> by HCP category
Providing contraceptives for adolescents promotes sexual promiscuity	21 (14.7)	18 (12.6)	25 (17.5)	47 (32.9)	32 (22.4)	0.054
Adolescents should not be provided with contraceptives because Jamaican culture does not support premarital sex	7 (4.9)	4 (2.8)	14 (9.9)	61 (43.0)	56 (39.4)	0.087
It is better to tell sexually active adolescents to abstain from sex when they ask for contraceptives rather than give them contraceptives when they request it	14 (9.9)	16 (11.3)	8 (5.6)	64 (45.1)	40 (28.2)	0.187
Health care providers should provide contraceptives for adolescents in the healthcare facilities	33 (23.4)	71 (50.4)	24 (17.0)	6 (4.3)	7 (5.0)	0.057
Adolescents should be given contraceptive counselling before they become sexually active	93 (65.0)	41 (28.7)	6 (4.2)	1 (0.7)	2 (1.4)	0.183
Adolescents do not require parental consent before contraceptives are provided	13 (9.2)	23 (16.2)	30 (21.1)	43 (30.3)	33 (23.2)	0.007**

Sadly, some of these gaps in clinical practice were identified a decade ago, underscoring the need for continuous, targeted education of HCPs.<sup>12,16</sup>

While we identified widespread recommendation of condoms by providers, few had ever demonstrated condom use to an adolescent. This represents missed opportunities to engage adolescent males and females in active contraceptive counselling, empower female adolescents by increasing their condom negotiation skills, and encourage discussion between sexual partners hopefully increasing use of dual contraception.<sup>17</sup>

Long-acting reversible contraceptives (LARCs) are

insufficiently recommended for Jamaican adolescents, despite evidence of limited side effects, good adherence, and effectiveness. Studies have previously cited low physician self-efficacy in placement of devices, and misperceptions surrounding safety as barriers to uptake of LARCs.<sup>18</sup>

While Jamaican HCPs had fair attitudes toward adolescent contraception overall, they also expressed restrictive sentiments regarding adolescents' access to contraception in non-traditional sites, such as schools. School-based sex education interventions have shown increased self-efficacy surrounding refusal of sex and negotiating condom use for sex.<sup>19</sup>

Current local policies prohibit distribution of condoms to students within schools, including those over 16 years, so obviating an opportunity to counsel and deliver an effective method of contraception and STI prevention. The abstinence-only approach has been found to have a positive influence on adolescents' attitudes, but has not been shown to significantly change adolescent sexual behavior, and may leave adolescents vulnerable to pregnancy and STIs.<sup>20</sup> The inclusion of non-traditional sites to deliver contraceptive counselling when requested and or required by adolescents should therefore be seriously considered.

There has been a move towards increasing adolescents' access to contraceptives in non-traditional sites including increased prescribing rights for contraceptives by pharmacists.<sup>21</sup> Pharmacy staff can be key partners in the fight to reduce adolescent pregnancy. In our study, pharmacy staff were the HCPs least engaged in contraceptive counselling and the provider category with the least positive attitude towards adolescent contraception. This is an area for potential improvement through training and policy reframing, enabling and encouraging pharmacists to embrace the role of advocate and educator in adolescent SRH, potentially increasing uptake of contraceptives by adolescents.<sup>22</sup>

Knowledge of the legal framework concerning adolescent SRH services was suboptimal, implying adolescents may be unnecessarily denied access to appropriate and well needed health care inclusive of contraceptive services. Inconsistencies within the legal framework in Jamaica may be contributing to this, and HCPs identified these as inhibitive, recommending reform. Reviewing and adopting globally accepted policies and guidelines may be used to assist in spreading knowledge and increasing providers' comfort with decisions and practices.<sup>23</sup>

This is one of few studies exploring HCPs' knowledge, attitudes and practices regarding the provision of SRH services to adolescents in Jamaica. Though based in urban health centers, limiting generalizability of the findings, these data can still be used to inform the way forward. Training targeted at capacity-building of HCPs in communicating with adolescents and providing contraceptive options, with a focus on updated evidence-based SRH has been started since this study was conducted. This will hopefully be akin to use of "positive deviants" which has been successful elsewhere.<sup>10</sup> In-

service training for HCPs to deliver appropriate contraception to adolescents is also recommended, which may require updating of local protocols and guidelines on how to prescribe and administer these contraceptives, with special focus on LARCs. It is important for us to regularly assess the effectiveness of the modalities used to educate HCPs to determine the impact on knowledge and attitudes but most importantly practice.

Further work should include deeper exploration of healthcare providers' attitudes and practices as well as the adolescents' perspective through in-depth individual and focused group sessions, to enrich our knowledge and further guide improvement of SRH services delivered to adolescents.

## CONCLUSION

Our findings of suboptimal healthcare provider knowledge regarding adolescent contraception, particularly the newer methods of contraception and the attendant legal framework, highlights potential gaps that may result in unmet contraceptive needs for adolescents. Targeted education for HCPs is recommended as well as revision of the current legal and logistical framework to improve adolescents' access to appropriate contraceptive services inclusive of contraceptive counselling and delivery of effective contraceptive methods.

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## Author contributions:

SM and AH designed and drafted the manuscript  
AH supervised application for ethical approval  
SM conducted data collection with supervision from AH  
AH conducted the analysis and interpretation of data  
SM, AH and HT assisted in the revision of the final manuscript providing intellectual content.  
All authors gave final approval on the version of the article to be published.



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