

Influences on condom use

A secondary analysis of women's perceptions from the Australian Contraceptive ChOice pRoject (ACCORd) trial

Cathy Watson, Kevin McGeechan, Kathleen McNamee, Kirsten I Black, Jayne Lucke, Angela Taft, Marion Haas, Jeffrey F Peipert, Danielle Mazza

Background and objective

Women's ability to negotiate condom use helps prevent sexually transmissible infections (STIs) and unintended pregnancies. The aim of this study was to assess the relationship between substance use, risk perception and the certainty of using condoms in several hypothetical situations.

Methods

This is a secondary analysis from the Australian Contraceptive ChOice pRoject (ACCORd) cluster randomised controlled trial. Descriptive statistics and logistic regression were used for the analysis.

Results

At baseline, contraceptive questions were answered by 698 women attending 57 general practices in Melbourne, Australia. Condom use was reported by 47%. Of those using condoms as the sole form of contraception (n = 137), 20% used them inconsistently. Dual protection was used by 58% of women (188/325). Condoms and the pill were more frequently used than condoms and longer-acting contraceptives. Women were less likely to be confident negotiating condom use when using substances.

Discussion

Substance use and the concurrent use of other forms of contraception impact use of condoms. Even when condoms are the sole form of contraception with willing partners, use is inconsistent, leaving women at risk of pregnancy and STI.

CONDOMS ARE THE ONLY FORM OF CONTRACEPTION THAT prevent both sexually transmissible infections (STI) and pregnancy, but little information is available on condom use by women attending general practice, which is where most women seek contraceptive advice and prescriptions.¹ In Australia, in the past decade, reported cases of gonorrhoea have almost doubled, syphilis has tripled and chlamydia has increased by 43%,^{2,3} despite the sustained public health efforts in Australia to combat this trend. Used alone, condoms are not as effective in preventing pregnancy as other modern contraceptive methods because they require active use for every act of sexual intercourse, they can break or slip off and might not be used correctly. Therefore, for the purpose of pregnancy prevention, it is recommended that they be used correctly and consistently in conjunction with another form of contraception.⁴

Consistent and correct condom use is affected by a number of factors. These include age and relationship type (whether long term or casual) and number of current partners.^{5,6} Low confidence in the ability to negotiate condom use in challenging situations (low condom use self-efficacy) has also been identified as a factor relating to inconsistent or incorrect condom use.⁷ The Contraceptive CHOICE project,⁸ using challenging hypothetical situations, found that lower condom use self-efficacy, as well as lower partner willingness, was correlated with higher risk of incorrect or inconsistent condom use.⁷ In some studies, male preference for condom use was found to be more influential than female preference.⁹⁻¹¹

In an Australian telephone survey of more than 5000 women, condom use was reported by approximately 30% of women aged 16-49 years.¹² The important role of general practitioners (GPs) in primary care in providing advice and prescriptions for contraception is described by Temple-Smith and Sanci.¹³ Despite this, there is a paucity of information regarding condom use among women attending general practice, possibly because condoms are available without prescription, with women accessing condoms through retail outlets or pharmacies. Other studies examining condom use focus on women from the community at large,^{6-8,12} women using specialised sexual health services¹⁴ and adolescent females.¹⁵ Understanding condom use in the

context of general practice will inform practitioners regarding their contraceptive counselling. Within the Australian literature, there is little information on condom use self-efficacy. The aim of this study was to describe the use of condoms by women attending general practice and their perception of their ability to negotiate condom use.

Methods

Study design and setting

In this secondary analysis, the authors used data collected from the Australian Contraceptive CHOICE Project (ACCORd) study (a cluster randomised controlled trial investigating the effect of a complex intervention aimed at increasing the uptake of long-acting reversible contraception [LARC]) in the general practice setting.¹⁶ Data were collected between April 2016 and July 2018 from 720 women attending 56 general practices in metropolitan Melbourne, Australia.

Participants

Eligible women were aged between 16 and 45 years, neither pregnant nor planning a pregnancy in the subsequent 12 months, had been sexually active in the previous six months or anticipating sexual activity in the following six months, had not undergone tubal sterilisation (and partner had never had a vasectomy), proficient in English and interested in discussing contraception with their GP. They were recruited from general practices by either GPs or reception staff; potential participants were handed an iPad to complete an eligibility form.

Data

All eligible women were contacted by ACCORd researchers, and those who agreed to participate provided informed consent and completed a 30-minute telephone interview. This involved collection of demographic information, including age, level of education, country or birth, marital status and socioeconomic status. Current condom use was self-reported. Participants were asked whether they currently used condoms, and those selecting 'yes' were included in this

analysis. Participants were able to select more than one form of contraception in order to identify the use of dual methods of contraception.

Using Likert scales with a validated self-efficacy model,¹⁷ women currently in a relationship rated their perception of their partner's willingness to use condoms (not at all willing/not very willing/somewhat willing/extremely willing), their perception regarding who had the final say of condom use (partner has more say/equal say/woman has more say/not discussed) and their confidence in negotiating condom use with male partners during various hypothetical and challenging situations (when alcohol or drugs were used, when partner was annoyed, if sexually excited, if depressed or if the risk of contracting STI or pregnancy was low).⁷

Analysis

The characteristics of the women were summarised using counts and percentages. Using descriptive statistics, the authors reported the women's level of satisfaction and frequency of condom use, as well as perceived partner's willingness and whether the woman or her partner had had final say in the use of condoms. The authors calculated the percentage of women reporting varying levels of certainty of using condoms in various hypothetical situations and compared the odds of being certain across the situations using a proportional odds model, which was adjusted across situations for each woman. Logistic models were fitted to assess the relationship between participant characteristics and being unsure of using a condom and whether the effect of the characteristics differed according to the situation. In the single proportional-odds model and logistic models, the authors adjusted parameter estimates to allow for the multiple responses per woman, as each woman contributed a separate response for each of the hypothetical situations.

Ethics

This trial is registered with the Australian New Zealand Trials Registry (ACTRN12615001346561). The ACCORd study was approved

by the Monash University Human Research Ethics Committee (CF14/3990-2014002066 and CF16/188-2016000080).

Results

The eligibility survey was completed (or partially completed) by 2256 women, of whom 720 were eligible and participated in the ACCORd study. Of the 698 women who completed the questions regarding contraception in the baseline questionnaire, 43% (325/698) reported current condom use. This article reports the results of the analyses of data from these 325 women. Eighty-one per cent (263/325) reported having a regular partner in the past 30 days. Most of these women were born in Australia and aged less than 35 years (Table 1). Women were more likely to cite STI prevention as their reason for using condoms if they reported having casual sex in the previous 30 days (92% versus 42%, $P < 0.001$). Over half of the condom users (58%, 188/325) used them in combination with another method (dual contraception). Women frequently used condoms with oral contraception ($n = 123$, 36%), whereas fewer than 20% used them with intrauterine devices or contraceptive implants (Table 2). Most condom users (72%, $n = 233/325$) reported being very satisfied with them. Of those who reported being dissatisfied with condom use, the most common reason given was that they were too hard or inconvenient to use ($n = 64$, 41%). Reduced sexual pleasure was reported by 32% ($n = 105$), and 17% ($n = 54$) reported that their partners disliked using them. Three women currently using only condoms, but who were dissatisfied with them, reported that this method had previously failed, with a resulting pregnancy.

Willingness to use condoms

Among current condom users with a regular partner, most (72%, 190/261) perceived that their partners were extremely willing to use condoms, including those using dual protection (Table 3). Where condoms were used as the sole form of contraception,

Table 1. Demographics of ACCORd participants²⁶

Characteristic	Those using condoms (n = 325) n (%)	Those not using condoms (n = 415) n (%)
Age (years)		
<25	128 (39)	139 (34)
25–34	129 (40)	155 (37)
>35	68 (21)	121 (29)
Highest level of education		
University	197 (60)	238 (57)
Certificate/diploma	25 (8)	37 (9)
Year 12 or below	103 (32)	140 (34)
Country of birth		
Australia	263 (81)	324 (78)
Other	61 (19)	90 (22)
Data missing	1 (<1)	1 (<1)
Marital status		
Married/de facto*	114 (35)	203 (49)
Not married/de facto	210 (65)	212 (51)
Data missing	1 (<1)	0 (0)
Socioeconomic status		
Low†	86 (27)	114 (28)
Not low	239 (73)	301 (72)

*De facto: living with partner
†Low socioeconomic status: difficulty paying for housing/food/transport/healthcare card holder²⁶
ACCORd, Australian Contraceptive ChOice pRoject

76% (88/155) reported their current partner to be extremely willing (Table 3). Of the women who reported only using condoms for contraception, and who also reported having sex in the previous 30 days (n = 119), 90 (76%) reported using condoms every time, with the remainder using them almost every time (13%), sometimes (8%) or rarely (3%). There was no difference in reported willingness to use condoms between those who used condoms alone for contraception and/or STI protection and those who used dual methods.

Final say on condom use

Of the women currently using condoms and who had a regular partner, the majority (60%, 87/146) reported equal say in the use of condoms, and very few reported that their partner had more say (Table 4). Fewer women felt that they had more say in decision making regarding condom use if they were with a regular partner compared with those reporting a casual relationship. Compared with women using dual protection, fewer women using only condoms for contraception reported having more say than their partner (24% versus 37%, n = 29/123 versus n = 63/169, P = 0.02).

Women's perceived ability to negotiate condom use in challenging situations

All women were asked whether particular hypothetical situations would affect their decision making, even if they knew that

Table 2. Current dual contraception in ACCORd^{16*}

	Condoms n (%)	Oral contraception n (%)†	Contraceptive implant n (%)	Intrauterine devices n (%)	Injectable n (%)	Contraceptive ring‡ n (%)	Natural§ n (%)
Total number reporting method	325 (47)	342 (49)	79 (11)	68 (9)	11 (2)	6 (<1)	10 (1)
Used in combination with condoms	137 [¶] (42)	123 (36)	13 (17)	13 (19)	5 (45)	3 (50)	3 (30)

*Contraceptive patch and contraceptive sponge are not used in Australia, and no women reported using the diaphragm

†Combined oestrogen/progestogen or progestogen only

‡Combined oestrogen/progestogen

§Fertility awareness-based methods

¶Condoms used alone for contraception

ACCORd, Australian Contraceptive ChOice pRoject

condoms were needed to prevent pregnancy or potential transmission of STI (Table 5). Women were more likely to report being unsure about being able to use a condom in a hypothetical situation where they were drunk or high compared with the other hypothetical situations ($P < 0.001$). Thirteen per cent of women reported being unsure they would use a condom when drunk or high, compared with 8–10% reporting such uncertainty in the context of other situations.

The hypothetical situation was associated with the level of certainty of using condoms in the multivariate model; however, other factors (age, education, marital status and economic status) were not associated with the level of certainty (Table 6).

Discussion

To the authors' knowledge, this is the first study reporting the use of condoms for

contraception by women attending general practice. Condom use was reported by 47% (325/698) of women. Previous studies have estimated that condoms are used in Australia by approximately 30% of couples for both contraception and the prevention of STI.¹² The higher proportion of condom users in the ACCORd study reflects the fact that 75% of women in the sample were aged under 35 years, which correlates with lower patterns of condom use reported in other studies of older women.^{6,12} Women in a long-term relationship often perceive themselves to be at low risk for STI, and therefore, are less likely to use condoms.^{6,12,18}

Women's perceived ability to negotiate condom use in challenging situations was significantly lower when alcohol or substance use was involved. Previous studies have confirmed an association between unintended pregnancy and alcohol/substance use and increased risk of STI.¹⁹ Other authors have indicated that, especially in younger age groups, both sexual negotiation and intention

are affected by substance use.²⁰ In the Contraceptive CHOICE project, women who were more uncertain about their use of condoms in hypothetical situations were twice as likely to report episodes of unprotected sexual intercourse as those with a higher level of certainty.⁸

Condoms were used as the sole method of contraception by 42% (137/325) of women in the present study. Similar to a large study of female students in the USA,¹⁵ fewer than 20% of women used condoms together with LARC, compared with 36% who used condoms with oral contraceptive pills. A recent systematic review and meta-analysis confirmed that the odds of using condoms with LARC was 60% lower than the use of condoms, as well as oral contraceptives.¹⁵ This may reflect the reduced need to have back-up contraception with LARC methods than for other less effective forms of contraceptives.²¹ Lower use of condoms with LARC has implications for STI prevention, but a woman's individual level of risk should be assessed

Table 3. Perceived willingness of regular partner to use condoms*

Perceived partner response	n (%)
If condoms used with other contraception	
Not willing	8 (5)
Somewhat willing	32 (22)
Extremely willing	102 (70)
Do not know	4 (3)
Total	146 (100)
If only condoms used for contraception	
Not willing	6 (5)
Somewhat willing	21 (18)
Extremely willing	88 (76)
Do not know	1 (1)
Missing	2 (0)
Total	117 (100)

*Women reporting a male regular sexual partner. The number of women who reported casual partners (defined as a sexual partner apart from their regular partner in the past 30 days) and those who reported degree of willingness of partner (13%, 3/23) was too low for meaningful comparison. No women reported both a regular partner and a casual partner.

Table 4. Who has final say on using condoms?

	Regular partner (n = 263) n (%)	Casual partner (n = 29)* n (%)
Partner response*		
If condoms used with other contraception (ie dual contraception)		
	n = 146	n = 23
Partner has more say	4 (3)	0 (0)
Equal say	87 (60)	9 (39)
Woman has more say	50 (34)	13 (57)
Do not discuss	3 (2)	1 (4)
Do not know	2 (1)	0 (0)
If only condoms used for contraception		
	n = 117	n = 6
Partner has more say	1 (0.85)	1 (17)
Equal say	85 (73)	1 (17)
Woman has more say	25 (21)	4 (66)
Do not discuss	5 (4)	0 (0)
Do not know	1 (0.85)	0 (0)

*Some women did not answer this question (n = 33). The number of women who had casual partners and used condoms only for contraception was too low for meaningful comparisons.

considering her relationship status and number of sexual partners.²²

Most women reported high levels of satisfaction with condoms. One of the main reasons for a lack of satisfaction cited by women in the present study was partner dislike of condoms. Whether a male partner is willing to use condoms affects their use

in a relationship, with women less likely to use condoms if their partners were not willing to use them.^{14,23} In the US CHOICE study, a lack of willingness to use condoms by a male partner correlated with a higher number of unprotected sexual encounters.⁷ In the present study, most women (those with and without a regular male partner)

reported that their partners demonstrated some degree of willingness to use condoms, but only half reported that the men were extremely willing. This reported low level of enthusiasm for condom use is associated with inconsistent use.¹¹ In 2009, a secondary analysis of the US CHOICE study data found that 59% of the cohort

Table 5. Women's perceived certainty of condom use according to situation

Women's level of certainty with condom use	Even if drunk/high n (%)	Even if partner annoyed n (%)	Even if sexually excited n (%)	Even if depressed n (%)	Even if risk seemed low n (%)
Unsure	41 (13)	25 (8)	27 (8)	22 (7)	33 (10)
Somewhat sure	75 (14)	41 (13)	69 (21)	39 (13)	72 (23)
Very sure	196 (63)	247 (79)	227 (71)	252 (80)	218 (67)
Total	312	313	323	313	323

Table 6. Women who reported being unsure, by participant characteristic and hypothetical situations²⁶

Factor	Even if drunk/high (%)	Even if partner annoyed (%)	Even if sexually excited (%)	Even if depressed (%)	Even if risk seemed low (%)
Age (years)					
<25	13	7	7	5	4
25-34	14	7	9	9	13
≥35	11	7	9	4	13
Highest level of education					
University	13	6	8	8	10
Certificate/diploma	14	5	18	0	18
Year 12 or below	13	9	6	6	5
Country of birth					
Australia	13	7	8	5	8
Other	13	4	9	13	15
Marital status					
Married/de facto*	14	8	9	9	15
Not married/de facto	13	7	8	6	7
Socioeconomic status					
Low†	13	6	8	5	9
Not low	13	7	8	7	10

*De facto: living with partner

†Low socioeconomic status: difficulty paying for housing/food/transport/healthcare card holder

reported consistent condom use.⁷ More than 10 years later, little has changed. In the present study, even with women with extremely willing partners who only used condoms for contraception and had sex in the previous 30 days, 20% reported not using condoms, putting them at increased risk of STI and unintended pregnancies.

Although most women in the present study reported that the decision to use condoms was equally shared between themselves and their partners, fewer women reported having more say in the decision to use a condom if they were with a regular partner compared with those in a casual relationship. A higher number of women with casual partners reported condom use, a finding that aligns with other studies reporting higher use of condoms with non-regular partners, usually for STI prevention.^{24,25} Potentially, GPs could have a role in empowering women with decision making regarding the use of condoms by normalising the purchase and initiation of condoms and encouraging them to keep a supply of condoms on hand.

GPs are at the forefront of contraceptive care. This study is one of the first to examine condom use by patients attending general practice and demonstrates the near universality of inconsistent condom use. A strength of this study is that the interviews were conducted using study tools from the successful Contraceptive CHOICE study,⁸ which were then adapted for the Australian context.

Strengths and limitations

One limitation of this study is that a very small number of women used only condoms for contraception, and a low number of women reported having casual partners. Consequently, the study may not have been adequately powered to detect a difference between these women and those who used condoms together with other contraceptive methods. However, the overall results provide a picture of the complexity around women's decision making regarding condom use, highlighting the influence of situations and sexual partner on the use of condoms. As this population was drawn from a subgroup of a randomised controlled trial, the

benefits of randomisation are no longer present, and the potential for confounding exists. Additionally, eligible women were participants in a trial in general practice who were interested in discussing contraception, and this may limit generalisability of these findings to the wider population. It is likely that, even amongst GPs with a keen interest in women's health, condoms are not commonly discussed. Another limitation is that the study sample was well educated, mostly from high socioeconomic status and from metropolitan Melbourne, and these results may not be generalisable to the wider population.

Conclusion

Women's intentions to use condoms to prevent pregnancy and STI, and their confidence in their ability to negotiate condom use, can be thwarted by lack of partner compliance, as well as various situational factors. Women may need encouragement to purchase, initiate and use condoms in order to avoid the consequences of STI and unintended or unwanted pregnancies, particularly if condoms are the sole form of contraception being used. GPs should use opportunities in primary care to encourage individuals to discuss contraceptive preferences before sexual encounters. For women using condoms as the sole method of contraception, discussions about partner willingness and alcohol use may alert the GP to those at risk for unintended pregnancies and STI, and to the importance of discussing the most effective methods of contraception. Future research could focus on GP interventions to increase condom use to prevent STI, particularly among women using LARC methods.

Authors

Cathy Watson PhD, MNsc, Post Grad Dip (Women's Health), BA, RN, RM, Research Fellow, Department of General Practice, School of Primary and Allied Health Care, Monash University, Vic

Kevin McGeechan PhD, Associate Professor, Sydney School of Public Health, University of Sydney, NSW
Kathleen McNamee MBBS, M Epi, MBBS, FRACGP, DipVen, Medical Director, Family Planning Victoria, Vic
Kirsten I Black MD, MBBS, FRACGP, DRANZCOG, Grad Dip Women's Health, Joint Head of Discipline of Obstetrics, Gynaecology and Neonatology, Central Clinical School, University of Sydney, NSW

Jayne Lucke BA (Hons), PhD, Adjunct Professor, School of Psychology and Public Health, La Trobe University, Vic

Angela Taft PhD, MPH, Dip Ed, BA, Professor and Principal Research Fellow, Judith Lumley Centre, School of Nursing and Midwifery, La Trobe University, Vic

Marion Haas PhD, MPH, Bphty, Professor of Health Economics, Centre for Health Economics Research and Evaluation, University of Technology Sydney, NSW

Jeffrey F Peipert PhD, MD, MPH, MHA, Clarence E. Ehrlich Professor and Chair of Obstetrics and Gynecology, Indiana University School of Medicine, Department of Obstetrics & Gynecology, Indianapolis, IN, USA

Danielle Mazza MD, MBBS, FRACGP, Grad Dip Women's Health, Head, Department of General Practice, Monash University, Vic; Director, SPHERE (NHMRC Centre of Excellence in Sexual and Reproductive Health for Women in Primary Care), Department of General Practice, Monash University, Vic

Competing interests: KMcN reports training and education activities outside this submitted work related to Bayer Australia and MSD, unrelated to this study. KIB has attended one international advisory board meeting for Bayer Australia for which no personal fees were received. JL has received research funding, sponsorship to attend conferences and has been involved in training and education activities related to Bayer Australia and MSD, outside the submitted work. JFP has received research funding and support from CooperSurgical, Bayer and Merck, and serves on advisory boards for CooperSurgical and Bayer Healthcare Pharmaceuticals, unrelated to this study. DM has received research funding, sponsorship to attend conferences and has been involved in training and education activities and advisory boards related to Bayer Australia and MSD, outside the submitted work.

Funding: This trial was funded by the National Health and Medical Research Council (APP1081743).

Provenance and peer review: Not commissioned, externally peer reviewed.

Correspondence to:
cathy.watson@monash.edu

Acknowledgements

Clinical trial coordinators Catriona Rowe, Cath Savage and Jennie Raymond undertook data collection and trial conduct. Summer scholars Zoe Hutton and Dennis Wu assisted with data collection and literature reviews, and Jo Endicott assisted with additional statistical analysis.

References

- Gumbie M, Parkinson B, Cutler H, Gauld N, Mumford V. Is reclassification of the oral contraceptive pill from prescription to pharmacist-only cost effective? Application of an economic evaluation approach to regulatory decisions. *Pharmacoeconomics* 2019;37(8):1049–64. doi: 10.1007/s40273-019-00804-6.
- Kirby Institute. HIV, viral hepatitis and sexually transmissible infections in Australia: Annual surveillance report 2017. Sydney, NSW: Kirby Institute, UNSW Sydney, 2017. Available at https://kirby.unsw.edu.au/sites/default/files/kirby/report/SERP_Annual-Surveillance-Report-2017_compressed.pdf [Accessed 3 March 2021].
- Australian Institute of Health and Welfare. Australia's health 2018. Australia's health series no. 16. AUS221. Canberra, ACT: AIHW, 2018. Available at www.aihw.gov.

- au/getmedia/7c42913d-295f-4bc9-9c24-4e44eff4a04a/aihw-aus-221.pdf [Accessed 3 March 2021].
4. Peipert JF, Redding CA, Blume JD, et al. Tailored intervention to increase dual-contraceptive method use: A randomized trial to reduce unintended pregnancies and sexually transmitted infections. *Am J Obstet Gynecol* 2008;198(6):630e1-30e8. doi: 10.1016/j.ajog.2008.01.038.
 5. Nnedu ON, McCorvey S, Campbell-Forrester S, Chang J, Salihu H, Jolly P. Factors influencing condom use among sexually transmitted infection clinic patients in Montego Bay, Jamaica. *Open Reprod Sci J* 2008;1:45-50. doi: 10.2174/1874255600801010045.
 6. de Visser RO, Smith AMA. Which intention? Whose intention? Condom use and theories of individual decision making. *Psychol Health Med* 2004;9(2):193-204. doi: 10.1080/13548500410001670717.
 7. Shih SL, Kebodeaux CA, Secura GM, Allsworth JE, Madden T, Peipert JF. Baseline correlates of inconsistent and incorrect condom use among sexually active women in the Contraceptive CHOICE project. *Sex Transm Dis* 2011;38(11):1012-19. doi: 10.1097/OLQ.0b013e318225f8c3.
 8. Secura GM, Allsworth JE, Madden T, Mullersman JL, Peipert JF. The Contraceptive CHOICE Project: Reducing barriers to long-acting reversible contraception. *Am J Obstet Gynecol* 2010;203(2):115 e1-115e7. doi: 10.1016/j.ajog.2010.04.017.
 9. Bonacquisti A, Geller PA. Condom-use intentions and the influence of partner-related barriers among women at risk for HIV. *J Clin Nurs* 2013;22(23-24):3328-36. doi: 10.1111/jocn.12101.
 10. Bergmann JN, Stockman JK. How does intimate partner violence affect condom and oral contraceptive use in the United States?: A systematic review of the literature. *Contraception* 2015;91:438-55. doi: 10.1016/j.contraception.2015.02.009.
 11. VanderDrift LE, Agnew CR, Harvey SM, Warren JT. Whose intentions predict? Power over condom use within heterosexual dyads. *Health Psychol* 2013;32(10):1038-46. doi: 10.1037/a0030021.
 12. Richters J, Fitzadam S, Yeung A, et al. Contraceptive practices among women: The second Australian study of health and relationships. *Contraception* 2016;94(5):548-55. doi: 10.1016/j.contraception.2016.06.016.
 13. Temple-Smith M, Sanci L. LARCs as first-line contraception: What can general practitioners advise young women? *Aust Fam Physician* 2017;46(10):710-15.
 14. Ong J, Temple-Smith M, Wong W, McMamee K, Fairley C. When two is better than one: Differences in characteristics of women using condoms only compared to those using condoms combined with an effective contraceptive. *J Womens Health* 2014;23(2):168-74. doi: 10.1089/jwh.2013.4319.
 15. Steiner RJ, Pampati S, Kortsmit K, Liddon N, Pazol K, Swartzendruber A. Long-acting reversible contraception and implications for condom use: A systematic review and meta-analysis. Society of Family Planning Annual Meeting Scientific Abstracts Oral and Poster Presentations. *Contraception* 2019;100(4):305-48. doi: 10.1016/j.contraception.2019.07.009.
 16. Mazza D, Black K, Taft A, et al. Increasing the uptake of long-acting reversible contraception in general practice: The Australian Contraceptive CHOICE pRoject (ACCORd) cluster randomised controlled trial protocol. *BMJ Open* 2016;6(10):e012491. doi: 10.1136/bmjopen-2016-012491.
 17. Redding CA, Rossi JS. Testing a model of situational self-efficacy for safer sex among college students: Stage of change and gender-based differences. *Psychol Health* 1999;14(3):467-86. doi: 10.1080/08870449908407341.
 18. Freilich K, Holton S, Rowe H, et al. Sociodemographic characteristics associated with the use of effective and less effective contraceptive methods: Findings from the Understanding Fertility Management in Contemporary Australia survey. *Eur J Contracept Reprod Health Care* 2017;22(3):212-21. doi: 10.1080/13625187.2017.1304534.
 19. Than LC, Honein MA, Watkins ML, Yoon PW, Daniel KL, Correa A. Intent to become pregnant as a predictor of exposures during pregnancy: Is there a relation? *J Reprod Med* 2005;50(6):389-96.
 20. Staras SAS, Livingston MD, Maldonado-Molina MM, Komro KA. The influence of sexual partner on condom use among urban adolescents. *J Adolesc Health* 2013;53(6):742-48. doi: 10.1016/j.jadohealth.2013.06.020.
 21. Steiner RJ, Liddon N, Swartzendruber AL, Raspberry CN, Sales JM. Long-acting reversible contraception and condom use among female US high school students: Implications for sexually transmitted infection prevention. *JAMA Pediatr* 2016;170(5):428-35. doi: 10.1001/jamapediatrics.2016.0007.
 22. Thompson EL, Vamos CA, Griner SB, Logan R, Vázquez-Otero C, Daley EM. Sexually transmitted infection prevention with long-acting reversible contraception: Factors associated with dual use. *Sex Transm Dis* 2017;44(7):423-27. doi: 10.1097/OLQ.0000000000000620.
 23. Brown LK, DiClemente R, Crosby R, et al. Condom use among high-risk adolescents: Anticipation of partner disapproval and less pleasure associated with not using condoms. *Public Health Rep* 2008;123(5):601-07. doi: 10.1177/003335490812300510.
 24. Duncan EAW. Influence of partner type on condom use. *J Hum Behav Soc Environ* 2011;21:784-802. doi: 10.1080/10911359.2011.615673.
 25. Senn TE, Carey MP, Venable PA, Coury-Doniger P, Urban M. Sexual partner concurrency among STI clinic patients with a steady partner: Correlates and associations with condom use. *Sex Transm Infect* 2009;85(5):343-47. doi: 10.1136/sti.2009.035758.
 26. Iseyemi A, Zhao Q, McNicholas C, Peipert JF. Socioeconomic status as a risk factor for unintended pregnancy in the Contraceptive CHOICE Project. *Obstet Gynecol* 2017;130(3):609-15. doi: 10.1097/AOG.0000000000002189.

correspondence ajgp@racgp.org.au