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Levina Adiputri & Leslie Morrison Gutman

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# Using the behaviour change wheel to examine facilitators and barriers to assertive contraception-use conversations for Indonesian women

Levina Adiputri and Leslie Morrison Gutman

Department of Clinical, Educational and Health Psychology, UCL, London, UK

## ABSTRACT

Contraception-use communication between sexual partners is important to reduce unwanted pregnancies and protect sexual and reproductive health. There is a dearth of research focused on developing countries where sexual and reproductive health conversations are often considered taboo. Using the Behaviour Change Wheel, this qualitative study examines the facilitators and barriers to having assertive contraception-use conversations with a male partner for Indonesian women and then identifies behaviour change techniques as potential intervention strategies. Semi-structured interviews were conducted with ten Indonesian women aged 18 to 29 years who had been sexually active and were currently in a committed dating relationship with a male partner. Using thematic analysis, 13 themes were identified. Facilitators of assertive contraception-use communication include knowledge about sexual and reproductive health and contraception, communication skills, closeness of the relationship with one's partner, other people's experiences of sex and contraception, and social media norms concerning the open discussion of sex and contraception. Fear of initiating the conversation about contraception was a barrier. Partner's attitude towards having contraception-use conversations and the taboos surrounding contraception in Indonesian culture acted as both facilitators and barriers. Suggested strategies to promote contraception-use communication include using social media to break the stigma surrounding sexual and reproductive health matters, normalising assertive conversations about contraceptive use with sexual partners, empowering women to be more assertive about their preferences for contraception, and teaching strategies to promote assertive contraception-use communication among young women and men in Indonesia.

## ARTICLE HISTORY

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Contraceptive use; youth; communication; intervention strategies; social media

## Introduction

Unwanted pregnancies and the transmission of HIV and other STIs are major health problems, particularly in developing countries where education about sexual and

**CONTACT** Leslie Morrison Gutman  [l.gutman@ucl.ac.uk](mailto:l.gutman@ucl.ac.uk)

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reproductive health remains limited, including Indonesia (O'Donnell, Utomo and McDonald 2020). In 2021, Indonesia had a population of 273.8 million people (World Bank 2021), an estimated 540,000 of whom had acquired HIV (UNAIDS 2021). Moreover, between 2015–2019 in Indonesia, fully 40% of pregnancies are estimated to have been unintended (Bearak et al. 2022). While modern contraceptive use is an effective way to decrease unintended pregnancies and HIV transmission is reduced by condom use, statistics show a lack of contraception use, with more than one-third of sexually active Indonesian men and women never using contraception (Statistics Indonesia BPS 2019).

Assertive sexual communication has been highlighted as a useful means to improve the sexual and reproductive health of young people (Desrosiers et al. 2020). Assertive sexual communication is often measured in the context of contraception use as the frequency of discussing AIDS or condoms with partners (Norris and Ford 1995), directly and verbally requesting partners to use condoms (Tschann et al. 2010) and having a high level of comfort and efficacy in negotiating condom use (Biello et al. 2010; Sales et al. 2010). This study focused on assertive contraception-use communication in line with the following definition: 'two-way communication behaviour which is clear, honest and respectful, aiming to express and listen to the perspective, feelings and needs of each sexual partner about contraception use'.

To increase assertive contraception-use communication, it is necessary to understand what influences this behaviour (Michie, Atkins, and West 2014). The Behaviour Change Wheel provides a framework for diagnosing what needs to change for a behaviour to occur and links this diagnosis to specific behaviour change techniques. Using this framework, this study first investigates the barriers and facilitators to assertive contraception-use communication behaviour among Indonesian unmarried women aged 18 to 29 years who were engaged in a romantic, sexual relationship and then identifies potential behaviour change techniques to promote assertive communication behaviour. The study offers insight into the development of a sexual and reproductive health behaviour change intervention in Indonesia, where accessibility of sexual and reproductive health services remains limited, particularly for young unmarried women (Kistiana, Gayatri, and Sari 2020).

## **Background**

Previous research has revealed a significant association between sexual communication between sexual partners and contraception use (Johnson et al. 2015; Noar, Carlyle and Cole 2006). In addition to the frequency of partner communication, studies have also found that how contraception-related matters are communicated relates to contraception uptake, with an open and assertive communication style being the most likely to increase contraception-use behaviour among young people (Schmid et al. 2015; Widman et al. 2006). Assertive communication about contraception between romantic partners, however, can be difficult. Previous studies have found that having an assertive contraception-use conversation is particularly challenging for women as men are often the primary decision makers in reproduction, including contraception use (Mason and Smith 2000; Mishra et al. 2014). Women's lack of knowledge or

communication skills to discuss contraception may also silence their condom negotiation communication (Teitelman et al. 2011; Widman et al. 2006). Since condom use is dependent on men's unwillingness to use one and women's lack of capability to negotiate contraceptive use limit women's options (Teitelman et al. 2011). Furthermore, perceived sexual powerlessness created by repeated warnings about sexual activity for women, such as from family and friends or the media, can significantly decrease women's assertiveness in communicating their sexual needs and preferences (Zerubavel and Messman-Moore 2013).

Although research has investigated influences on contraception use among Indonesian married men and women (e.g. Irawaty and Pratomo 2019; Kistiana, Gayatri, and Sari 2020; Putra, Dendup, and Januraga 2021), there is limited research examining this behaviour among young people in Indonesia, where social, cultural and religious factors influence sexual and reproductive health (Susanto et al. 2016). Taboos and sensitivities in Indonesian culture impede sexual and reproductive health knowledge and behaviour for young people within the family, at school and in the community (Susanto et al. 2016). Recent survey research, for example, found that sexual and reproductive health knowledge is low and sexual stereotypical attitudes are widespread among Indonesian adolescents, with 70% agreeing that 'it's the girl's responsibility to prevent pregnancy', 46% endorsing the view that 'men are always ready for sex' and 62% believing that 'women who carry condoms are easy' (Hunersen et al. 2023). Further evidence shows that misconceptions, feelings of guilt and lack of knowledge surrounding sexual and reproductive health are common among early adolescents (10 to 14 years old) in urban Indonesia. Gender differences are also evident, with only 29.3% of boys and 15.5% of girls having talked to someone else about contraceptive use, stressing the importance of further research and programmes to improve sexual and reproductive health knowledge and communication among youth (Kågesten et al. 2021).

While studies focusing on sexual communication are rare in Indonesia (Novianti, Setiansah, and Nuryanti 2023), recent research has explored sexual and reproductive health communication between parents and children (e.g. Nurachmah et al. 2019) and within married couples (e.g. Novianti, Setiansah, and Nuryanti 2023; Nugroho 2021). However, there is a dearth of research investigating strategies to improve assertive contraception-use communication, especially among Indonesian young women. One notable exception is research by Kristanti et al. (2019), which evaluated a cognitive-behavioural intervention to enhance sexual assertiveness among women in the Greater Jakarta Area. This research, however, explicitly focused on women who engaged in sexual activity without wanting to do so.

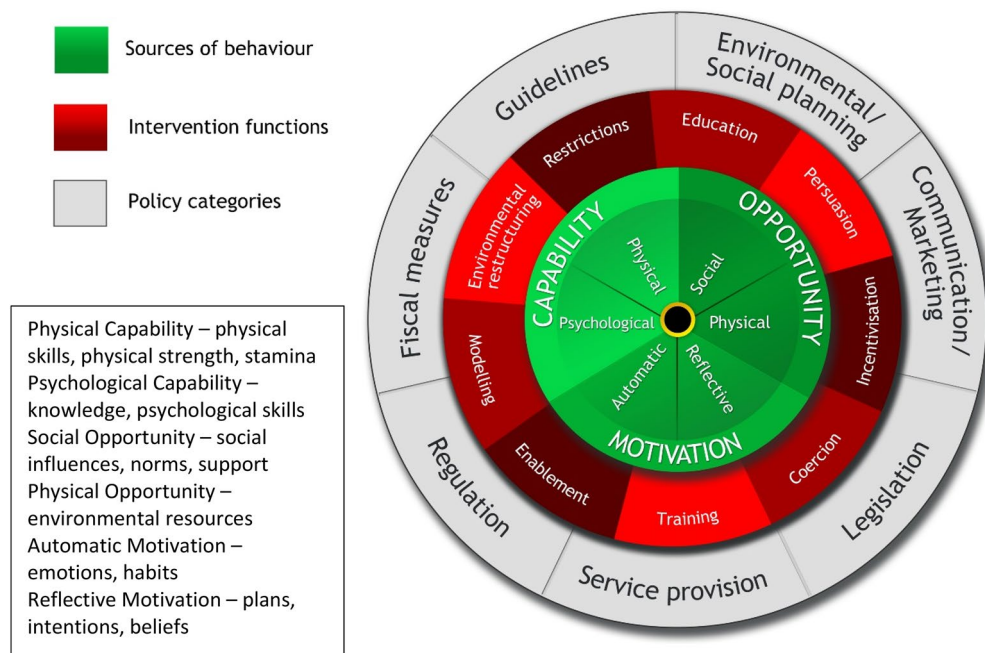
More research examining assertive contraception-use communication behaviour among young unmarried Indonesian women is important for intervention development, as this is a critical age at which individuals tend to engage in pre-marital sex. Indonesia's national data show at least 2% of women have been involved in pre-marital sex, with more than half having their first intercourse between the ages of 15-19 (Kemenko PMK 2021). Although the rate may seem low, it is likely to be an under-report given the social stigma and taboos surrounding sexuality in Indonesia, especially for women who practise pre-marital sex (O'Donnell, Utomo and McDonald 2020). To inform the development of behavioural interventions to improve assertive

contraception-use communication among young people, it is first necessary to identify the individual and environmental influences on that behaviour.

### **Behaviour Change Wheel framework**

The Behaviour Change Wheel (Figure 1) is a comprehensive framework synthesised from 19 existing behaviour change theories (Michie, Atkins, and West 2014). At its core, the COM-B model posits that the interactions between psychological and physical capability, social and physical opportunity, and reflective and automatic motivation, produce behaviour change (Michie, Atkins, and West 2014). The next layer constitutes nine broad intervention types and the outer layer comprises seven policy options. The Behaviour Change Technique Taxonomy consists of 93 evidence-based behaviour change techniques in the form of reproducible intervention strategies (Michie, Atkins, and West 2014). Expert consensus has facilitated the mapping of barriers and facilitators identified using the COM-B model to intervention functions, policy options and behaviour change techniques.

The Behaviour Change Wheel framework has been successfully applied in sexual and reproductive health research, both in the design of interventions (e.g. Cassidy et al. 2019) and in systematic reviews to map intervention functions and policy categories (e.g. Curren et al. 2022; Ruane-McAteer et al. 2020). However, no study to date has used this framework to examine influences on assertive contraception-use communication. This study contributes to this area of inquiry, especially using a behaviour change framework with participants from the Global South, where there is scant research.



**Figure 1.** The Behaviour Change Wheel (Michie, Atkins, and West 2014).

## Current study

This study examines assertive contraception-use communication among young Indonesian women (aged 18 to 29) involved in a romantic, sexual relationship with a male partner, or *pacaran* in Bahasa Indonesia (Sufyan and Nurdiantami 2020). Young women were recruited through a social media platform focused on raising awareness and breaking the stigma surrounding sexual and reproductive health among Indonesian youth. Two specific research questions were focused on: namely, (1) what are the facilitators and barriers to Indonesian women having assertive contraception-use conversations with a male romantic partner, and (2) what behaviour change techniques (both online and offline) can enhance facilitators and address barriers to having assertive contraception-use conversations with a male romantic partner?

## Method

### Sample and recruitment

Participants were recruited from the Instagram followers of *tabu.id*, Indonesia's leading social media-based, sexual and reproductive health-focused intervention programme for youth with 120k followers. A recruitment poster was posted for 24h on *tabu.id*'s Instagram Story with a link to a Google Form page for interested candidate participants to provide their demographic data. Candidates were identified as potential participants when they met the following inclusion criteria: 1) Indonesian citizen; 2) female; 3) aged 18-29; 4) have a *pacaran* (male romantic partner in a committed relationship); 5) have been sexually active; 6) being a follower of *tabu.id*'s Instagram account; and (7) coming from Jakarta, as those living in the capital have better access to education and media (UNICEF and UNESCO 2021).

Online recruitment resulted in 142 interested candidates. The study aimed to interview between 8 and 15 participants, based on information power criteria relevant to the study's theoretical framework, and the need for strong dialogue and dense specificity (Malterud, Siersma, and Guassora 2016). The first ten participants who met the inclusion criteria were sent a participant information sheet and consent form. Nine participants returned the signed consent form, while one did not respond. This latter candidate was removed from the study and replaced by the next candidate. Table 1 shows the participants' characteristics.

**Table 1.** Participant characteristics.

Participant Number	Age	Religion	Education level	Partner's age difference	Relationship length
P1	23	Catholic	Bachelor's degree	2 years	13 months
P2	24	Non-believer	Bachelor's degree	7 years	24 months
P3	22	Islam	Bachelor's degree	0 years	2 months
P4	24	Islam	Bachelor's degree	1 year	18 months
P5	26	Protestant	Bachelor's degree	6 years	36 months
P6	25	Non-believer	Bachelor's degree	2 years	48 months
P7	29	Protestant	Bachelor's degree	4 years	12 months
P8	25	Catholic	Bachelor's degree	3 years	9 months
P9	26	Islam	Associate degree	-1 year <sup>a</sup>	84 months
P10	20	Islam	High school	2 years	30 months

<sup>a</sup>Partner was one year younger than the participant.

The first author conducted all the interviews *via* Zoom video conferencing. One participant preferred having their video on, while nine others preferred having it off, primarily for network stability reasons. The interviews were completed in Bahasa Indonesia and lasted for 60 min on average. The interviews were then transcribed and translated by the first author, whose native language is Bahasa Indonesia and who is fluent in English. The recruited participants were compensated for their time with IDR 175,000 (approximately GBP 9.75) GoPay credits.

### **Ethics**

Ethical approval for this study was granted by the Department of Clinical, Educational and Health Psychology, University College London (CEHP/2020/579).

### **Materials**

Prior to data collection, an interview schedule was created to ensure consistency. The schedule consists of 7 demographic questions and 18 COM-B-based questions focused on assertive communication about contraceptive use (Table 2).

### **Data analysis**

Thematic analysis was chosen because of its flexibility and the possibility of discovering ‘a rich and detailed, yet complex account of data’ (Braun and Clarke 2006). Using a deductive-inductive approach (Braun and Clarke 2002), a ‘theoretical’ analysis was first undertaken with the data based informed by the COM-B model. This was followed by the generation of inductive sub-themes within each COM-B category, which identified more granular facilitators and barriers relative to each domain.

The analysis began with a data familiarisation process, in which the principal researcher listened to interview audio files multiple times, transcribed the interviews verbatim, and then read and re-read the transcripts to become familiar with them. Coding then began. To ensure reliability, a second coder from Indonesia who is familiar with qualitative coding and the topic was involved in independently coding two transcripts in both the deductive and inductive parts of the analysis. Since the second coder was unfamiliar with COM-B, training was given in this by the first author. After

**Table 2.** Examples of COM-B-Based interview questions.

COM-B element	Examples of question
Psychological capability	What skills and knowledge that you think would be helpful for you to communicate assertively with your partner about your thoughts or preferences on contraception use?
Social opportunity	How does your partner influence your decision to (or not to) communicate assertively about contraception use with him?
Physical opportunity	What environmental factors (e.g. time, place) influence your decision to (or not to) communicate assertively about contraception use with your partner?
Reflective motivation	How important do you think assertively communicating about contraception use with your partner is?
Automatic motivation	How do you feel when thinking about assertively communicating your thoughts or preferences about contraception use to your partner?



both coders completed their coding, they shared their findings and codes and resolved any disagreement through discussion.

During the deductive analysis, data generated from the transcripts were categorised under the most relevant COM-B domain. This deductive analysis was followed by a process of inductively generating sub-themes from the data under each domain. Each sub-theme was coded as a facilitator, barrier, both or an 'interesting' finding for further analysis. Multiple reviews were undertaken to ensure each sub-theme was correctly coded and categorised by tracing all identified sub-themes back to the original quotes. Refinements were then made accordingly as necessary.

Further analysis of relevant behaviour change techniques was based on the identified facilitators and barriers. First, potential intervention types for each COM-B facilitator and barrier were identified using the COM-B x Behaviour Change Wheel matrix (Michie, Atkins, and West 2014). Next, potential behaviour change techniques were identified based on expert-consensus guidance (Michie, Atkins, and West 2014). Finally, recommended behaviour change techniques were chosen and agreed upon by the first and second authors through a selection process informed by APEASE (Affordability, Practicability, Effectiveness and Cost-Effectiveness, Acceptability, Safety and Side Effects, Equity) criteria (Michie, Atkins, and West 2014).

## Findings

A total of 13 core themes were identified: two under the psychological capability domain, four in relation to physical opportunity, five linked to social opportunity, two under the heading of reflective motivation and one associated with automatic motivation.

### *Psychological capability*

#### *Communication skills (facilitator)*

Communication-related skills were highlighted when participants were asked about the skills that would help young women practise assertive contraception-use communication. For example, participants mentioned the importance of being 'able to understand how a partner is perceiving the conversation so that we can try to fit ourselves in their shoes' (P3), as well as knowing the best way to 'deliver our thoughts while still respecting our [partner's] feelings' (P8). Specific skills such as persuasiveness, interpersonal and negotiation skills were also mentioned. For example, 'I think simply interpersonal and negotiation skills because sometimes people find it harder to talk with other people and it makes them [conversations] more difficult' (P3); 'I think it's easier for people who are more persuasive' (P4).

#### *Knowledge of contraception and sexual and reproductive health (facilitator)*

Knowledge about contraception types, risks of unprotected sexual activity and the benefits of using contraception were identified as enabling assertive contraception-use communication behaviour. It was crucial to have 'prior knowledge about the topics that I want to talk about... So even if, for example, one day he suddenly initiated the conversation, I then can respond properly [with that knowledge]' (P3). Another



participant mentioned that her knowledge about sexual and reproductive health education motivated her to talk about the issues with her romantic partner, 'I've always liked to learn about sex education, be it about reproduction [health] or contraception. I've always been fully aware about those kinds of things, even before I became sexually active. That's why I'm very conscious about that [sexual and reproductive health] and always talk about contraception with him' (P10).

### ***Physical opportunity***

#### ***In-person private space (facilitator)***

Participants highlighted how private face-to-face moments with their partners best facilitated assertive contraception-use communication behaviour. One participant noted, 'The most important thing is it must be when there are only the two of you, it doesn't really matter where, so long as it's private' (P1). Some participants mentioned how private moments that they perceived would lead to sexual activity with their partner tended to facilitate assertive contraception-use communication, 'Maybe when there is only us two, in a situation that can lead to a sexual activity' (P4). In addition, some participants said they preferred 'in-person communications so we can see each other' (P7).

#### ***Online messaging platforms (facilitator)***

Participants commented on the benefits of using online private messaging platforms to have assertive contraception-use discussions with their partners. Some preferred online communication to discussing things face-to-face, '[I prefer] online because it allows me to structure my argument better, with more time' (P3). Moreover, the social media direct message feature was seen as helpful in initiating conversations about contraception by sharing relevant content from social media feeds with their partner to initiate the conversation. For instance, 'I think [it's] because we sometimes share Instagram posts (*via* direct message), then we can start talking about it' (P6).

#### ***Timing (facilitator)***

The timing of a conversation was highlighted as a facilitating factor. Post-sexual activity was seen as an optimal time to have an assertive contraception-use conversation, 'Most of the assertive communication happened right after we had sex because we both talked about it a lot' (P1). Some participants said that a good time for such conversations was 'when it seems like we both are comfortable and relaxed' (P5). Perceived urgency when sexual activity was about to happen was also seen as enabling assertive communication about the matter, 'Because the situation seemed urgent, so I thought I really needed to talk about contraception because we never know what is going to happen if don't talk about it' (P8).

#### ***Relevant and credible informational content (facilitator)***

Content relevant to contraception-use matters was found to facilitate assertive contraception-use communication behaviour. Mentioned content included social media, trusted websites and movies. One participant said, 'Good content really catches our attention. As simple as when he saw something interesting, he would share it with

me [and say], 'I didn't know this yet, so [I think] it's interesting' (P1). Social media content was also highlighted as a source of sexual and reproductive health information, for example, 'Online sex education platforms are very important, because I get knowledge from Internet-based content and it is very impactful' (P10). It was also noted that sex education content 'helped my way of communication by making my boyfriend believe and understand the information better' (P9).

### ***Social opportunity***

#### ***Partner's attitude towards having conversations about contraception (facilitator or barrier)***

Almost every participant mentioned the influence of their partner's reaction when they started initiating contraception-use conversations. Depending on the response, this influence could be either a facilitator or a barrier. If the partner was perceived as unfavourable towards such a conversation, this posed a barrier to the participant's behaviour. For example, one young woman said, 'My partner is not very open-minded when talking [about contraception]. Usually, when I see these signs, I stop [the conversation]' (P3). On the other hand, when a young woman views her partner as supportive and open to having a conversation about contraception, this enables her assertive contraception-use communication behaviour. For example, one participant noted, 'He always leaves it to me [to make decisions regarding contraception]. It's his principle to follow whatever's my choice' (P2).

#### ***Closeness of the relationship (facilitator)***

Emotional closeness in a relationship was noted as facilitating assertive contraception-use communication. For example, one participant mentioned, 'Emotional closeness matters because if I don't feel close enough to the person, I will not talk about it as I don't feel comfortable to do so' (P3). Another young woman said, 'Because from the beginning of our relationship, there was already a pretty strong foundation regarding communication, in which we want to always bring up anything... So, the two of us can talk more openly about contraception without worrying about it' (P2).

#### ***Other people's experiences (facilitator)***

The majority of participants said that knowing about other people's negative experiences after having unprotected sex prompted them to talk about contraception with their partner to avoid similar consequences. For instance, one participant stated, 'There was a friend of ours who had an unintended pregnancy, and it triggered us [to talk about contraception]' (P4). Other than people they knew, like family or friends, stories from strangers on social media could also facilitate participants' assertive communication behaviour. One participant quoted, 'There was a girl on TikTok who got pregnant with an irresponsible guy, and she asked if anyone wanted to adopt her child. I really pity her, and I don't want it to happen to me or anyone else. That's why I like to discuss contraception with my boyfriend' (P10). Hearing success stories of others who had assertive contraception-use communication with their partners also motivated participants to do the same thing. For example, one young woman said, 'Other than

knowledge and skills, definitely hearing there are other girls out there who already do this kind of conversation [is helpful]' (P1).

### ***Taboos and stigma surrounding contraception in Indonesian culture (facilitator or barrier)***

Most participants highlighted taboos and stigma surrounding contraception and sexual and reproductive health-related matters in Indonesia and their influence on their communication behaviour. Some participants perceived this influence as a barrier, for example, 'I mean... in this Eastern culture, it's considered taboo, especially for a girl, to initiate the conversation first' (P8) and 'It's because sometimes people are embarrassed about sexuality, right? It's still taboo, so they're like, well, we better not talk about it' (P6). For others, however, breaking the taboo and stigma around sexual and reproductive health was seen as an enabler, for example, 'Definitely, it's more like because I know how conservative this country and this society is, so I told my partner that I don't want to be one of the ignorant people' (P1).

### ***Social media norms (facilitator)***

Social media was seen as helpful in normalising contraception-related communication. One participant noted, 'Social media has normalised discussing this topic, so it makes us more comfortable discussing it, knowing that this has become a normal discussion' (P1). It was suggested that the more contraception-related content young people see on social media, the more they talked about it with their partner. For example, 'If they talk about it often, they often make content about it, it often appears in people's [social media] feeds, then people will eventually find it normal [to talk about contraception]' (P2). Finally, social media was also seen as a way to tackle the taboos surrounding sexual and reproductive health topics and enable Indonesian women to speak up. For instance, 'Because it [talking about sex] tends to be considered taboo in Indonesia; thus, we have to tackle it using social media as a tool for campaigns. So, it becomes, oh, actually it's okay for women to initiate the conversation, then they dare to speak up too' (P8).

### ***Reflective motivation***

#### ***Perceived benefits and risks of assertive contraception-use communication (facilitator)***

Understanding the benefits of practising assertive contraception-use communication and the risks of not doing so was noted by all participants as a facilitator. Different benefits were mentioned, from helping them and their partner reach the same understanding about the importance of contraception use to preventing the unwanted consequences of sexual behaviour. For example, 'Assertive communication is a way for each of us to understand that the use of contraception is very important in an active sexual relationship' (P9); 'Yes, it's better to talk about it and to look for information together before something unwanted happens' (P7). Furthermore, having assertive contraception-use conversations with their partner also tended to increase once individuals realised the disadvantages of not doing so. For example, 'The

disadvantage is that we cannot express our opinion that way. We have opinions, but because we are shy and unsure, in the end, we can't convey them properly. So, our opinions are not channelled properly' (P8). Having an assertive conversation was also noted as a way of challenging one's partner's misguided beliefs and misinformation. For instance, 'It's really something that's actually for the long run, because for example, if we are not assertive, we won't be able to say, like, 'this is the risk,' and he will be biased by these myths' (P6).

### ***Automatic motivation***

#### ***Fear of assertive Contraception-Use communication (barrier)***

Some participants talked about fear preventing them from being assertive when communicating about contraception use with their partner. For instance, one participant said, 'At first when we were about to have sexual intercourse, I was afraid, like, what's he going to be like, will it be comfortable discussing it or not...'. (P5). Similarly, another participant mentioned, 'When I was explaining, I was afraid he would think of something weird—I was afraid that he would misunderstand what I was talking about, and I was afraid that he would take it wrong' (P7).

### **Discussion**

Thirteen core themes in five COM-B categories were identified. Using the APEASE (Affordability, Practicability, Effectiveness and Cost-Effectiveness, Acceptability, Safety and Side Effects, Equity) criteria, seven behaviour change techniques are recommended. The identification of facilitators, barriers and potential behaviour change techniques offers a starting point for behaviour change interventions within this context.

#### ***COM-B themes and behaviour change techniques***

In contrast to inhibiting young women from assertive contraception-use conversations, 'taboos and stigma surrounding contraception in Indonesian culture' proved to be an enabling factor for some participants. Breaking cultural taboos was seen as a motivating factor for communicating assertively about contraceptive use with their partners. Other participants, however, noted social stigma created a barrier for young women to communicate assertively about contraception with their male partners. They explained that they feared their partners would misconstrue what was said or perceive them negatively since it is not common for Indonesian women to speak openly about contraception.

Potential behaviour change techniques to break the 'taboos and stigma surrounding contraception in Indonesian culture' include 'social comparison' and 'information about other people's approval'. These behaviour change techniques can be applied in a social environment such as *via* a social media campaign or online discussion forum to normalise contraception-use conversations and empower women to be more assertive about their contraceptive preferences. For example, in online content, these

strategies can be used to encourage positive and socially acceptable norms regarding the discussion of contraception use. Young women may thus perceive a sense of normality in comparison to others and safety when talking about contraception, including with their partners.

Similar to previous research (Weinstein, Walsh, and Ward 2008), 'knowledge about contraception and sexual and reproductive health' and 'perceived benefits and risks' were facilitators of assertive contraception-use communication for young women. 'Information about [the] social and environmental consequences' and 'information about [the] health consequences' may be useful behaviour change techniques in this context. The availability of high-quality and comprehensive sex and sexuality education highlighting the importance of contraception-use communication for both young women and men would be one example application of these behaviour change techniques. Action to realise this effort would be to add a comprehensive sex education module as part of the national school education curriculum. This might be difficult, however, given the taboos and stigma that still surround sexual and reproductive health issues. Nevertheless, *Setara*, an in-school, teacher-led intervention program to promote 12–15-year-olds' health and sexual development, has been implemented in more than 100 schools in Indonesia (Van Reeuwijk and Kågesten 2020)

Another potential outlet to provide information about having contraception-use conversations with a sexual partner is *via* social media platforms. As all the participants in this study mentioned, social media content and the general approach taken to sexual and reproductive health issues in the online environment significantly influenced their contraception-use communication behaviour. The provision of social media-based sex education content may therefore be a promising way to tackle the barriers created by a 'partner's (negative) attitude towards having conversations about contraception' and 'fear of initiating assertive contraception-use communication', empowering young women regarding their sexual and reproductive health behaviours and rights.

The behaviour change technique of using a 'credible source' could also be applied to potentially enhance the facilitators of 'relevant and credible informational content' and 'other people's experiences'. For informational content, efforts can be made to ensure the content posted on social media platforms is generated from valid and reliable sources (e.g. scientific journals, experts' knowledge) with citations of these sources on the content's caption or footnotes. In support of this finding, previous research in the context of COVID-19 health behaviour adherence showed that perceived credibility of information was significantly linked to higher adherence to the desired health behaviour (Lep, Babnik and Beyazoglu 2020).

To enhance the facilitator of 'other people's experiences', popular social media influencers could share their relevant experiences offline (e.g. as speakers in a sex education class) or online on their social media page) to inspire young people to engage in assertive contraception-use communication. Personal testimonies have proven useful in promoting other health behaviours among young people elsewhere (Thornley and Kate 2010). In Indonesia, social media influencers have been shown to impact young people's behaviour (e.g. Dean, Suhartanto and Pujiarti 2022; Sutrisno and Ariesta 2019). However, it is vital to ensure that the influencers involved are credible sources who exert a positive influence over Indonesian young people's contraception-use behaviours.

To address ‘communication skills’, the behaviour change techniques of ‘demonstration of the behaviour’ and ‘instruction on how to perform the behaviour’ could be included in both offline and online comprehensive sex education contexts. As mentioned by most participants, having appropriate communication skills is crucial to assertively communicating their preferences about contraception to male partners. Consequently, the training and promotion of assertive communication skills should be part of comprehensive sex education curricula and social media education strategies.

### **Limitations**

Several limitations should be considered in relation to this study. First, it involved a small number of participants, all of whom were in a committed dating relationship, living in Jakarta and using social media to access sexual and reproductive health educational content. Given variations in access to media, information and education across Indonesia, generalisation to a broader population is not possible. Moreover, since most participants had undergraduate degrees, different insights may be generated from research with less highly educated populations. Future research could also be undertaken with those living in rural areas. Barriers and facilitators to assertive communication about contraception could also be explored with local religious or cultural groups, given the impact of religion and local culture on how Indonesians express their sexuality (Lubis et al. 2022).

### **Conclusions**

Using the Behaviour Change Wheel framework, this study identified facilitators and barriers to assertive contraception-use communication behaviour among young Indonesian women in a committed, sexual relationship with a male partner. Findings highlight the need for sexual and reproductive health education that normalises conversations about sexual and reproductive health behaviour and rights for young people in Jakarta. Providing offline and online comprehensive sex education is one way of engaging with identified facilitators and barriers. Social media can also be used to break the stigma and taboos surrounding sexual and reproductive health matters, normalise conversations about contraceptive use with sexual partners, and teach strategies to engage in assertive contraception-use communication. In addition to empowering women to be more assertive about their preferences regarding contraception use, interventions should also target young men as part of their efforts (Ruane-McAteer et al. 2020). Overall, these findings highlight the strength of using theory-based behaviour change frameworks such as the Behaviour Change Wheel to consider how to develop new behaviour change interventions and enhance existing ones, such as through Tabu.id, to facilitate contraception-use conversations among young people in the Global South.

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