



# Patient-Centred Counselling Tools for Dispensing Contraceptives in Community Pharmacy Settings: A Systematic Review

Parimala Vijai Indrian<sup>1</sup>, Wei Wen Chong<sup>1</sup>, Anizah Ali<sup>2</sup>, Adliah Mhd Ali<sup>1</sup>

<sup>1</sup>Centre of Quality Management of Medicines, Faculty of Pharmacy, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia; <sup>2</sup>Department of Obstetrics and Gynaecology, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Correspondence: Adliah Mhd Ali, Faculty of Pharmacy, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, Kuala Lumpur, 50300, Malaysia, Tel +603-92897286, Fax +603-26983271, Email adliah@ukm.edu.my

**Background:** The patient-centred counselling tools are a comprehensive resource to assist community pharmacists in providing effective treatment choices and assisting with decision-making.

**Aim:** To identify and select suitable tools community pharmacists use with targeted patient-centred outcomes for dispensing contraceptives.

**Methods:** Five electronic databases, Web of Science, Cochrane Library, PubMed, Scopus, and Google Scholar as additional sources for published and unpublished studies, were searched to identify literature for contraceptive tools or strategies for pharmacists to decide on contraceptive choice and dispensing by pharmacist. Studies involving pharmacists or tools suitable for pharmacists from any country, published since 1990 were considered.

**Results:** A total of 21 publications met the inclusion criteria. Robvis' tool was used for visualizing the risk of bias for each result. There were three studies that used the tools specifically by community pharmacists and others focused on general family planning users and pharmacists. The suitability of patient-centred interventions in community pharmacy settings was further evaluated.

**Conclusion:** The evidence for special tools for pharmacists for dispensing contraceptives in community settings is limited and further research is needed to develop and evaluate novel interventions for pharmacists in community settings.

**Keywords:** contraception, patient-centred, community pharmacist, family planning, counselling tools, dispensing contraceptives

## Introduction

Community pharmacy settings could ensure access to contraception services in line with Sustainable Development Goal 3 to contribute to good health and well-being.<sup>1</sup> This includes family planning, information, education, and the integration of reproductive health into national strategies and programmes. Hormonal contraceptives are readily available at community pharmacy for women's reproductive health and overall well-being. It could be used to control their fertility, allowing the informed decision for a wanted child and providing various health benefits, such as reducing the risk of ovarian and endometrial cancers and regulating the menstrual cycle.<sup>2</sup>

The use of hormonal contraceptives may be not suitable for all women as it has the risk and has to be evaluated carefully before dispensing. In Malaysia with various cultural diversity, consumers may face many barriers and concerns related to stigma mainly in sexual and reproductive healthcare.<sup>3</sup> Community pharmacists play an important role in comprehensive reproduction health education. Community pharmacists are one of the interprofessional personnel who can promote access to contraceptive services with their availability in most areas and long hours for operating the services.<sup>4</sup> Community pharmacy is suitable for patient-centred care and lack of need for appointments which are good for many consumers with limited time. This commentary suggests specific ways for pharmacies to improve access to contraception, emergency contraception, and abortion in line with national quality recommendations.<sup>5</sup> Particular focus

can be given to the intersection of sexual and reproductive health resources and referrals within the pharmacy profession, as well as the training and technical assistance tools that can help address unmet patient needs.<sup>5</sup>

Certainly, educational interventions play an important tool in increasing the awareness and knowledge about the right contraceptive choice given by the community pharmacist. Contraceptive counselling plays a crucial role and can help individuals to make informed decisions about their needs and preferences. Key aspects of contraceptive counselling include information and education, assessment of needs and preferences, risk assessment, side effect management, continuous support, method continuation, and switching. All this requires collaboration between individuals and healthcare providers, thus a patient-centred approach. This aimed to empower the individuals to make choices aligned with their appropriate health reproductive goals. The Bruce framework identified six dimensions for quality family planning (FP) services, including choice of methods, information given to clients, and interpersonal relations.<sup>6</sup>

Patient-centred counselling tool is meant to facilitate an effective interactive process between provider and client. Patient-centeredness refers to providing care that is respectful of, and responsive to, individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions.<sup>7</sup> Contraceptive counselling tools available such as interactive decision-making aids using mobile apps, charts and infographic brochures, and comprehensive method guides using the WHO Medical Eligibility Criteria wheel or online tools. Such tools aim to engage the community pharmacist with patients in the decision-making process, taking into consideration preferences and needs with complete assessment of patients and developing personalised treatment plans. It was predicted that a well-designed patient-centred counselling tool could enhance the quality of provider and client interactions which would contribute to better reproductive health outcomes and alert the community pharmacist for risk factors to refer the patient to a physician.

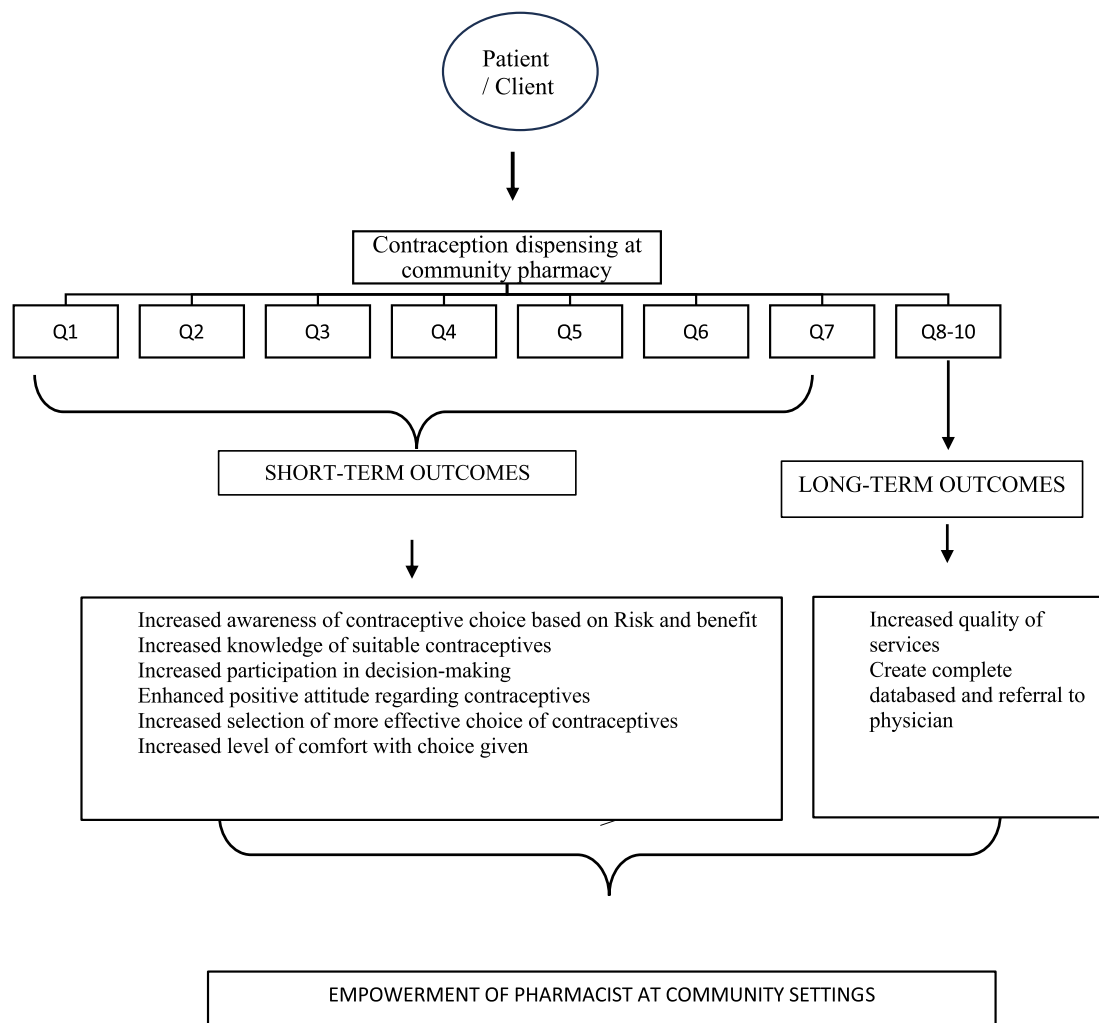
Dispensing contraceptives in community pharmacy settings to date requires standardised guidelines or adherence to the best practices to ensure the safe provision of services given. Pharmacists should utilize a collaborative practice agreement to expand their scope of practice and provide clinical preventive services to patients.<sup>4</sup> Community pharmacists should receive proper continuous updates or training on deciding the choice of contraceptives for dispensing or switching contraceptives. Community pharmacists should actively involve their consumers in the decision-making process to ensure the risk factors involved were identified to tailor the suitable contraceptives for the consumer before dispensing.

Several systematic reviews have been conducted to identify the counselling intervention tools in various other countries.<sup>8–10</sup> There was limited documentation on the referral of high-risk category patients to doctors. The current review therefore aimed to identify and select suitable tools used by community pharmacists with targeted patient-centred outcomes for dispensing contraceptives. Certainly, using educational interventions plays an important tool in increasing the awareness and knowledge about the right contraceptive choice given by the community pharmacist. Thus, the results of this review will inform about the importance of patient-centred counselling tools to guide the dispensing of contraceptives in community pharmacy settings.

## Methods

### Development of Key Questions and Analytical Framework

An analytical framework was developed to identify the link between the population of interest (community pharmacist with the client/patient), and the interventions that could provide the primary and secondary outcomes of interest (Figure 1). The key questions were developed through literature reviews and inputs from the experts.<sup>5,11,12</sup> Ten key questions (Q) were addressed on the patient-centred counselling tools for dispensing contraceptives in community pharmacist settings (Supplementary Table 1). The first seven (Q1-Q7) asked whether any tools were used to increase the awareness of contraceptive choice based on risk and benefit, participation in the decision-making, attitude towards contraceptives, selection of more effective choice of contraceptives and level of comfort with the dispensed choice. The final two questions were for long-term outcomes for community pharmacy settings and more on quality of services with appropriate referral to physicians for high-risk patients.



**Figure 1** Analytic framework for systematic review of patient-centred counselling tools for dispensing contraceptives in community pharmacy settings.

## Search Strategies and Study Identification

A systematic study of published literature was done following the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines.<sup>13</sup> The review assesses the primary data of patient-centred counselling tools for hormonal contraceptives published between January 1990, since the publication of the Bruce framework in 1990 to June 2023 will be included regardless of the language. The studies using patient-centred counselling tools as interventions on the choice of contraceptives suitable for pharmacists were included. They must be also free to access in full online or accessible through university libraries. Reviews must have a primary focus on patient-centred tools used to select hormonal contraceptives or guidance used for the practice of dispensing contraceptives with any of the short-term outcomes highlighted in Figure 1. Inclusion criteria were developed, and the study included had to address one of the key questions. To meet the inclusion criteria, studies had to suit community pharmacists or had to describe an intervention that could be implemented feasibly in community settings for pharmacists to choose the contraceptives for dispensing. Studies focusing on counselling tools only or assessing knowledge only were excluded. Other exclusion criteria were interventions or outcomes focused solely on barrier methods. Studies focusing on long-acting reversible contraceptives including contraceptive implants and intrauterine devices (IUDs) were also excluded.

The search was conducted through a manual comprehensive literature on the Web of Science, The Cochrane Library, PubMed, Scopus, and Google Scholar as an additional source for published and unpublished studies. The lack of outcome data was traced by contacting the authors of the study. The proposed search matrix is chosen using the Population, Intervention, Comparator and Outcome (PICO) model (Table 1). The populations are set at pharmacists with the intervention of patient-

**Table 1** Population, Intervention, Comparator and Outcome (PICO) Model

Component	Keyword
Population	<ul style="list-style-type: none"> <li>• Community pharmacist</li> <li>• Retail pharmacist</li> <li>• Pharmacist</li> <li>• Hospital pharmacist</li> </ul>
Intervention	<ul style="list-style-type: none"> <li>• Patient-centered counselling tool</li> <li>• Decision aid for pharmacist</li> <li>• Counselling tool or guide for pharmacist</li> <li>• Decision-making in contraceptives choice</li> <li>• Contraceptives tool</li> </ul>
Comparator	<ul style="list-style-type: none"> <li>• Contraceptives educational tool or guide</li> <li>• Verbal counselling</li> </ul>
Outcome measures	<ul style="list-style-type: none"> <li>• Enhanced pharmacist contraceptive counselling guide as per to address one of the key questions</li> </ul>
Exclusion criteria	<ul style="list-style-type: none"> <li>• Intervention or outcomes focused solely on barrier methods</li> <li>• Long-acting reversible contraceptive includes contraceptive implants and intrauterine devices (IUDs)</li> </ul>

centred counselling tools or healthcare providers suitable for pharmacists as a population. The comparison with other types of contraceptives dispensing with or without tools. The outcome is determined by the enhancement of a guide for pharmacists. Thus, the search keywords used such as “contracepti\*”, “family planning”, “counselling OR counselling” OR “educational strategies” OR “patient-centred interventions” OR “tool\* OR guide for pharmacist” OR “decision aid” OR “family planning quality” OR “quality of family planning” OR “patient-provider interaction” OR “patient-provider interaction” OR “client-provider interaction” OR “client-provider interaction” or “client-provider communication” OR “client-provider communication” OR “patient-provider communication” or “patient-provider communication AND pharmacist\*” OR “community pharmacist”. Boolean operators such as “AND” and “OR” were used to increase the sensitivity and specificity of the search. Specific search terms used for each topic are presented in the appendix for complete search of keywords.

## Selection of Studies

All uniquely identified publications in which patient-centred contraceptive tools were used among pharmacists or healthcare providers suitable for pharmacists were screened by one author (PV) based on title and abstract. All selection processes were undertaken by one reviewer that will complete both screening, eligibility, and inclusion. The selection process and screening of the results were validated by three reviewers AMA, CWW, and AA. Rayyan QCRI software was used for this study for the screening part.

## Data Extraction and Data Synthesis

Extracted data included detailed information on study design, patient-centred contraceptive tools used, general healthcare providers and suitable for pharmacists to use the tools. The studies identified were examined thoroughly, selected study has answered any of the key questions outlined as per the analytic framework in this review. Data were extracted from included studies in an Excel data extraction sheet. The results were reported according to the intervention type and suitable for the target population with specific attention paid to community pharmacists or pharmacists. The substantial variability in contraceptive tools used as interventions and the outcomes prevented them from conducting a meta-analysis. We summarised the findings on the Patient-Centered Counselling Tool for dispensing contraceptives in community pharmacy settings in summary Table 2.<sup>14–33</sup> In this review, PRISMA reporting guidelines were followed.<sup>13</sup>

## Assessment of Study Quality

Study quality was assessed using a quality risk-of-bias assessment. In this study, the Robvis tools (RoB, 2023) were used for visualising the assessment of the risk of bias in individual studies.<sup>34</sup> A convenient “traffic light” plot tabulates the judgement for each study in each domain. Risk of bias domains consist of bias due to randomisation,

**Table 2** Baseline Characteristic of Included Studies

No	Author/ Year	Study Design	Country	Population Involved	Intervention Used	Outcome or Key Question	Results /Conclusion
1	Munro et al 2023. <sup>14</sup>	Prospective, Mixed-method	Canada	Service providers	iKT <sup>a</sup>	Tools facilitate shared decision-making	End-of-project KT products in using principles of narrative theory and user-centred design. These may consist of 2-minute whiteboard and/or live videos of patient stories or text-based infographics.
2	O'Connell et al 2023. <sup>15</sup>	Mixed-method	United States	Service providers	Mhealth <sup>b</sup>	Interactive decision aid with easily accessible with customised technology tools	Counselling through an interactive consensus process with essential aspects of the counselling, specified the content via in person or virtually, and considered best practices for telehealth for the focus population
3	Ahmad et al 2022. <sup>16</sup>	Descriptive, Retrospective	United States	Pharmacists	Pharmacist hormonal contraception prescribing service via a collaborative drug therapy management agreement	Personalised treatment plans	The pharmacist contraception prescribing to meet the needs with the check of medically eligible to receive hormonal contraception.
4	Buckingham et al 2020. <sup>17</sup>	Randomised trial	Australia	Service providers	Decision-making process through the provision of contraception counselling both on contraceptive choice and use.	Communication facilitation	Involving a decision aid: a tool designed to facilitate informed method selection, which presents information regarding two or more methods of contraception.
5	Pazol et al 2018. <sup>18</sup>	Systematic review	United States	Healthcare providers	Educational interventional: Studies used a wide range of tools (decision aids, written materials, audio/videotapes, and interactive games)	Educational interventions to increase knowledge in prescribing with personalised treatment plan	Future studies should assess what aspects of educational interventions are most effective, the extent to which it is necessary to include a healthcare provider or educator, and the extent to which educational interventions can impact behaviours.
6	Akour et al 2017. <sup>19</sup>	Randomised, Interventional	Jordan	Pharmacists	Pharmacist-provided information booklet on increasing the knowledge about safe and effective use	Interactive decision aid knowledge booklet for consumer	This provision of an information booklet by pharmacist were highly recommended.
7	Chewning et al 1999. <sup>20</sup>	Longitudinal, experimental	United States	Healthcare providers	Computerized aid for contraceptive decision-making for adolescent patients	Tools facilitate shared decision-making	Usefulness of informatics tools as a supplement to patient-provider interactions.
8	Meredith et al 2021. <sup>21</sup>	Mixed-method	United States	Healthcare providers	Modified Delphi method to develop standardized youth-friendly counselling tools	Shared decision-making	Use of the Delphi method allowed for the efficient production of materials that are medically accurate, patient-centered, and reflect multiple disciplinary perspectives. Final materials were more robust and sensitive to the unique needs of youth.

(Continued)

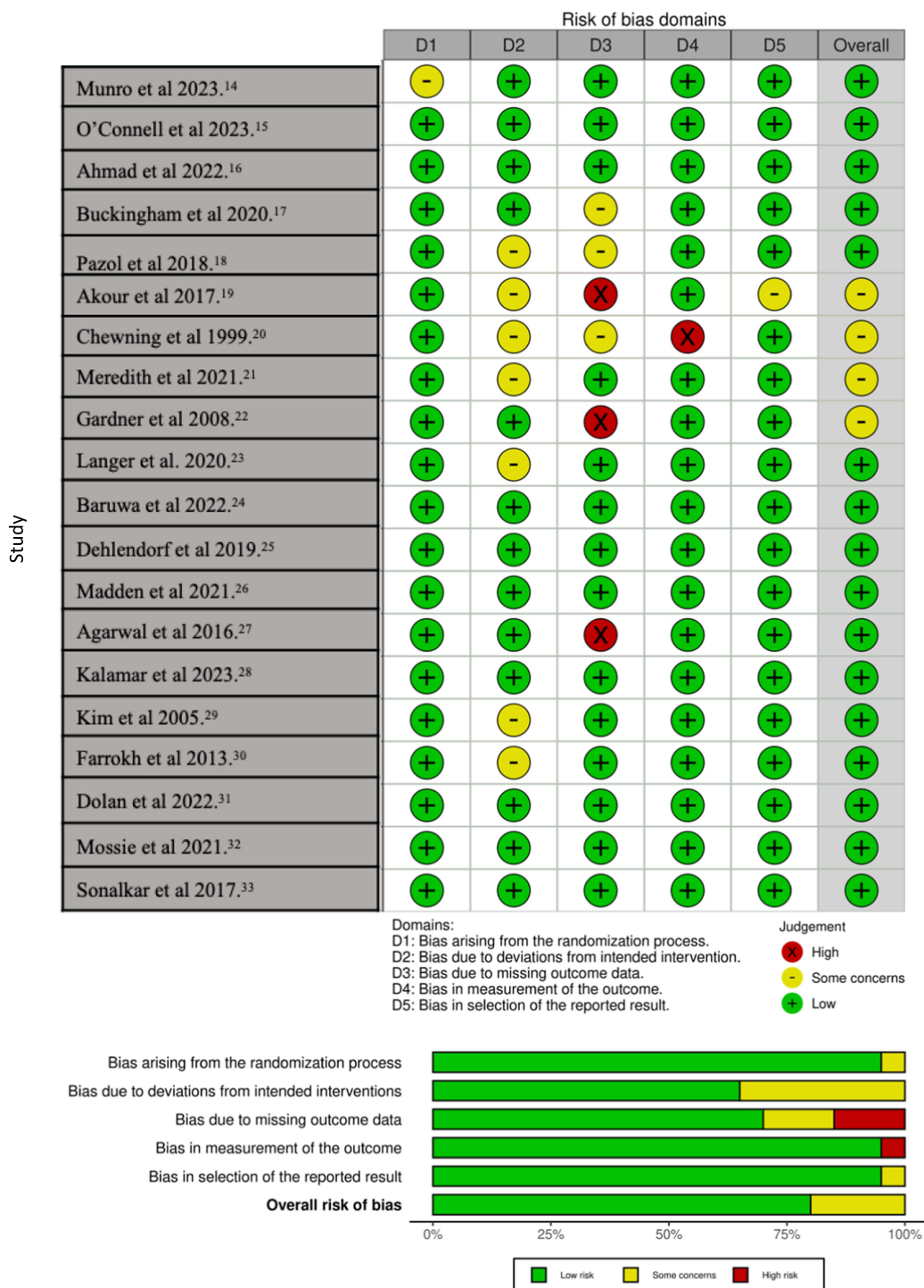
Table 2 (Continued).

No	Author/ Year	Study Design	Country	Population Involved	Intervention Used	Outcome or Key Question	Results /Conclusion
9	Gardner et al 2008. <sup>22</sup>	Mixed-method, Interventional	United States	Pharmacists	Collaborative drug therapy protocol	Protocol for patient	Effectiveness of pharmacist interventions was measured by continuation of hormonal methods by women. Feasibility was determined by measuring acceptability and sustainability.
10	Langer et al 2020. <sup>23</sup>	Cross-sectional, Quantitative	Germany	Pharmacists	The test scenario, evaluation forms the checklist and from the Federal Chamber of Pharmacies	Personalised treatment plan	Use of a counselling room, checklist, and the questioning score in achieving the appropriate outcome. A target regulation for the use of a counselling room, an explicit guideline recommendation about the use of a checklist, and appropriate mandatory continuing education programmes.
11	Baruwa et al 2022 <sup>24</sup>	Quasi-experimental longitudinal	Nigeria	Community pharmacists	Counselling using the BCS+ <sup>c</sup> toolkit for three days.	Protocol for patient	Community Pharmacists had good retention of family planning knowledge, especially when combined with job aids. Training and providing them with job aids on family planning.
12	Dehlendorf et al 2019. <sup>25</sup>	Cluster randomised control trial	United States	Service providers	My Birth Control	Interactive decision aid	My Birth Control increased contraceptive continuation and improved patient experience and knowledge compared with usual care.
13	Madden et al 2021. <sup>26</sup>	Randomised control trial	United States	Practitioners and academicians	Computerized contraceptive decision: tablet-based	Interactive decision aid	Use of a computerized contraceptive decision aid did not reduce decisional conflict, alter method choice, or impact satisfaction compared to the control group among women choosing reversible contraception.
14	Agarwal et al 2016. <sup>27</sup>	Mixed-method	Tanzania	Community health workers (CHWs)	A Mobile Job Aid - pilot intervention using a mobile job aid	Interactive decision aid	The use of mobile job aids for delivery of integrated family planning scale effective program.
15	Kalamar et al 2023. <sup>28</sup>	Quasi-experimental	Malawi	Healthcare providers	Counselling for Choice approach	Tools facilitate shared decision-making	Client-centered counselling approaches that structure information provision and interpersonal care based on clients' priorities and that provide enhanced anticipatory side effects counselling.

16	Kim et al 2005. <sup>29</sup>	Mixed-method	Mexico	Healthcare providers	DMT <sup>d</sup> for family planning	Tools facilitate shared decision-making	Examine the tool's usability and its impact on counselling and decision-making processes during family planning consultations. the decision-making tool was useful both as a job aid for providers and as a decision aid for clients.
17	Farrokh et al 2013 <sup>30</sup>	Mixed-method	Iran	Healthcare providers	World Health Organization's (WHO's) DMT <sup>d</sup>	Tools facilitate shared decision-making	The adapted WHO's DMT <sup>d</sup> has the potential to improve the quality of family planning services.
18	Dolan et al 2022. <sup>31</sup>	Qualitative In-depth interview	Australia	Healthcare providers	Right For Me' birth control DA <sup>e</sup>	Increased participation in decision-making	Making the encounter DA <sup>e</sup> available in both the Chinese and English languages can be valuable in assisting Chinese migrant women in making informed decisions about contraceptive methods.
19	Mossie et al 2021. <sup>32</sup>	Qualitative In-depth interview and Focus group	Ethiopia	Healthcare providers	Community-level tracking tools included a modified Integrated Maternal and Child Health card.	Increased participation in decision-making	The card improves counselling practices through the continuum of care and is acceptable and feasible to apply. Some elements have been incorporated into a revised national tool.
20	Sonalkar et al, 2017. <sup>33</sup>	Mixed-method	United States	Healthcare providers	Several different documents have addressed WHO guidance on postpartum family planning, the electronic WHO Postpartum Family Planning Compendium.	Tools facilitate shared decision-making	Family planning experts allowed for improvements to be made before the official launch. Future directions are adaptation of the website into a mobile application that can be more easily integrated to low-resource settings, and translation of the content into French and Spanish.

**Notes:** <sup>a</sup>iKT: Integrated Knowledge translation. <sup>b</sup>mhealth: counselling-plus-mobile health. <sup>c</sup>BCS+: balanced counselling strategy plus. <sup>d</sup>DMT: Decision-Making Tool. <sup>e</sup>DA: decision aid.

deviation from intended intervention, missing data, outcome measurement, and finally selection of reported results. The overall risk of bias is weighted in the bar plots of the distribution of the risk of bias judgements within each bias domain (Figure 2).



**Figure 2** Risk of bias and overall risk for the selected studies. Adapted from McGuinness LA, Higgins JPT. Risk-of-bias VISualization (robvis): an R package and shiny web app for visualizing risk-of-bias assessments. *Res Synth Methods*. 2021;12(1):55–61. © 2020 The Authors. *Research Synthesis Methods* published by John Wiley & Sons Ltd.<sup>34</sup>

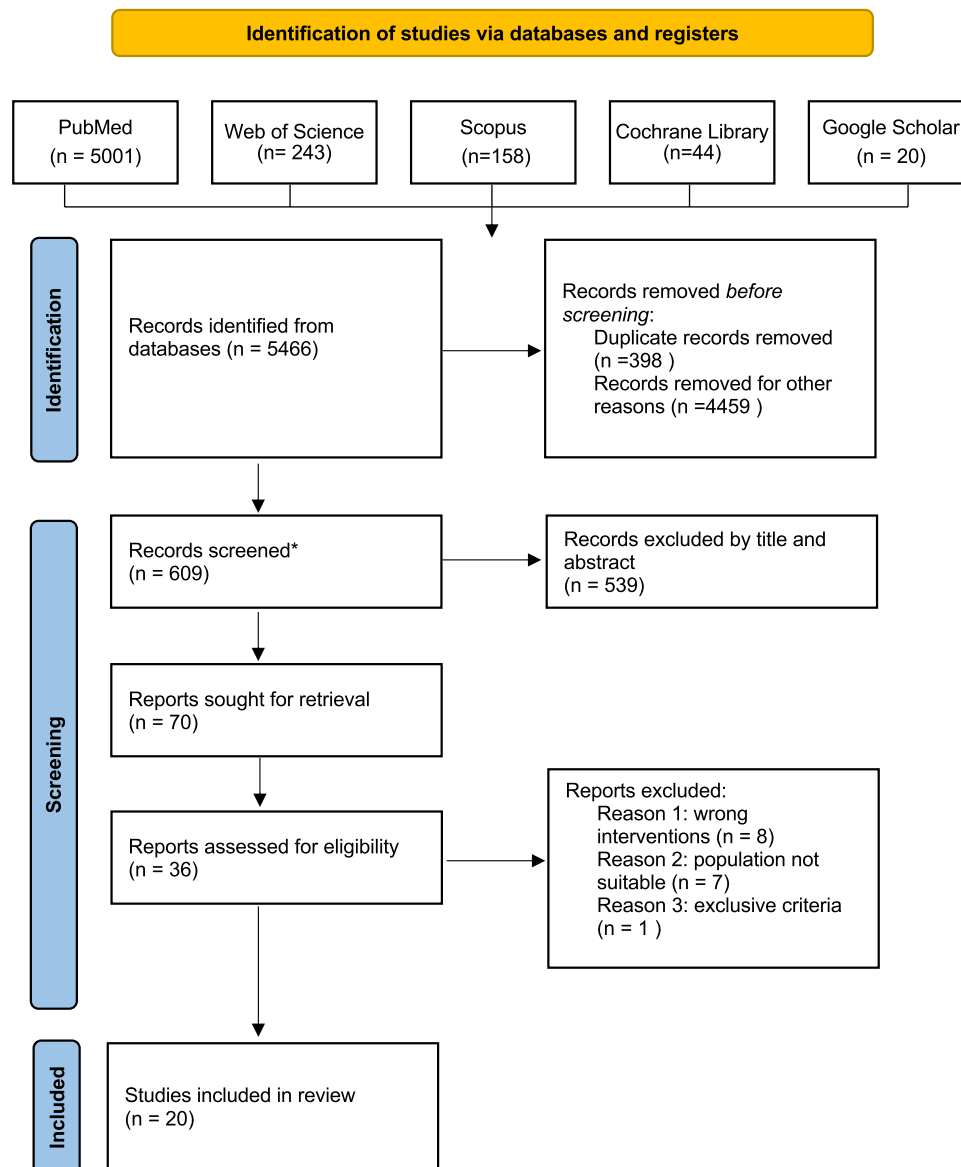


## Result

### Systematic Search Results

The electronic search yielded a total of 5466 articles (Figure 3). Title and abstract screening excluded 4857 articles due to the inappropriate nature of the literature, not suitable for pharmacists, no tools being used to dispense or counsel contraceptives and duplicated records. Potentially relevant articles were screened and out of these 609, further 40 articles were duplicated and excluded using Rayyan software. Full-text assessment excluded 16 articles due to conflicts in the population and did not meet the inclusion criteria.

The characteristics of all studies are presented in Table 2. The studies included populations involved in family planning (FP), who were categorised as service providers, healthcare providers, pharmacists, community pharmacists, practitioners and academicians, and community health workers. The tools used for patient-centred contraceptive counselling included mobile base, computerised aid, WHO wheels, written aid, and counselling kit. The outcomes of



**Figure 3** Systematic review flow diagram. \*Rayyan Automation tools were used to help expedite the initial screening of abstracts and titles using a semi-automation process to indicate how many records were excluded. Adapted from Moher D, Liberati A, Tetzlaff J, Altman DG. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ*. 2009;339(7716):332–336. Creative Commons.<sup>13</sup>

**Table 3** Mapping of Study Interventions Across the Population in Included Studies

Studies	Type of Patient Centred Counselling Interventions	Target Population		
		All Family Planning Service Users	Pharmacist	Community-Based
Munro et al 2023. <sup>14</sup> O'Connell et al 2023. <sup>15</sup> Ahmad et al 2022, Akour et al 2017. <sup>16,19</sup> Buckingham et al 2020. <sup>17</sup> Pazol et al 2018. <sup>18</sup>	Provider- patient coaching Virtual and video aid with motivational interviewing Written materials with counselling	• •	•	
Chewning et al 1999, Dehlendorf et al 2019, Madden et al 2021, Agarwal et al 2016. <sup>20,25-27</sup> Meredith et al 2021. <sup>21</sup>	Decision aids Educational interventional: (decision aids, written materials, audio/videtapes, and interactive games), with and without input from a healthcare provider or educator Computerized aid /web based tool / tablet/phone based decision aid	• • •	•	
Gardner et al 2008. <sup>22</sup> Langer et al 2020. <sup>23</sup> Baruwa et al 2022. <sup>24</sup>	Modified Delphi method for Pharmacist contraceptive prescribing toolkit Self-administered screening tool: Community based Written materials and checklist Training & counselling material – flipchart/brochures/ footnotes clarified the checklist			• • •
Kalamar et al 2023. <sup>28</sup> Kim et al 2005, Farrokh et al 2013, Sonalkar et al, 2017. <sup>29,30,33</sup> Dolan et al 2022. <sup>31</sup> Mossie et al 2021. <sup>32</sup>	Provider tool and training to structure counselling World Health Organization's (WHO's) Decision-Making Tool (DMT) 'Right For Me' birth control decision aids. Training video and key questions to guide for choice and counselling Paper based tools for tracking women's decision-making	• • • •		

the studies were selected based on the key questions developed and largely correspond to shared decision-making and tools that serve as interactive aids for personalised patient care.

The participating studies provided an overview of the interventions used in the different populations (Table 3). The majority of studies were aimed at users of FP service. There were only three studies targeting community pharmacists, which was important to identify the tools used by community pharmacists. The appropriateness of patient-centred interventions in community pharmacy settings was tabulated according to the acceptability in community, patient care, time taken for consultation, cost, requirement for training, referral point to physician, risk factor alert, and involved culture aspect (Table 4)

## Discussion

Aligned with the current trend of family planning vision in sight, which is access to information and services on reproductive health, this systematic review provides a timely analysis of the patient-centred counselling tools available for dispensing contraceptives in community pharmacy settings. Patient-centred counselling approach for dispensing contraceptives in community pharmacy is a crucial aspect that focuses on tailored advice and personalized individual needs. By using a patient-centred counselling tool, pharmacists can effectively engage with clients, address their specific needs and concerns, and help them make informed decisions about contraceptive options.<sup>35</sup> This review provides new knowledge on detailed screening on patient-centred counselling tools by utilizing evidence-based resources, the source that could be used by community pharmacists to ensure they are providing accurate information on contraceptives and the risks of the different contraceptives evaluated before dispensing.

**Table 4** Summary of the Suitability of Patient-Centred Interventions in Community Pharmacy Settings

Patient Centred Counselling Interventions	Easy to use / acceptability	Patient Care	Consultation Time	Community Based	Cost for Initiation	Need to be Trained	Computer Tools	Virtual Consultation	Standardised Protocol	Recommendation	Referral point to physician	Risk factor alert	Culture aspect	All women suitability	Easy follow up
Provider- patient coaching	√	√	X	√	√	√	X	√	√	√	X	○	X	X	X
Telephone/ audio counselling and video aid	√	X	X	√	√	√	√	√	√	√	X	○	○	X	X
Written materials with counselling	X	X	X	X	X	√	X	X	√	√	X	√	○	X	○
Decision-making tools	X	X	X	○	√	√	√	√	√	√	√	○	○	√	○
Interactive aid	X	√	X	X	√	√	√	○	○	√	○	○	○	○	√
Computerized aid	○	√	X	√	√	√	√	√	√	√	○	○	○	√	○
Modified Delphi for Pharmacist contraceptive prescribing toolkit	○	√	X	√	√	√	X	X	√	√	√	○	X	√	○
Self-administered screening tool	√	√	X	√	X	√	√	√	√	√	√	√	X	X	√
Evaluation forms and checklist	X	X	X	√	X	X	X	X	○	○	○	○	○	○	○
Training and counselling material - Flipchart/ brochures/ checklist	X	√	√	√	√	√	√	○	√	√	√	√	○	√	○
Web-based tool for shared decision-making	√	√	X	√	√	√	√	√	√	√	○	○	○	√	√
World Health Organization's (WHO's) Decision-Making Tool	X	√	√	√	√	√	√	○	√	√	√	√	○	√	○
Paper based tools for tracking women's decision-making	√	√	X	√	√	√	X	○	√	√	X	X	○	○	○

**Notes:** X: Not suitable for community. √: Suitable or has the advantage of being used in the community. ○: not reported or not applicable for the particular intervention.

This review helps to identify any misinformation regarding contraceptive choices provided by community pharmacists to empower patients that the right choice was given accordingly. As community pharmacists strive to optimize the appropriate contraceptives, by incorporating patient-centred tools, community pharmacists can proactively provide comprehensive advice on contraception, ensuring that high-risk patients are adequately screened and referred to physicians. Patient-centred counselling tools serve and encourage active participation of patients or consumers in the counselling process, as they build rapport, relate contraceptive information to their situation, and reward their attempts to participate in a shared decision-making process.<sup>36</sup> This systematic review on patient-centred counselling tools for community pharmacists showed the importance of exploring the specific components such as risk factors, referral points by pharmacists to physicians, cultural inputs, and strategies that have been proven effective in enhancing patient engagement and empowerment. By implementing these patient-centred counselling strategies and providing comprehensive education on contraceptive options, healthcare providers can support women in making informed choices about their reproductive health.<sup>37</sup>

The studies included, although targeting all family planning users, the digital decision-making tools and provider training (including paper-based decision-making aids and video aids) did not find evidence of effect on contraceptive behaviour or satisfaction at community pharmacy. However, the exceptions to this included the training from the search for this review in the Population Council's Balanced Counselling Strategy and WHO Decision-making Tool effective in some community settings.<sup>29,30,33</sup> There were three studies targeting particularly only for community pharmacists which were important to identify the tools that have been used among community pharmacists for future suitability.<sup>22–24</sup> Collaborative drug therapy protocol that has a self-administered screening tool effectively screens women for the safe use of hormonal contraceptives and selects the appropriate contraceptives.<sup>22</sup> However, the limitation of this study was only 65% of participants completed the study, possibly due to the long length of the service time and the different practices of pharmacists at other community pharmacy settings. The notable gaps include evidence on interventions targeting new users at community-based, women with high-risk factors in the community, and decision-making tools with referral points to physicians. The evaluation forms, checklist, and questioning score achieved appropriate outcomes and significantly correlated with the appropriate counselling and dispensing behaviour of community pharmacists which could minimize the serious consequences such as unwanted pregnancy.<sup>23</sup> Community pharmacists had good retention of family planning knowledge post-training reinforcement and providing them with job aid.<sup>24</sup>

This review further summarises the available evidence on the comparative advantages and disadvantages across the target populations and suitability for community-based pharmacists (Table 4). Focus on comparing the intervention tools is critical to help identify successful interventions to improve contraceptive dispensing in community pharmacy settings. The outcomes examined that were directly affected (awareness of contraceptive choice based on risk and benefit, knowledge of suitable choice, participation in decision-making, attitude towards contraceptives level of comfort), or indirectly affected (quality of service, referral to physician, and database at community level) by patient-centred counselling tools. Although preventing the unmet need for contraceptive use and unwanted pregnancies is the main objective, the knowledge and participation of patients over the long run are equally important.

This review has identified three limitations; the keywords for counselling interventions are not well defined, and this lead to the identification of relevant studies through a wide range of search synonyms and extensive searches. The advantages, disadvantages, and unavailable data were assessed based on information reported by the authors and subjective assessment of intervention to suit the community settings, thus subject to individual contexts suitability. There are a few limitations to the evidence base. One of them included the study type as a variable, particularly among the non-randomised, survey and qualitative. Although the risk of bias is assessed, some studies have some concerns with inconsistency mostly due to deviation from intended intention and imprecision from missing outcome data. Selection biases likely overestimate the strength of association with the intervention used and are more likely to use contraception in chosen participants and likely to hide the “true” population effect. Understanding these key elements of “true patient” may be the contribution to successful patient-centred counselling and can provide valuable insights for the development and refinement of patient-centred counselling tools that are tailored to the needs of community pharmacists.

Secondly, the study settings, interventions, and outcomes have limited comparability. For instance, interventions were effective in some settings and with some populations may not be suitable to be used, although they have positive

implications. Family planning settings or wards at hospitals dealing with women may not explore the impact of patient-centred counselling on various patient populations, including those with chronic conditions, polypharmacy, or complex medications for multiple comorbidities. The effectiveness of similar interventions may be limited and shed on the adaptability and applicability of the interventions in community pharmacy settings.<sup>26,27,32</sup> Some papers only highlighted the use of WHO tools for determining the contraceptives for consumers, however, they did not specify the suitable tools for community pharmacy settings in choosing the contraceptives which targeted patients centred with identifications of the risk factors and screened for suitability of the hormonal contraceptives by the community pharmacist. The effectiveness of adapting the evidence-based recommendation even from WHO may contribute to reduced intensity of best practices in community settings due to the suitability of the studies. Overall, patient-centred counselling is a crucial aspect of community pharmacy practice that can significantly improve patient outcomes and enhance the pharmacist–patient relationship.<sup>38</sup>

Third, many studies fail to mention the specific intervention to be used for targeting initiating, switching, or continuing suitability for dispensing contraceptives. This could be used to address the gap in contraceptive intervention studies. This lack of information in the studies included hinders the adaptability of effective intervention strategies in improving contraceptive dispensing at community pharmacy. Future studies need to develop appropriate patient-centred counselling tools with detailed information on deciding the contraceptives tailored to patients' needs with appropriate cultural touch and point of referral to physicians for high-risk patients in community settings.

## Conclusion

Patient-centred counselling tools showed promising results in improving the contraceptive choices tailored to patients' needs and enhancing the patient's understanding of the contraceptive instructions. Long-term outcome answering all the key questions and empowering patients for overall contraceptive outcomes. Furthermore, patient-centred contraceptive tools ensure effective communication and collaboration between community pharmacists, patients, and physicians if required. Thus, community pharmacists will be able to be an important aspect in improving dispensing of contraceptives by enhancing patients' contraceptives understanding. Improved and novel interventions are needed for future studies.

## Data Sharing Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

## Ethics Approval

The study received ethical approval from Universiti Kebangsaan Malaysia Research Ethics Committee with reference number of JEP-2021-644, dated 24<sup>th</sup> September 2021.

## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising, or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

## Disclosure

The authors declare that they have no competing interests in this work.

## References

1. Goal 3: good health and well-being | sustainable development goals | united nations development programme. Available from: <https://www.undp.org/sustainable-development-goals/good-health>. Accessed April 19, 2024.
2. Montaño DE, Phillips WR, Kasprzyk D, Greek A. STD/HIV prevention practices among primary care clinicians: risk assessment, prevention counseling, and testing. *Sex Transm Dis*. 2008;35(2):154–166. doi:10.1097/OLQ.0B013E3181574D97
3. Manaf RA, Ismail IZ, Latiff LA. Contraceptive use among women with chronic medical conditions and factors associated with its non-use in Malaysia. *Glob J Health Sci*. 2012;4(5):91. doi:10.5539/GJHS.V4N5P91

4. Kelling SE, Rondon-Begazo A, Mager NA D, Murphy BL, Bright DR. Peer reviewed: provision of clinical preventive services by community pharmacists. *Prev Chronic Dis*. 2016;13(10). doi:10.5888/PCD13.160232
5. Pfaff A, Rafie S. pharmacy expanding pharmacy capacity for patient-centered reproductive health services. *Pharmacy*. 2020;8(4):236. doi:10.3390/pharmacy8040236
6. Bruce J. Fundamental Elements of the Quality of Care: a Simple Framework. *Stud Fam Plann*. 1990;21(2):61. doi:10.2307/1966669
7. Committee on Quality of Health Care in America. Crossing the quality chasm: a new health system for the 21st century. 2001. doi:10.17226/10027
8. Nelson HD, Cantor A, Jungbauer RM, et al. Effectiveness and harms of contraceptive counseling and provision interventions for women: a systematic review and meta-analysis. *Ann Intern Med*. 2022;175(7):980–993. doi:10.7326/M21-4380/SUPPL\_FILE/M21-4380\_SUPPLEMENT.PDF
9. Wyatt KD, Anderson RT, Creedon D, et al. Women's values in contraceptive choice: a systematic review of relevant attributes included in decision aids. *BMC Women's Health*. 2014;14(1):1–13. doi:10.1186/1472-6874-14-28/FIGURES/2
10. Cavallaro FL, Benova L, Owolabi OO, Ali M. A systematic review of the effectiveness of counselling strategies for modern contraceptive methods: what works and what doesn't? *BMJ Sex Reprod Health*. 2020;46(4):254–269. doi:10.1136/BMJSRH-2019-200377
11. Study protocol patient centered support for contraceptive decision-making: a cluster randomized controlled trial of a contraceptive decision-support tool patient centered support for contraceptive decision-making: a cluster randomized controlled trial of a contraceptive decision-support tool. 2016.
12. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101. doi:10.1191/1478088706QP0630A
13. Moher D, Liberati A, Tetzlaff J, Altman DG. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ*. 2009;339(7716):332–336. doi:10.1136/bmj.b2535
14. Munro S, Di MG, Williams A, et al. Can youth-engaged research facilitate equitable access to contraception in Canada? The qualitative study protocol for the Ask Us project. *BMJ Open*. 2023;13(3):70904. doi:10.1136/bmjopen-2022-070904
15. O'Connell M, Gluskin B, Parker S, et al. Adapting a counseling-plus-mHealth intervention for the virtual environment to reduce sexual and reproductive health risk among young women with depression. *Prevent Sci*. 2023;1:1. doi:10.1007/S11121-023-01506-4
16. Ahmad ZM, Noel NL, Rudd TM, et al. Implementation of a pharmacist-led hormonal contraceptive prescribing service in a campus community pharmacy in Indiana, United States. *Contraception*. 2022;113:113. doi:10.1016/J.CONTRACEPTION.2022.05.004
17. Buckingham P, Amos N, Saha SK, Hussaini SY, Mazza D. Contraception decision aids to improve care and effective method use. *Cochrane Database Syst Rev*. 2020;2020(7). doi:10.1002/14651858.CD013659
18. Pazol K, Zapata LB, Dehlendorf C, Malcolm NM, Rosmarin RB, Frederiksen BN. Impact of contraceptive education on knowledge and decision making: an updated systematic review. *Am J Prev Med*. 2018;55(5):703–715. doi:10.1016/j.amepre.2018.07.012
19. Akour A, Bardaweel S, Awwad O, Al-Muhaissen S, Hussein R. Impact of a pharmacist-provided information booklet on knowledge and attitudes towards oral contraception among Jordanian women: an interventional study. *Eur J Contracept Reprod Health Care*. 2017;22(6):459–464. doi:10.1080/13625187.2017.1412425
20. Chewning B, Mosen A, Wilson D, et al. Evaluation of a computerized contraceptive decision aid for adolescent patients. *Patient Educ Couns*. 1999;38(3):227–239. doi:10.1016/S0738-3991(99)00014-2
21. Meredith AH, Wilkinson TA, Campi JA, Meagher CG, Ott MA. Use of the delphi method to enhance pharmacist contraceptive counseling materials. *J Pharm Pract*. 2021;34(5):678. doi:10.1177/0897190019894146
22. Gardner JS, Miller L, Downing DF, Le S, Blough D, Shotorbani S. Pharmacist prescribing of hormonal contraceptives: results of the direct access study. *J Am Pharm Assoc*. 2008;48(2):212–226. doi:10.1331/JAPHA.2008.07138
23. Langer B, Grimm S, Lungfiel G, Mandlmeier F, Wenig V. The quality of counselling for oral emergency contraceptive pills—a simulated patient study in German community pharmacies. *Int J Environ Res Public Health*. 2020;17(18):1–19. doi:10.3390/IJERPH17186720
24. Baruwa S, Tobey E, Okafor E, et al. The role of job aids in supporting task sharing family planning services to community pharmacists and patent proprietary medicine vendors in Kaduna and Lagos, Nigeria. *BMC Health Serv Res*. 2022;22(1):981. doi:10.1186/S12913-022-08360-0
25. Dehlendorf C, Fitzpatrick J, Steinauer J, et al. Development and field testing of a decision support tool to facilitate shared decision making in contraceptive counseling. *Patient Educ Couns*. 2017;100(7):1374. doi:10.1016/J.PEC.2017.02.009
26. Madden T, Holttum J, Maddipati R, et al. Evaluation of a computerized contraceptive decision aid: a randomized controlled trial HHS public access. *Contraception*. 2020;102:339–345. doi:10.1016/j.contraception.2020.08.002
27. Agarwal S, Lasway C, L'engle K, et al. Family planning counseling in your pocket: a mobile job aid for community health workers in Tanzania. Available from: [www.ghspjournal.org](http://www.ghspjournal.org). Accessed February 17, 2024.
28. Kalamar A, Danna K, Angel A, et al. Evaluating counseling for choice in Malawi: a client-centered approach to contraceptive counseling. *Glob Health Sci Pract*. 2023;11(2):e2200319. doi:10.9745/GHSP-D-22-00319/-/DCSUPPLEMENTAL
29. Kim YM, Kols A, Martin A, et al. Promoting informed choice: evaluating a decision-making tool for family planning clients and providers in Mexico. *Int Perspect Sex Reprod Health*. 2005;31(04):162.
30. Farrokh-Eslamlou H, Aghlmand S, Eslami M, Homer CSE. Impact of the world health organization's decision-making tool for family planning clients and providers on the quality of family planning services in Iran. *J Family Plan Reproduct Health Care*. 2014;40(2):89–95. doi:10.1136/JFPRHC-2012-100290
31. Dolan H, Bateson D, Li M, et al. Acceptability and perceived feasibility of adapted encounter decision aids on contraceptive methods: an interview study with healthcare providers and Chinese migrant women. *PEC Innovation*. 2022;1:100031. doi:10.1016/J.PECINN.2022.100031
32. Mossie MY, Pfitzer A, Yusuf Y, et al. Counseling at all contacts for postpartum contraceptive use: can paper-based tools help community health workers improve continuity of care? A qualitative study from Ethiopia. *Gates Open Res*. 2021;3(1652):1652. doi:10.12688/gatesopenres.13071.2
33. Sonalkar S, Gaffield ME. Introducing the world health organization postpartum family planning compendium. *Int J Obstetrics Gynaecology*. 2017;136(1):2. doi:10.1002/IJGO.12003
34. McGuinness LA, Higgins JPT. Risk-of-bias VISualization (robvis): an R package and shiny web app for visualizing risk-of-bias assessments. *Res Synth Methods*. 2021;12(1):55–61. doi:10.1002/JRSM.1411
35. Kibicho J, Owczarzak J. A patient-centered pharmacy services model of HIV patient care in community pharmacy settings: a theoretical and empirical framework. *AIDS Patient Care STDS*. 2012;26(1):20–28. doi:10.1089/APC.2011.0212
36. Chandra-Mouli V, Mccarrah DR, Phillips SJ, Williamson NE, Hainsworth G. Contraception for adolescents in low and middle income countries: needs, barriers, and access. Available from: [http://www.measuredhs.com/pubs/pdf/AS25/AS25\[12June2012\].pdf](http://www.measuredhs.com/pubs/pdf/AS25/AS25[12June2012].pdf). Accessed March 21, 2024.

37. Henderson V, Stumbras K, Caskey R, Haider S, Rankin K, Handler A. Understanding factors associated with postpartum visit attendance and contraception choices: listening to low-income postpartum women and health care providers. *Matern Child Health J.* 2016;20(Suppl 1):132. doi:10.1007/S10995-016-2044-7
38. Gluyas H. Patient-centred care: improving healthcare outcomes. *Nurs Stand.* 2015;30(4):50–59. doi:10.7748/NS.30.4.50.E10186

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