

## Supplementary Materials

**Table 1.** Characteristics of the included studies.

| <b>Author</b>                              | <b>Country</b> | <b>Type of intervention</b>        | <b>Type of study/method</b>   | <b>Sample</b>           | <b>Finding</b>   |
|--|----------------|------------------------------------|-------------------------------|-------------------------|--|
| McCarthy <i>et al.</i> , 2018 <sup>8</sup> | Tajikistan     | Mobile phone instant messaging app | A randomized controlled trial | Teenagers (16-24 years) | <p>There was no evidence of a difference in the acceptability of effective contraception between the groups (66% in the intervention arm vs 64% in the control arm.</p> <p>There were no differences in secondary or process outcomes between the groups.</p> <p>There was some evidence that the effect of the intervention was greater among women compared to men (interaction test <math>p=0.03</math>).</p> <p>There was an increase in the acceptability of effective contraception from baseline to follow-up (2% to 65%, <math>p&lt;0.001</math>).</p> |
| Sileo <i>et al.</i> , 2023 <sup>9</sup>    | Uganda         | A community Family                 | Quasi-experimental            | 70 couples wanting to   | The FH=FW intervention addresses multilevel family   |

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|   |       | Health=Family<br>Wealth<br>(FH=FW)<br>intervention   |  | delay<br>pregnancy but<br>do not use<br>contraceptives<br>(n=140).  | planning barriers through four<br>group dialogues with couples<br>paired with efforts to reduce<br>barriers to the health system.<br>A quasi-experimental<br>controlled trial provides<br>preliminary support for its<br>feasibility, acceptability,<br>effects of contraception<br>uptake and desire for fertility,<br>and success in engaging both<br>women and men. |
| Thapa <i>et al.</i> ,<br>2020 <sup>10</sup> | Nepal | Community<br>health workers<br>such as<br>Female<br>Community<br>Health<br>Volunteers<br>(FCHVs) | A mixed<br>methods study                                     | Female<br>Community<br>Health<br>Volunteers<br>(FCHVs)<br>Mothers in<br>the immediate<br>postpartum<br>period | <ul style="list-style-type: none"> <li>• <b>FCHVs' knowledge of Postpartum Family Planning (PPFP) improved significantly after the intervention. The qualitative findings suggest that the intervention effectively improved the ability of FCHVs to provide PPFP counseling.</b></li> </ul>   |
| Kim <i>et al.</i> ,<br>2022 <sup>11</sup>   | Benin | The Tékponon<br>Jikuagou (TJ)<br>program trains<br>influencers in<br>social                      | Pre/post-<br>intervention<br>cross-<br>sectional<br>research | Women and<br>men  | After 14 months, the TJ<br>program significantly<br>increased people's intention to<br>use family planning and the   |

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|   |         | <p>networks to encourage critical discussions about birth control needs, family arrangements, gender and other social norms within their networks. The program also features radio broadcasts and health service liaison</p> |                             |                        | <p>level of fulfillment of family planning needs.</p> <p>Although there has been a substantial increase, the increase in contraceptive use among women has not yet shown statistical significance.</p> <ul style="list-style-type: none"> <li>• TJ programs improve communication between women, couples, and their social networks about fertility desires and the use of birth control.</li> </ul> <p>The TJ program increases individuals' confidence in acting in accordance with their intentions to address unmet family planning needs. The TJ program creates a new perception in the community that their social network supports family planning.</p> |
| McCarthy <i>et al.</i> , 2020 <sup>12</sup> | Bolivia | Mobile phone instant messaging app   | Randomized controlled trial | Women aged 16-24 years | Use of effective contraception: there was no significant difference between the intervention and control groups (37% vs 33%).   |

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|  |       |  |                             |                  | <p>Acceptance of at least one effective contraceptive method: there was a borderline significant difference (72% vs 63%), with the intervention group showing greater acceptability.</p> <p>There were no significant differences in the use of effective contraception during the study, acceptability of individual methods, the use of services, unintended pregnancy, abortion, knowledge, perceived norms, personal agency and intentions.</p> |
| Pradhan <i>et al.</i> , 2019 <sup>13</sup> | Nepal | Postnatal contraceptive counseling during antenatal care | Randomized controlled trial | Postpartum women | <p>Exposure to the intervention increased PPIUD counseling by 25 percentage points (pp) (95% CI 14-40 pp).</p> <p>Exposure to the intervention increased the placement of PPIUD by 4 percentage points (pp) (95% CI: 3-6 pp).</p> <p>If all women received counseling, the insertion of</p>   |

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|   |            |  |   |                                | PPIUD would be estimated to increase by 17 percentage points (pp) (95% CI 14-40 pp).  |
| Huber-Krum <i>et al.</i> , 2020 <sup>14</sup> | Nepal      | Antenatal contraceptive counseling.      | Randomized controlled trial                             | Postpartum women               | <p>The intervention increased the use of modern contraceptive methods by 3.8% (1 year) and 0.3% (2 years).</p> <p>The intervention significantly increased IUD use (1 and 2 years).</p> <p>Interventions reduce the use of sterilization.</p> <p>Counseling is provided to only 42% of women.</p> <ul style="list-style-type: none"> <li>The effect based on real counseling is 4 times greater than the overall effect.</li> </ul> |
| Huda <i>et al.</i> , 2019 <sup>15</sup>       | Bangladesh | Married Adolescent Girls Club (MAG Club) | A quasi-experimental study with a post-test-only design | Married girls aged 14-19 years | <p>Use of modern contraceptive methods was higher in intervention areas (72.6%) than in controls (63.5%).</p> <p>Dissatisfaction with family planning needs was lower in intervention areas (16.2%) than in controls (20.7%).</p>   |

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| Kamhawi <i>et al.</i> , 2013 <sup>16</sup>     | Jordan     | Client-centered family planning service intervention: "Consult and Choose" (CC)                          | Intervention   | Women aged 15-49 years      | The CC program is associated with an increase in the number of new contraception users and protection of pairing.   |
| Simanjuntak <i>et al.</i> , 2016 <sup>17</sup> | Indonesia  | Community-based activities to encourage visits to health centers   | Quasi-experiment with a pretest-posttest design with a control group | Couples of childbearing age | Structured counseling increased EFA and attitudes towards modern family planning ( $p < 0.05$ ).<br><br>Childbearing women in the treatment group had 6.167 times higher odds of using modern contraception (OR=6.167; 95% CI=2.427-15.67).                                   |
| Harris-Fry <i>et al.</i> , 2016 <sup>18</sup>  | Bangladesh | Structured counseling for couples of childbearing age (In Indonesia: Pasangan Usia Subur, abbreviated as | Clustered randomized controlled trial                                | Women                       | <ul style="list-style-type: none"> <li>There are no significant differences in terms of family planning needs</li> </ul> Participatory women's groups have great potential to improve women's health knowledge, but evidence of their impact on specific outcomes is lacking. |

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|  |            | PUS) with<br>unmet need for<br>family<br>planning  |                                   |       |  |
| Leight <i>et al.</i> ,<br>2022 <sup>19</sup> | Mozambique | Participatory<br>women's<br>group<br>interventions<br>focus on<br>health,<br>nutrition, and<br>family<br>planning. | Randomized<br>controlled<br>trial | Women | The intervention group had<br>slightly higher odds of<br>visiting a clinic (2.3% risk<br>difference) and receiving a<br>contraceptive method (2.2%<br>risk difference) than the<br>control group.<br>The effectiveness of reminder<br>messages was higher in the<br>group registered before the<br>emergency of COVID-19<br>(difference in the risk of clinic<br>visits 3.2%). |

**Table 2.** Intervention group, type of intervention and main research findings.

| <b>Intervention group</b>             | <b>Country</b> | <b>Intervention types</b>   | <b>Main Finding</b>   |
|---------------------------------------|----------------|---|---|
| Technology-<br>Based<br>Interventions | Tajikistan     | Mobile phone app<br>instant messaging                               | Interventions delivered via instant messaging mobile apps did not provide additional benefits in increasing acceptance of effective contraception among adolescents in Tajikistan <sup>8</sup>                                    |
|                                       | Bolivia        | Mobile phone app<br>instant messaging                               | The interventions tested are not effective in significantly increasing contraceptive use <sup>12</sup>  |
|                                       | Mozambique     | Reminder messages<br>via SMS  | Reminder messages via SMS have the potential to increase a woman's likelihood of receiving family planning services <sup>19</sup>   |
| Community-<br>Based<br>Intervention   | Uganda         | Community Family<br>Health=Family<br>Wealth (FH=FW)<br>Intervention | The intervention increases contraception use and reduces the desire to have children through group discussions of couples <sup>9</sup>  |
|                                       | Benin          | Tékponon Jikuagou<br>(TJ) Program                                   | The TJ program is a potential strategy for social and behavioral change. This social network approach encourages the address of often overlooked social factors that prevent people from using modern birth control <sup>11</sup> |
|                                       | Bangladesh     | Married Adolescent<br>Girls Club (MAG<br>Club)                      | MAG clubs are effective in providing contraceptive information, improving contraceptive practices, and reducing dissatisfaction with contraceptive needs <sup>15</sup>  |



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|                                     | Bangladesh | Participatory women's group intervention                                    | Participatory women's groups have the potential to increase women's health knowledge. Its effectiveness on several aspects of health, such as the need for contraception and child mortality, requires further research <sup>18</sup> |
| Intervention through Health Workers | Nepal      | Community health workers such as Female Community Health Volunteers (FCHVs) | PPFP training effectively increases FCHV knowledge and activities in providing postpartum contraception counseling <sup>10</sup>  |
|                                     | Nepal      | Postpartum contraceptive counseling   | High-quality Postpartum Intrauterine Device (PPIUD) counseling and insertion could increase demand and help women manage spacing between pregnancies in Nepal and similar countries <sup>13</sup>                                     |
|                                     | Nepal      | Contraceptive counseling  | Providing antenatal counseling and PPIUD services in hospitals increases PPIUD use in the one and two year postpartum period and shifts the combination of contraceptive methods <sup>14</sup>  |
|                                     | Indonesia  | Structured counseling for couples of childbearing age                       | Counseling carried out in a structured manner can increase knowledge, attitudes, and participation in modern contraception in childbearing-age couples <sup>17</sup>  |
|                                     | Jordan     | Client-centered family planning service intervention:                       | Implementation of a national CC program alongside community-based interventions could play an important role in reducing Jordan's total birth rate <sup>16</sup>  |

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|  |  | "Consult and<br>Choose" (CC) |  |
|--|--|------------------------------|--|