Table 2: Overview of Intervention Outcomes

| **Study Characteristics** | **Cognitive Outcomes** | **Behavioural Outcomes** | **Product/ Service-based** | **Impact** |
| --- | --- | --- | --- | --- |
| Author(s) | Research Design | Duration  | Sample size | Knowledge about sexual and reproductive health & services | Knowledge about STI/HIV/HPV | Knowledge about contraceptives and condoms | Attitude towards condom use  | STI vulnerability/risk/fear | HIV stigma/shame  | Self-esteem  | Self-efficacy to use condoms and protect from unwanted sex  | Motivation or intention to engage in preventive behaviour  | Intention to take STI/HIV test | Belief that sexual health services are important  | Belief that participants could access sexual health services  | Belief that services can be accessed free of charge  | Belief that anyone of any age can access services  | Abstinence or Monogamy  | Multiple sex partners  | Self-reported pregnancy  | Unsafe sex  | Self-care  | Partner or peer communication  | ART initiation  | ART or PrEP adherence  | Condom or contraceptive use  | STI test or order test-kit online | Service Uptake (clinic visits) | HIV Viral Load (VL)  |
| **Mobile Phone (calls or SMS)** |
| 1. Belzer et al. (2014)
 | RCT | 24 weeks | 37 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\*\* |  |  |  | \*\*\* |
| 1. Bull et al. (2017)
 | Cluster RCT | 26 weeks  | 852 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \* |  |  |  |
| 1. Gold et al. (2011)
 | RCT | 4 months  | 7606 | \* |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \* |  |  |  |  |  |  | ns | ns |  |  |
| 1. Hacking et al. (2019)
 | Mixed | 8 weeks | 40 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\*\* |  |  |  |  | \*\*\* |
| 1. John et al. (2016)
 | Pre/post | 6 months | 19 |  |  |  |  |  |  |  |  | \*\*\* |  |  |  |  |  |  |  |  |  | \*\*\* |  |  |  |  |  | ns |  |
| 1. Juzang et al. (2011)
 | Intervention\*  | 12 weeks | 60 | \*\*  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\* |  |  |  |  |  |  |  | ns |  |  |  |
| 1. Lim et al. (2012)
 | RCT | 12 months  | 994 |  | \*\*  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ns | \*\* |  |  |
| 1. Linnemayr et al. (2017)
 | RCT | 12 months  | 332 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ns |  |  |  |  |
| 1. Liu et al. (2019)
 | RCT | 36 weeks  | 121 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \* |  |  |  |  |
| 1. McCarthy et al. (2016)
 | Pilot RCT | 12 months  | 200 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ns |  |  |
| 1. McCarthy et al. (2018)
 | RCT | 4 months  | 640 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ns |  | ns |  |
| 1. Merrill et al. (2018)
 | Mixed method | 5 weeks | 394 |  | \* |  |  |  | \*\* | \*\* | \*\*  |  |  |  |  |  |  |  |  |  |  |  | \*\* |  |  |  |  |  |  |
| 1. Rockicki et al. (2017)
 | Cluster RCT | 12 weeks | 756 | Ns  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Ns  |  |  |  |  |  |  |  |  |  |
| 1. Stankievich et al. (2018)
 | Sequential prospective study | 32 weeks | 25 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\*\* |  |  |  |  |
| 1. Yao et al. (2018)
 | Pre/Post  | 9 months  | 408 |  |  | Ns  | \*\*  |  |  |  |  | \*\*\*  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\*  |  |  |  |
| 1. Ybarra et al. (2018)
 | RCT | 5 weeks  | 273 |  | Ns  |  |  |  |  |  |  | \* |  |  |  |  |  | Ns  |  |  |  |  |  |  |  | Ns  |  |  |  |
| **Mobile Applications**  |
| 1. Brayboy et al. (2017)
 | 2-phase prospective study | 2 weeks  | 20 | Ns  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Dehghani et al. (2016)
 | Quasi-experiment  | 2 weeks  | 200 | \* |  |  | \*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Jeong et al. (2017)
 | Non-equivalent control group | 5 weeks  | 88 |  | \*\*\*  |  |  | \*\*\*  |  |  | \*\*\* | \*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Manlove et al. (2020)
 | RCT | 6 weeks  | 1304 |  |  | \*\*\* |  |  |  |  | \* |  |  |  |  |  |  |  |  |  | \*\*\* |  |  |  |  |  |  |  |  |
| 1. Mesheriakova et al. (2017)
 | Prospective study  | 6 months  | 120  | \*\*\*  |  |  |  |  |  |  |  | \*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Nielsen et al. (2019)
 | RCT | 6 months  | 433 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Ns  | Ns  |  |  |  |  |  | Ns  | Ns  |  |  |
| 1. Jones et al. (2013)
 | RCT | 3 months  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\*\*  |  |  |  |  |  |  |  |  |
| **Web- and Online-based**  |
| 1. Bailey et al. (2013)
 | RCT  | 5 months  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\*  |  |  |
| 1. Ballester-Arnal et al. (2015)
 | Experiments | 1 month  | 239 |  | \*\*\* |  |  | Ns  |  |  |  |  |  |  |  |  |  |  |  |  | \*\* |  |  |  |  | \* |  |  |  |
| 1. Brown et al. (2016)
 | Pre/post | 6 weeks  | 148 |  |  |  |  |  |  |  |  |  |  | \*\* | \* | \* | \*\* |  |  |  |  |  |  |  |  |  |  | \* |  |
| 1. Danielson et al. (2014)
 | Mixed method | 1 month  | 41 |  | \*\*\* |  |  |  |  | Ns | \* |  |  |  |  |  |  |  |  |  |  |  | Ns  |  |  |  |  |  |  |
| 1. Doubova et al. (2017)
 | RCT | 4 weeks  | 456 |  | \*\*\* |  | \*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Gottvall et al. (2010)
 | Mixed method | 1 day | 274 |  | \*\*\* |  | Ns |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Horvath et al. (2017)
 | RCT | 1 month  | 130  |  | \*\* |  |  | \*\* |  |  |  |  | \*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Lustria et al. (2016)
 | RCT | Not specified  | 1065 |  |  |  |  | \*\*\* |  |  |  |  | \*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\* |  |  |
| 1. Massey et al. (2013)
 | Quasi-experiment | 2 years  | 2176 | \*\*\* |  |  |  | \*\*\* |  |  |  |  | \*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Mevissen et al. (2011)
 | RCT | 3 months  | 171 |  |  |  | Ns  | Ns  |  |  | Ns  | \*\* | Ns  |  |  |  |  |  |  |  |  |  |  |  |  | \* | Ns  |  |  |
| 1. Mortimer et al. (2015)
 | Non-blinded parallel-group RCT | 5 months  | 747 |  |  |  |  |  |  |  |  | \* | \*\* |  |  |  |  |  |  |  |  |  |  |  |  |  | \* | \*\* |  |
| 1. Naar-King et al. (2013)
 | RCT | 12 weeks  | 76 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\*  |  |  |  | \*\* |
| 1. Rosser et al. (2010)
 | RCT | 3 weeks  | 650 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \* |  |  |  |  |  |  |  |  |
| 1. Spielberg et al. (2014)
 | Intervention  | 3 months  | 217 |  |  |  |  | \*\*\* | \*\* |  |  |  |  |  |  |  |  |  | \* |  | \*\*\* |  |  |  |  | \* |  |  |  |
| 1. Starling et al. (2014)
 | Pre/Post  | 2 days  | 173 |  |  |  | Ns  |  |  |  | \*\*\* | \*\* |  |  |  |  |  |  |  |  |  |  |  |  |  | Ns  |  |  |  |
| 1. Villegas et al. (2015)
 | Pre/Post  | 1 month  | 40 |  | \*\*\* |  | \* |  |  |  | \* |  |  |  |  |  |  |  |  |  | \*\* |  |  |  |  |  |  |  |  |
| **Online Education Program**  |
| 1. Carvalho et al. (2016)
 | RCT | 6 weeks  | 159  |  |  |  |  |  |  |  |  | I1: \*\* |  |  |  |  |  |  |  |  |  |  |  |  |  | I1: \*\*\*I2: \* |  |  |  |
| 1. Castillo-Arcos et al. (2016)
 | Quasi-experiment  | Not specified  | 193 |  |  |  |  |  |  |  | Ns  |  |  |  |  |  |  |  |  |  | Ns  |  |  |  |  |  |  |  |  |
| 1. Chong et al. (2020)
 | RCT  | 6 months  | 4599 |  | \*\*\* | \*\*\* | \* |  |  |  |  |  |  |  |  |  |  |  | Ns  | Ns  | Ns  |  |  |  |  | \* |  |  |  |
| 1. Kaufman et al. (2018)
 | Cluster RCT | Not specified  | 167 |  |  |  |  | \*\*\* |  |  | \*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Klein et al. (2017)
 | RCT | 2 years  | 321 |  | Ns  |  | Ns  |  |  |  |  |  |  |  |  |  |  |  |  |  | Ns  |  | \* |  |  |  |  |  |  |
| 1. Marsch et al. (2015)
 | RCT | 6 weeks  | 141 |  | \*\*\* |  |  |  |  |  | \* | Ns  |  |  |  |  |  |  |  |  | \* |  |  |  |  | \*\*\* |  |  |  |
| 1. Scull et al. (2018)
 | RCT | 8 months  | 184 | \*\*  |  |  | \* |  |  |  |  | \* |  |  |  |  |  |  |  |  | \*\*  |  | \* |  |  |  |  |  |  |
| 1. Shafii et al. (2019)
 | RCT | 3 months  | 242 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Ns  | Ns  | \* |  |  |  |  | \*\*  |  |  |  |
| 1. Widman et al. (2018)
 | RCT | 6 weeks  | 222 |  | \*\*\* |  | \*\*\* |  |  |  | \*\*\*  | Ns  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Markham et al. (2020)
 | Intervention  | 5 years  | 4531 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*\*  |  |  |  |  |  |  |
| 1. Peskin et al. (2019)
 | RCT | 2 years  | 1543 |  | \*\*\*  | \*\*\*  |  |  |  |  | \*\*\* | \* |  |  |  |  |  |  | Ns  |  | Ns  |  |  |  |  | Ns  |  |  |  |
| 1. Rohrbach et al. (2019)
 | Quasi-experiment  | 2 years  | 50, 766 |  |  | \*\*\*  |  |  |  |  | \* |  |  |  |  |  |  |  |  |  | Ns  |  |  |  |  | Ns  |  |  |  |
| **Social Media**  |
| 1. Bull et al. (2012)
 | Cluster RCT | 2 months  | 652 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \* |  |  |  |  | \* |  |  |  |
| 1. Dulli et al. (2020)
 | RCT | 22 weeks  | 349 |  | \*\*  |  |  |  | Ns  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Ns  |  |  |  |  |
| **Games**  |
| 1. Chu et al. (2015)
 | Pre/post  | 1 hour | 1176 |  |  | \*\*\*  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Christensen et al. (2013)
 | RCT | 3 months  | 921 |  |  |  |  |  | \* |  |  |  |  |  |  |  |  |  |  |  | Ns  |  |  |  |  |  |  |  |  |
| 1. Haruna et al. (2018)
 | RCT | 5 weeks  | 120  | \*\*\*  |  |  | \*\*\*  |  |  |  |  | \*\*\*  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Whitely et al. (2018)
 | RCT | 16 weeks  | 61 |  | \*\*\*  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \* |  |  |  | \* |
| 1. Fiellin et al. (2017)
 | RCT | 6 weeks  | 333 | \*\*\*  |  |  | \* |  |  |  |  |  |  |  |  |  |  |  |  |  | Ns  |  |  |  |  |  |  |  |  |
| **Multi-media**  |
| 1. Ezegbe et al. (2018)
 | RCT | 8 weeks  | 80 |  | \*\*\*  |  |  | \*\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Solorio et al. (2016)
 | Intervention  | 16 weeks  | 50 |  |  |  | \* |  |  |  | \*\*  |  | \*\*  |  |  |  |  |  |  |  |  |  |  |  |  | Ns  | \*\*  |  |  |
| 1. Sznitman et al. (2010)
 | RCT  | 16 months  | 1657 |  |  |  |  |  |  |  | \*\*  |  |  |  |  |  |  |  | Ns  |  | \*\*  |  |  |  |  |  |  |  |  |

Note: \*\*\*p≤0.001; \*\*p≤0.01; \*p≤0.05; ns= non-significant