

# **An Evidence Review of Gender-Integrated Interventions in Reproductive and Maternal-Child Health**

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*Evidence-based behavior change interventions addressing gender dynamics must be identified and disseminated to improve child health outcomes. Interventions were identified from systematic searches of the published literature and a web-based search (Google and implementer's websites). Studies were eligible if an intervention addressed gender dynamics (i.e., norms, unequal access to resources), measured relevant behavioral outcomes (e.g., family planning, antenatal care, nutrition), used at least a moderate evaluation design, and were implemented in low- or middle-income countries. Of the 23 interventions identified, 22 addressed reproductive and maternal-child health behaviors (e.g., birth spacing, antenatal care, breastfeeding) that improve child health. Eight interventions were accommodating (i.e., acknowledged, but did not seek to change gender dynamics), and 15 were transformative (i.e., sought to change gender dynamics). The majority of evaluations (n = 12), including interventions that engaged men and women to modify gender norms, had mixed effects. Evidence was most compelling for empowerment approaches (i.e., participatory action for maternal-child health; increase educational and economic resources, and modify norms to reduce child marriage). Two empowerment approaches had sufficient evidence to warrant scaling-up. Research is needed to assess promising approaches, particularly those that engage men and women to modify gender norms around communication and decision making between spouses.*

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**Table 1.** Key gender definitions

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*Gender* refers to a culturally defined set of economic, social, and political roles, responsibilities, rights, entitlements and obligations associated with being female and male, as well as the power relations between and among women and men, boys and girls. The definition and expectations of what it means to be a woman or girl and a man or boy (i.e., norms), and sanctions for not adhering to those expectations, vary across cultures and change over time, and often intersect with other factors such as race, class, age, and sexual orientation. *Gender equality* is the state or condition that affords women and men equal enjoyment of human rights, socially valued goods, opportunities, and resources.

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*Note.* Gender equality definition from Interagency Gender Working Group (2013), adapted from the *USAID Gender Equality and Female Empowerment Policy* (USAID, 2013).

Gender dynamics, or gender norms and inequalities (see Table 1) between women and men in access to economic (e.g., education, jobs), political (e.g., voting, leadership), health (e.g., services), and other resources, influence the lives and shape the health of women, men, and their children. Gender inequalities that leave women with control over fewer resources and norms that shape decisions about age at marriage, the number and spacing of children, the division of labor in the family, and men's and women's roles in family decision making contribute to behaviors that influence children's health (e.g., family planning, antenatal care, neonatal care, breastfeeding, immunization, and nutrition).

Placing child health and survival within the broader family system highlights the role of gender dynamics on child health, and how gender inequalities may be reinforced. Inequalities and gender norms that encourage early marriage and childbirth contribute to poor birth outcomes and result in less education and more economic vulnerability for women and children (Erulkar, Mekbib, Simic, & Gulema, 2004; UNICEF, 2005). Women's limited access to employment and limited control over family resources (relative to men), along with gender-based violence, may reduce contraceptive use (Mosha, Ruben, & Kakoko, 2013), and impede uptake of antenatal care (Finlayson & Downe, 2013; Titaley, Dibley, & Roberts, 2010) and preventing mother-to-child transmission of HIV services (Cripe et al., 2008; Ghanotakis, Peacock, & Wilcher, 2012; Tang & Lai, 2008). Gender norms and inequalities continue to exert influence after children are born. Gender norms that leave health issues and household chores as women's responsibility reduce time available for breastfeeding and may inhibit men from supporting women's and children's use of health services. In addition to harming women, intimate partner violence increases the risk for poor health outcomes for children (e.g., pregnancy complications, preterm birth, lack of immunization, physical and sexual violence; e.g., Falb, McCormick, Hemenway, Anfinson, & Silverman, 2014; Sabarwal, McCormick, Silverman, & Subramanian, 2012). Together, these patterns suggest the need to integrate and address gender dynamics in behavioral interventions. In this article, we provide a framework for understanding gender-integrated interventions and explore the extent to which these interventions promote behaviors relevant to child survival and development in low- and middle-income countries.

### **A Gender Continuum: A Framework for Integrating Gender Into Interventions**

International initiatives, donors, and governments recognize the importance of addressing gender dynamics and promoting gender equality. For example, the Millennium Development Goals call for promoting gender equality and female

empowerment, and for improving child and maternal health. Donors such as USAID and UNICEF clearly link achieving health goals to women’s and girl’s empowerment and gender equality (UNICEF, 2010; USAID, 2013).

At strategic and programmatic levels, an increasing number of social and behavior change interventions recognize health behaviors as embedded in social and structural factors, including gender norms and inequalities that divide men and women economically in terms of resources and politically in terms of rights. Interventions may “integrate gender” with other social and behavior change activities, thus addressing gender along with individual factors (e.g., knowledge) and other social and structural factors.

The gender-equality continuum (see Figure 1), adapted from the Interagency Gender Working Group (2013), provides a framework for understanding approaches to integrating gender, starting by highlighting differences between ignoring and addressing gender considerations. Interventions that do not recognize how gender dynamics affect behavioral outcomes are classified as *gender blind*. In contrast, *gender-aware* interventions actively seek to identify and integrate activities that address the role of gender dynamics to achieve better behavioral and health outcomes. Gender-aware interventions are further categorized along a gender-equality continuum from *exploitative* to *accommodating* and ultimately *transformative*.

*Gender-exploitative* interventions reinforce or exploit harmful norms to achieve desired outcomes. For example, a campaign seeking to increase women’s use of prevention of mother-to-child transmission services with guilt-provoking messages (“What kind of mother would give HIV to her baby?”) is exploitative. Although the messages may promote HIV testing, they may reinforce harmful norms that increase women’s vulnerability (e.g., shamed by providers or community). Adhering to public health principles to “do no harm,” we excluded exploitative interventions from our review.

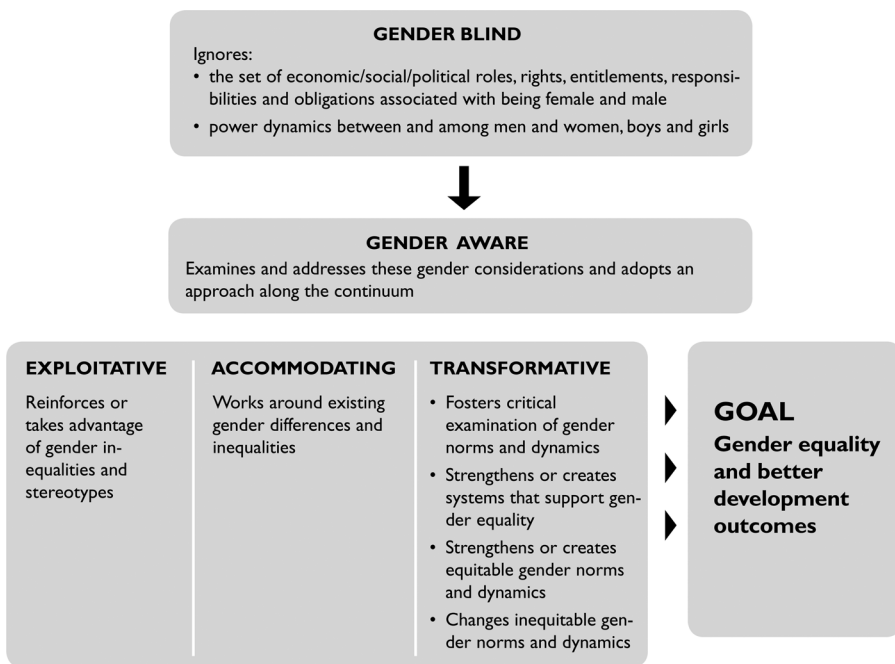


Figure 1. Gender-equality continuum.

*Gender-accommodating* interventions seek to compensate for—but do not change—gender norms or reduce other inequalities. This approach may result in short-term outcomes and may be an important first step in challenging rigid gender norms and inequalities. For example, an intervention that provides information to women and men on breastfeeding and that encourages men to help women with chores during the breastfeeding period accommodates gender inequalities in household work and may increase breastfeeding in the short term. However, the intervention does not address gendered expectations of who should usually do chores.

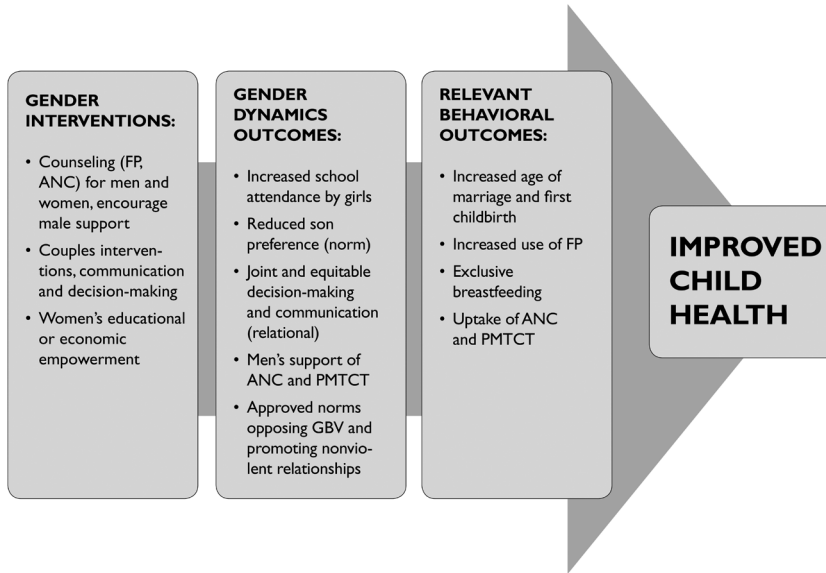
*Gender-transformative* interventions actively examine and promote the transformation of harmful gender norms and seek to reduce inequalities between men and women to achieve desired outcomes. These interventions may encourage critical awareness of gender norms; increase women's access to educational, economic, or political resources; promote shared decision making between partners; or enhance services in ways that ensure women's agency in decision making. For example, participatory action groups bring women together to reflect on and identify problems and then work collectively to enact solutions. Interventions may include both accommodating and transformative elements. For example, interventions may bring services to women's homes (accommodating) and seek to modify gender norms that limit women's movement outside their homes (transformative).

## Method

We relied on a systematic search of the published literature, nominations in response to the “call for evidence,” literature reviews, and a targeted web search to identify primary documents as part of the Evidence Summit on Enhancing Child Survival and Development in Lower- and Middle-Income Countries by Advancing Population-Level Behavior Change (Balster, Levy, & Stammer, 2014). Primary documents included published articles and gray literature reports that evaluated a gender-accommodating or gender-transformative intervention implemented in a low- or middle-income country. The interventions sought to modify relevant behaviors for child survival (i.e., behaviors related to healthy timing and spacing of pregnancy, maternal health, newborn health, child development, nutrition, immunization and malaria). We excluded gender-accommodating interventions that targeted women only, because they either did not incorporate behavior change communication (e.g., only made services available) or they incorporated behavior change elements such as knowledge about the behavior only. The latter type of interventions was reviewed by other evidence review teams (ERTs; Elder et al., 2014; Velez et al., 2014).

### *Systematic Literature Search*

Knowledge Management Services, a firm in Washington, DC, conducted three iterative literature searches and screenings specifically for the gender dynamics review, revising terms after each search. The first search used overall evidence review search terms (Balster et al., 2014) and gender-specific search terms (e.g., gender, gender dynamics). Knowledge Management Services reviewed 189 abstracts and retrieved 23 articles relevant to this topic (see Balster et al., 2014 for details on Knowledge Management Services' review of published primary documents). On the basis of their experience in the field, members of the gender dynamics ERT believed that more than 23 primary documents should have been identified. To supply Knowledge Management Services with search terms that were likely to yield published evaluation reports about which ERT members knew, ERT members discussed conceptual models that traced indirect paths from (a) gender to relevant behaviors, and



**Figure 2.** Conceptual model: Gender-integrated interventions to improve child health.

(b) gender-integrated interventions to behavioral and health outcomes (see Figure 2). For example, interventions increase access to education to empower adolescent girls (gender dynamics outcomes) should increase age of marriage and first birth (relevant behavioral outcomes) and thus improve child health.

On the basis of the conceptual models, we identified and applied more targeted search terms for the second search (e.g., partner, joint decision making, women's empowerment, and gender-inequitable norms). We then worked with Knowledge Management Services to further refine terms. The coauthors reviewed 375 abstracts identified in the two additional searches, using the criteria and review processes described in Balster et al, 2014, and determined that 43 were potentially relevant. We received additional primary documents from the call for evidence described in Balster and colleagues' (2014) article in this issue ( $n = 9$ ), other ERTs ( $n = 50$ ), and similar literature reviews conducted for consultations on child survival in Ethiopia ( $n = 8$ ) and India ( $n = 5$ ).

We assigned 71 primary documents to ERT members to examine relevance using the Evidence Summit's relevance review form (e.g., relevance to gender dynamics focal question, information on sustainability; see Balster et al., 2014) and, if appropriate, to conduct in-depth reviews. ERT members determined that 28 of the 71 primary documents had "no/low relevance" and so did not complete in-depth reviews. In-depth reviews of the remaining 43 documents provided information on the intervention (e.g., target population, intervention components) and the evaluation (e.g., design, sample size, outcomes; see Appendix 1 in the supplemental online appendices).

### ***Literature Reviews and Web-Based Search***

On the basis of their experiences with interventions, ERT members and participants at the Evidence Summit, held on June 3–4, 2013, believed that the published literature may not adequately capture what is known about the effectiveness of gender interventions for promoting child survival. Thus, we also relied on published and unpublished literature reviews that were identified in Knowledge Management

Services searches or that ERT members nominated, and web-based searches on specific intervention topics.

As a group, ERT members identified 15 literature reviews and one meta-analysis (published after Knowledge Management Services completed literature searches) that synthesized peer-reviewed and gray literature evaluation reports on gender-integrated interventions in sexual and reproductive health and maternal and child health. Of these, four literature reviews and the meta-analysis reported on evaluations that assessed relevant behaviors (Barker, Ricardo, & Nascimento, 2007; Boender et al., 2004; Davis, Luchters, & Holmes, 2013; Prost et al., 2013; Rottach, Schuler, & Hardee, 2009). The lead author read the literature reviews (all of which included descriptions of the interventions, evaluation designs and outcomes), to identify interventions that sought to modify relevant behaviors and used moderate-to-strong evaluation designs (see the *Synthesis* section for more details). The lead author retrieved relevant primary documents, and extracted study information into the detailed table in Appendix 2. Because the meta-analysis described the common intervention approach used by the randomized controlled trials reviewed and provided estimated effect sizes on maternal and child health outcomes, we did not retrieve primary documents.

We conducted a narrow search on specific topics that came up infrequently in our searches. The topics included the following: sex selection/son preference, gender-based violence, and women's economic empowerment (e.g., conditional cash transfer, livelihoods) in the context of a health program. We used a select number of search terms (e.g., topic *plus* gender norms, gender inequality, male involvement) to try to identify primary documents via Google and on implementers' websites. Although we identified relevant interventions, only one had a moderate-to-strong evaluation design. The lead author abstracted information on the intervention for the detailed table in Appendix 2.

### *Synthesis*

To verify relevance and strength of evidence, the coauthors reviewed completed review forms for the 43 "marginally" or "highly" relevant primary documents (Balster et al., 2014). We excluded documents that reported on behaviors not relevant to child survival (e.g., partner reduction for HIV prevention) or focused only on knowledge and attitudes. We also considered the strength of evidence and included studies with moderate-to-strong evaluation designs: (a) pretest and posttest data from an intervention group if multivariate analyses controlled for demographic and other variables; (b) posttest data from intervention and comparison groups if multivariate analyses or propensity scores addressed self-selection biases; or (c) pretest and posttest data from intervention and comparison groups.

On the basis of these criteria, the following documents were retained: 17 of the 43 "marginally" or "highly relevant" primary documents from the systematic literature search; 8 of the primary documents retrieved from the published and unpublished literature reviews; 1 document from the web-based search; and the meta analysis.

Finally, the coauthors used the gender continuum to synthesize the findings. First, we extracted similar information about each intervention and evaluation into a detailed table (see Appendix 2). Next, we created categories on the basis of the gender continuum: accommodating and transformative. Within those two categories, we subdivided interventions on the basis of health behaviors: family planning and maternal and child health. Because there were a large number of transformative interventions, we also subdivided those by target population: adolescents, adult women, adult men or couples, and broader community. Last, we drafted a summary (see Table 2) of all included studies (i.e., relevant behavioral outcome, moderate-to-strong evaluation

**Table 2.** Abbreviated findings on the positive behavioral and health effects of gender-integrated interventions for child health and development

Statistically significant improvements				
Source	Intervention and target population	Gender behaviors	Family planning, antenatal care, maternal and child health behaviors and outcomes	Child health status
<i>Accommodating: Adult men or couples</i>				
Abdel-Tawab et al., 1999	Separate counseling, improved medical care Women seeking abortions and husband, Egypt	Perceived husband's instrumental (e.g., cook) and family planning support (e.g., family planning acceptable)		
Terefe & Larson, 1993	In-home couples family planning counseling and provision/referral Married couples, Ethiopia		Family planning initiation within follow-up period Family planning use at 2- and 12-month follow-up Continuation at 36 months, if want no more children at baseline	
Amatya et al., 1994	Individual education and counseling Women enrolled in Norplant clinical trial and husbands, Bangladesh			
Becker et al., 2010	Couples HIV counseling and testing Pregnant women and husbands/live-in partner, Tanzania			
Kuene et al., 2004	Individual or same-sex group education, couples counseling Pregnant women and husbands/live-in partner, South Africa	Communication Men assist with pregnancy emergencies		
Varkey et al., 2004	Individual or same-sex group education, couples counseling Pregnant women and husbands/live-in partner, India	Communication Joint decision making Husband attend clinic	Family planning use Supplement baby's diet	
Midhet & Becker, 2010	Women's group sessions, distribute information, education, and communication materials to husbands Pregnant women and husbands, Pakistan		Routine prenatal care Diet during pregnancy	

Mullany et al., 2006	Couples education, print materials Pregnant women and husbands/live-in partners, Nepal	More birth preparations Attendance at postpartum visit
Susin & Giughiani, 2008	Couples education, video Immediate postpartum women and husbands/live-partners, Brazil	Increased breastfeeding, effects stronger if father has more education
<i>Transformative: Female and male adolescents</i> Erulkar & Muthengi, 2009	Community mobilization (norms); informal group education; livelihood programs; incentives 10–14 and 15–19-year-old girls, Ethiopia	Family planning use
Daniel et al., 2008	Group meetings, workshops, infotainment, couples counseling (if married) 15–24-year-old married and unmarried youth, India	Family planning use
Daniel & Nanda, 2012	Group meetings, workshops, livelihood, infotainment, couples counseling (if married) 15–24-year-old married and unmarried youth, India	5 years postintervention: increased age at first birth, family planning use
Centre for Development and Population Activities, 2001	Literacy, education, vocational training, health education, social mobilization, access to services 12–20-year-old girls, India	Increased in marriage after 18 years of age Antenatal care visits Postnatal care visits
Sebastian et al., 2012	Information, education, and communication for women, mother-in-law, husband 15–24-year-old pregnant women, mother-in-law and husband, India	Postpartum family planning use

(Continued)



**Table 2.** Continued

Statistically significant improvements				
Source	Intervention and target population	Gender behaviors	Family planning, antenatal care, maternal and child health behaviors and outcomes	Child health status
Santhya et al., 2008	Information, education, and communication (home visit) for women, mother-in-law, husband; women's support groups (include gender issues such as financial literacy), provider training Young pregnant women, mother-in-law, husband, India	Household decision making Discuss family planning with husband Gender role attitudes	Number of birth preparations Fed colostrum Postpartum check up Postpartum family planning use Breastfeeding	
<i>Transformative: Adults, women only</i> Prost et al., 2013	Meta-analysis of 7 intervention trials with adult women in 6 Asian and 1 African country		Reduced maternal mortality, stronger effects if at least 30% women in group were pregnant	Reduced infant mortality, stronger effects if at least 30% of women in group were pregnant
Colbourn et al., 2013	4-phase action cycle: identify problem, plan action, implement action, assess action; quality improvement (facility) Pregnant and nonpregnant women, Malawi		Reduced maternal mortality	Reduced perinatal and infant mortality
Smith et al., 2011	Multicomponent intervention: nutrition (e.g., food, education), sanitation, women's empowerment (similar to participatory action), poverty alleviation Mothers, Bangladesh		Food security (e.g., sufficient food) Caring for baby (e.g., immunization, vitamin A) and mother (e.g., 3 antenatal visits, diet) Access to safe water and latrines	Decreased stunting, overall and for combination of nutrition and empowerment components

<i>Transformative: Adults, men only or couples</i>			
Shattuck et al., 2011	Individual education, counseling, and learning activities Young men in union, not yet using contraception, Malawi	Family planning use	
Exner et al., 2009	Intensive workshops (education, adult learning activities)	Condom use, for dual protection (main partner)	
Schuler et al., 2012	18–73-year-old men, Nigeria Group sessions for men, women, and couples	Gender-equitable attitudes held by men and women	
Schuler & Ramirez, 2012	Couples, Tanzania Group sessions for men, women, and couples	Gender-equitable attitudes held by men	
Lundgren et al., 2005	Couples, Guatemala Family planning education included in safe water activities, 2 in-home visits Couples, El Salvador	More positive attitudes toward discussing family planning	
<i>Transformative: Adults, community</i>			
Blake & Babalola, 2002	Radio, print, community mobilization Men and community, Guinea	Family planning use among women not initially using contraception	
Kim & Marangwanda, 1997	Radio, print, community mobilization Men and community, Zimbabwe	Discussion about family planning with spouse and friends Communication with spouse about family planning Perceived family planning approval by spouse	
Philips et al., 2012	Community health centers, social mobilization to diffuse messages and to increase women's participation in communication networks, peer volunteers Community leaders and community members, Ghana	Fertility decline in short run, effects diminish over 10-year period Improvements in child mortality, in communities with community health centers	
Pence et al., 2007			

design), highlighting “positive” intervention effects (e.g., increase in family planning use for the intervention group).

## Results

### *Gender-Accommodating Interventions*

Nine primary documents described eight gender-accommodating interventions, providing education or counseling to couples to encourage men to support their wives’ use of services (i.e., antenatal care, skilled birth attendance) or health behaviors (e.g., family planning use, breastfeeding). Three interventions addressed family planning, and five addressed antenatal care issues (e.g., birth planning, diet, supplements, delivery, breastfeeding). Interventions were provided to women and men individually ( $n = 3$ ) or as a couple ( $n = 5$ ), sometimes with group activities for women or the couple ( $n = 2$ ). Activities were often conducted when men accompanied women to clinics ( $n = 7$ ).

These eight interventions had mixed effects on behavioral outcomes. Like many family planning evaluations, the three interventions addressing family planning measured only one behavioral outcome: family planning use. Two of the three interventions had statistically significant positive effects on family planning use. For example, a randomized controlled trial demonstrated increased family planning use at 12 months when couples were counseled in their homes by a health worker, and provided contraception or a facility referral (Terefe & Larson, 1993). However, in another study, counseling husbands separately from wives (relative to counseling wives only) increased wives’ perceptions that their husbands’ supported family planning use but did not increase postabortion family planning use (Abdel-Tawab, Huntington, Hassan, Youssef, & Nawar, 1999).

Two of the antenatal care interventions were narrow in focus (i.e., HIV testing, breastfeeding). First, one intervention involved inviting husbands to antenatal care visits to discuss the health of their wives and children at the first visit and HIV counseling and testing to couples at the second visit. The intervention group had lower rates of HIV testing among pregnant women than in the control group (usual care), in part because fewer women randomized to the intervention returned for the second antenatal care visit (Becker, Mlay, Schwandt, & Lyamuya, 2010). A second study evaluated a breastfeeding intervention, which provided education and counseling (in-person and video), and encouraged men to help their wives with chores during the breastfeeding period. Although intervening with couples was associated with more exclusive breastfeeding for up to 6 months (relative to standard of care), the protective effect of the father’s involvement was stronger among fathers with higher levels of education who may have been more open to messages concerning shared domestic responsibilities (Susin et al., 2008).

As is more typical, three of the five antenatal care interventions targeted multiple behaviors (e.g., making birth plans, using recommended supplements and services, breastfeeding and/or immunizing children). All three showed positive effects for some behaviors, and null or negative effects for others. Illustrative of this are evaluations of the same intervention implemented in South Africa (Kunene et al., 2004) and India (Varkey et al., 2004). The intervention included educational materials and individual, couple and group counseling on pregnancy care, breastfeeding and postpartum family planning. The intervention had no effect on health or behavioral outcomes in South Africa (e.g., pregnancy outcome, breastfeeding) but mixed effects in India (e.g., positive effect on supplementing baby’s diet, no effect on breastfeeding).

### ***Gender-Transformative Interventions***

We identified 14 transformative interventions and one meta-analysis (reporting on seven similar interventions), targeting adolescents, adult women, adult men, couples, or the broader community (Table 2). These gender-transformative interventions attempted to empower girls and women by addressing communication and decision making, as well as by addressing literacy, education, livelihoods, or decision making at the group or community level.

#### *Adolescents*

Five interventions (described in six articles) sought to empower adolescents, delay marriage, increase family planning use, and/or improve pregnancy outcomes. Three interventions to delay or address issues in early marriage, delivered to unmarried or unmarried adolescents, addressed literacy, encouraged adolescents to complete school, and provided vocational training and/or life skills education (e.g., decision making, goal setting, reproductive health). For example, an intervention in Ethiopia was implemented over several months and included: (a) community mobilization around child marriage norms, (b) mentor-led groups to provide informal education and encourage girls to stay in school, (c) livelihood programs for girls not in school, and (d) incentives to families whose girls stayed in school. The results were mixed, with positive effects on family planning use regardless of age, and varied effects on school enrollment and age at marriage (i.e., increased age at marriage for 10–14-year-olds only; Erulkar & Muthegi, 2009). Multivariate analyses of survey data collected from “graduates” and matched nonparticipants of an intervention in India that included literacy training, vocational skills training, and health education found the intervention to be associated with an increase in marriage after age 18, receipt of antenatal care and postnatal care, as well as changes in select gender outcomes (e.g., making decisions). However, the intervention did not appear to influence delivering in a facility, having a skilled attendant at delivery, or select child health outcomes for graduates who had children (Centre for Development and Population Activities, 2001).

Two interventions targeted young married women, their husbands, and their family members to modify gender norms (e.g., communication and decision making in the family) to support prenatal care and healthier maternal and child health behaviors. For example, the First Time Parent Project in rural India included the following: (a) education and counseling for young women, (b) outreach to husbands and mothers-in-law, (c) training and workshops to help providers meet young women’s needs, and (d) women’s support groups on financial and gender issues (Santhya et al., 2008). Both interventions increased postpartum contraceptive use, but one evaluation did not report pregnancy care outcomes (Sebastian, Khan, Kumari, & Idnani, 2012) and the other reported inconsistent effects on pregnancy care behaviors (e.g., no effect on antenatal care visits, increased breastfeeding in one site, increased number of birth preparations in both sites; Santhya et al., 2008).

#### *Older Women*

Our primary evidence for the effects of empowering women comes from a meta-analysis of seven interventions in Asia ( $n=6$ ) or Africa ( $n=1$ ) that used a four-phase participatory approach to address maternal and child health (Prost et al., 2013). The interventions gathered community women to meet with a facilitator for several months to (a) identify and prioritize problems, (b) plan actions, (c) implement locally feasible strategies, and (d) assess activities. Across the seven studies, women in communities with participatory action groups experienced significantly reduced maternal mortality (37%) and reduced neonatal mortality (23%).

However, a reduction in stillbirths (9%) was not statistically significant. Effects across the studies were heterogeneous; a subgroup analysis identified larger significant reductions in maternal (55%) and neonatal (33%) mortality when at least 30% of group participants were pregnant. Two primary documents supplemented findings of the meta-analysis. Colbourn, Nambiar, and Costello (2013), for example, described the actions that were identified by women participating in a similar participatory intervention in Malawi, including support for kitchen gardens, bicycle ambulances, health education, and bednets. Actions that required external support (e.g., building a small health facility) were less likely to have been implemented.

An intervention to reduce child stunting combined a participatory approach for empowering women with nutritional support (food rations), sanitation (safe water, sanitary latrines), and poverty and food insecurity alleviation (agriculture training and inputs, gardening, livestock rearing, income generation). The women's empowerment activities gathered women for education (e.g., on rights, on nutrition), solidarity, planning actions, and advocacy. A comparison of changes in the intervention areas (baseline to endline) to national trends over the same time period suggested that the intervention package was associated with a sharper decline in stunting among children up to age 24 months in the intervention areas than in the nation and surrounding communities. A propensity score analyses that adjusted for selection biases and tried to isolate effects of the intervention components suggested that participation in both the nutrition and empowerment components produced a significant interactive factor, resulting in less stunting than either strategy alone (Smith, Khan, Frankenberger, & Wadud, 2011).

#### *Men or Couples*

We identified four gender-transformative interventions that targeted men or couples to increase family planning use. These interventions were intensive, consisting of multiple individual (Shattuck et al., 2011) or group (Schuler, Nanda, Lenzi, Chen, & Field, 2012; Schuler & Ramirez, 2012) meetings or workshops (Exner et al., 2009) with adult learning activities (e.g., role plays), discussions, skills building, and time for reflection. Assessment of relevant behavioral outcomes was limited to any family planning use. Although they demonstrated effects on knowledge and sometimes gender norms, effects on family planning use were mixed. For example, a pre-/postcomparison of an intervention that consisted of group learning, activities and discussion for men, women, and couples demonstrated effects on knowledge and gender attitudes, but not on family planning use (Schuler & Ramirez, 2012; Schuler et al., 2012). The two interventions that resulted in increased family planning use or increased condom use for dual protection targeted men only, addressing gender norms, communication between partners, and joint decision making (Exner et al., 2009; Shattuck et al., 2011).

#### *Broader Community*

We identified three gender-transformative interventions that targeted the broader community with the aim of changing gender norms. One of the interventions, the Navrongo Community Health and Family Planning Project in Ghana, tried to increase women's participation in community networks (Pence, Nyarko, Phillips, & Debpuur, 2007; Phillips et al., 2012). Two of the community interventions were media interventions that focused on male responsibility and joint decision making for family planning.

The evaluation of the Navrongo Community Health and Family Planning Project was designed to isolate the effects of two intervention components: (a) modified services (such as built clinics in communities) and (b) community mobilization (e.g., working with traditional leaders to establish village health committees, incorporating

women into leadership networks, appointing male community health workers to talk about health issues, making referrals, and providing basic medicines). Although a short-term evaluation reported a significant decrease in fertility, a follow-up assessment after the project had been implemented in a larger geographic area showed diminishing effects on fertility (Phillips et al., 2012). The authors attributed this to the uneven implementation of the community mobilization component and, perhaps to the use of family planning for spacing births rather than for limiting births. The evaluation of maternal and child health outcomes suggested that the community nursing component was essential for reducing mortality. A significant reduction in child mortality was observed in the area where nurses spent less time in clinics and more time in the community and increased child mortality was observed, in areas with community mobilization alone (Pence et al., 2007).

The two media interventions, one in Guinea (Blake & Babalola, 2002) and one in Zimbabwe (Kim & Marangwanda, 1997), used radio, print, and community activities to encourage men to get involved in family planning decision making. Both showed significant effects on the mediating variable of discussing family planning with their spouses. However, effects on family planning use were limited.

## **Discussion**

Our review identified evaluations of 8 gender-accommodating and 14 gender-transformative interventions, as well as a meta-analysis of gender-transformative participatory action groups. The majority of the interventions addressed family planning or maternal and child health behaviors, which are early steps in the pathway to improved child health. We found only one study that reported on health behaviors or health outcomes through a child's second year of life (Smith et al., 2011).

The effects of integrating gender in behavior and social change interventions targeting family planning are mixed; among both accommodating and transformative interventions we found positive and null effects. Although most gender-integrated interventions addressing maternal and child health behaviors had some positive effects, there were also null effects. The presence of null effects is not surprising, given the larger number of maternal and child health behavioral outcomes measured. Some, but not all, of the null effects were related to access to services such as facility delivery or attended delivery, over which families may have less control.

As a body, these studies suggest that expanding the scope of behavior change interventions to address social and structural factors, such as gender norms and inequalities, may be beneficial for effective program intervention. The strongest evidence of effectiveness in controlled settings comes from interventions that seek to empower women to take actions to address health issues and from interventions that seek to empower adolescents and their families and to change community norms around child marriage. As a group, these interventions tend to raise issues of gender norms and rights, and seek to give women access to resources (e.g., education for girls, community networks for decision making for women) to improve health behaviors and health outcomes. The interventions were found to delay age at marriage, increase use of family planning, reduce child stunting, and reduce maternal and child mortality. Despite positive effects, recommendations to implement empowerment programs are tempered by limited data from Sub-Saharan African countries, few replication efforts under less controlled conditions, and limited information on sustainability and scaling-up. More research is needed to understand the mix of components that give rise to significant effects, how the community context and other conditions influence implementation and outcomes, and their potential replication.

Evidence is mixed on the effectiveness of integrating gender in strategies designed to increase men's support for women's and children's health or to challenge

gender norms that limit shared decision making in domestic spheres. These interventions targeted many different groups, some “engaging” men, while others followed recent calls to “synchronize” interventions by including both women and men (Greene & Levack, 2010). Furthermore, several (e.g., Centre for Development and Population Activities, 2001; Varkey et al., 2004) but not all (e.g., Susin & Giugliani, 2008; Terefe & Larson, 1993) evaluation studies reported on gender outcomes such as discussions with partners, joint decision making, women’s control over family resources, or gender-role attitudes. There were positive and null findings by potential for gender transformation, by target population, and by selected behavioral outcome. The lack of clear patterns, which could be due to differences in community context, how gender dynamics influence the particular behavioral outcome or aspects of the intervention, make it difficult to make recommendations about implementing these types of interventions.

What we did not find in the literature is as important as what we found. We identified several gender-integrated interventions that we did not include in our review given the parameters of our task. For example, although a woman’s experience of gender-based violence has negative effects on her own and her child’s health, none of the gender-based violence interventions we identified measured family planning use, maternal and child health behaviors, or child health indicators (e.g., Kalichman et al., 2009; Skevington, Sovetkina & Gillison, 2013). We also identified several son-preference, family planning, maternal and child health, nutrition, and sanitation interventions that integrated gender, but that have either not been evaluated or did not have moderate-to-strong evaluation designs (e.g., Herbert, Emanu, & Tessema, 2010; Zhen, Gupta, & Shuzhuo, 2013). For example, an evaluation of efforts to engage women in food production and decision making at the community level around agriculture and nutrition presented pre/post changes in outcomes in the intervention group, with no comparison group or multivariate analyses to rule out selection biases (Iannotti, Cunningham, & Ruel, 2009).

### ***Research Recommendations***

Collectively, our review offers suggestions for evaluations of and strategies for gender-integrated interventions. The field may benefit from a clearer articulation of the causal pathways leading from gender dynamics through health behaviors and health outcomes, particularly as they pertain to individual antenatal care and early child health outcomes. Although mechanisms linking gender dynamics to gender-based violence, family planning use, and HIV risk are the subject of numerous studies and interventions, there are fewer interventions addressing and evaluating the link between gender inequalities and child health outcomes. Understanding the causal path from particular gender dynamics to particular health behaviors and following it through in evaluations of in gender-integrated interventions (e.g., addressing gender-based violence and assessing changes in family planning use or child health outcomes) might require specifying particular norms or other inequalities that matter, as a precursor to narrowing down and focusing on gender dynamics that may contribute to those behaviors and health outcomes.

It would be useful to plan for more systematic evaluations of innovation in gender-integrated interventions. Most donors require evaluations, but many of these do not have moderate-to-strong evaluation designs to confirm the effects of particular innovations on behavior change. And, among more rigorous evaluations it is difficult to tell whether the gender components (e.g., addressing norms, empowering women) contribute as much or more to the outcomes as other components (e.g., knowledge, access). To some extent, including gender outcomes helps us to explore conditions that might influence subsequent health outcomes. That said, there is little

consistency in use of measures of gender dynamics (e.g., some use communication measures, some use decision making, some use gender attitudes). Likewise, the measurement of outcomes, particularly those related to maternal and child health behaviors varied across studies making it difficult to compare findings across studies. A more strategic approach to evaluation is needed, whereby innovative program models are designed with attention to scale up and sustainability issues, piloted for conditions such as feasibility and acceptability, and then assessed with more rigorous research designs in one or two sites with control or comparison groups, incorporating monitoring and process evaluation data to help interpret findings. Although some might prefer evaluations that rely on randomized controlled trials, these are not always feasible or ethical (West et al., 2008). For example, community based interventions to modify gender norms may be difficult to evaluate in a randomized controlled trial with sufficient power to fully understand community-related changes. We encourage future evaluations to consider alternative designs (e.g., step-wedge) and to collect both quantitative and qualitative data to better understand implementation issues, how interventions might produce effects, and parameters for scale-up. We also suggest a more systematic approach to operational research, to better understand the conditions under which programs are successfully implemented and can be brought to scale.

### **Conclusion**

Evidence points to the indirect, but important, role of addressing gender dynamics on select child health related-behaviors. A growing number of interventions have integrated attention to gender in broader social and behavior change communication interventions to promote child health and survival. Although some areas, such as maternal and child health, are still in the early stages, the field has taken multiple approaches to include gender dynamics, accumulating a body of evidence about whether and to what extent the interventions work in controlled settings. Addressing gender, by empowering women and perhaps by working in a synchronized way with men and women, may affect child survival through women's and couple's ability to make and act on decisions that benefit their own, their children's and, in some cases, their community's health. Other ways of addressing gender dynamics, by increasing male support and engagement, appear to be effective in some settings and under some conditions. It is not surprising that there is more solid evidence on women's empowerment approaches, given that more recognition in the field has been given to issues of *women in development* than *gender and development* (Dagenais & Piché, 1994; Wilkins, 1997, 2005). In addition to implementing and better understanding the effect of women's empowerment approaches in real-world (not just research) settings, we need additional research addressing how gender dynamics influence relevant behavioral outcomes (e.g., family planning, antenatal care, breastfeeding, immunization), and how male engagement (whether accommodating or transformative) and synchronized approaches work in both controlled and real-world settings. More intensive and rigorous evaluation research will be critical for creating future behavioral interventions that are effective and sustainable, and that do not exploit but challenge gender norms and inequalities to help achieve better outcomes.

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## Supplementary Material

Supplemental data for this article (Appendices 1 and 2) can be accessed on the publisher's website at <http://dx.doi.org/10.1080/10810730.2014.918216>.

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