

REVIEW ARTICLE

Interventions for improving male involvement in maternal and child healthcare in Uganda: A realist synthesis

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Abstract

This study aimed at understanding how, when, and under what circumstances interventions succeed (or fail) to improve male involvement in maternal and child healthcare in Uganda. A realist synthesis approach was used to unpack the complexity of these health interventions to explain their theories and applications in specific circumstances. Our review of 19 studies revealed that men were specifically approached as clients, partners or agents for behavioural change. Broadly, mechanisms of education, training, restriction, environmental restructuring, modeling, enablement, persuasion, incentivization and coercion were used to involve men in maternal and child healthcare. Education, training, modeling, enablement and environmental restructuring mechanisms were more effective in ‘cultivating’ a sustained will of men to get involved as couples. However, unintended outcomes were inevitable in circumstances where mechanisms did not match specific contexts. Using coercion, restriction or incentivization is more likely to result in short-term and negative outcomes because of context heterogeneities. (*Afr J Reprod Health* 2021; 25[1]: 138-160).

Keywords: Realist synthesis, maternal and child health, male involvement theory, Uganda

Résumé

Cette étude visait à comprendre comment, quand et dans quelles circonstances les interventions réussissent (ou échouent) à améliorer la participation des hommes aux soins de santé maternelle et infantile en Ouganda. Une approche de synthèse réaliste a été utilisée pour décortiquer la complexité de ces interventions sanitaires afin d'expliquer leurs théories et leurs applications dans des circonstances spécifiques. Notre examen de 19 études a révélé que les hommes étaient spécifiquement approchés en tant que clients, partenaires ou agents de changement de comportement. De manière générale, des mécanismes d'éducation, de formation, de restriction, de restructuration de l'environnement, de modélisation, d'habilitation, de persuasion, d'incitation et de coercition ont été utilisés pour impliquer les hommes dans les soins de santé maternelle et infantile. Les mécanismes d'éducation, de formation, de modélisation, d'habilitation et de restructuration de l'environnement ont été plus efficaces pour «cultiver» une volonté soutenue des hommes de s'impliquer en couple. Cependant, des résultats imprévus étaient inévitables dans des circonstances où les mécanismes ne correspondaient pas à des contextes spécifiques. Le recours à la coercition, à la restriction ou à l'incitation est plus susceptible d'entraîner des résultats négatifs à court terme en raison des hétérogénéités du contexte. (*Afr J Reprod Health* 2021; 25[1]: 138-160).

Mots-clés: Synthèse réaliste, santé maternelle et infantile, théorie de l'implication masculine, Ouganda

Introduction

Limited male involvement (MI) is one of the major challenges to the utilization of maternal and child healthcare (MCH) services in Uganda¹⁻². This challenge is associated with poverty, poor health service delivery, negative health-seeking behaviours, and sociological factors such as traditional gender norms and religious beliefs³⁻⁴. In most cases, household gender relations define men as dominant decision-makers and thus consequently the ones who control and access resources that may

influence MCH⁵⁻⁶. As household decision-makers, most men influence what, how, when, and where MCH services are accessed and used. However, following the recommendations from the 1994 International Conference on Population and Development (ICPD), there has been a strategic shift from viewing men as dominant individuals towards having them participate as equal partners, clients and agents of behavioural change⁷⁻⁹. MI is generally defined as the participation of men in MCH¹⁰. MCH is the care given to a mother and child during pregnancy, childbirth and the

postpartum period¹¹. Therefore, men's participation relates to giving care and support to women during pregnancy, at childbirth, after birth, and during the infancy years of children. So, limited MI becomes a capacity and behavioural challenge. A challenge that requires behavioural change interventions necessary to improve capabilities, opportunities and motivation of women and men towards MCH services utilization¹². Interventions to improve MI may include Behavioural Change Communication (BCC), peer education, training health service providers on gender-sensitive service provisioning, training of community leaders to influence MI, partner invitation at health facilities, couple counseling, etc.¹³⁻¹⁴. MI has an impact on access and use of MCH thus consequently affecting health of mothers and children. Evidence shows that MI improves men's perceptions and attitudes, knowledge on MCH and other sexual reproductive health (SRH) services, couple decision-making, and their support toward the use of MCH and in doing household work^{10,13,15}. These positive outcomes consequently improve MCH. For example, men's changed perceptions and behaviours positively influence the uptake of Prevention Mother to Child Transmission (PMTCT) services, immunization services, contraceptives, thus reduction of health risks and improvements in children survival¹⁶. Figure 1 shows a conceptual theory on how MI influences maternal and child health improvements.

Although there is a positive association between MI and improvement of maternal and child health, the evidence is still limited and ambiguous because direct links between implementation processes and specific outcomes under specific circumstances have not been well explored^{5,15}. This limited exploration may be linked to the wickedness of healthcare problems as asserted by Raisio and complexities of health interventions¹⁷⁻¹⁹. MI interventions are context-sensitive, causal relationships between implementation and outcomes are non-linear, and results may be unpredictable depending on contexts^{15,20}. Thus, based on Westley, Zimmerman and Patton's categorization of problems MI is not simple or complicated, but rather a complex problem²¹. In this paper, complexity relates to context-mechanism

relationships that make the implementation of MI interventions difficult thus challenging achievements, measurements, and attributions of intervention outcomes. For example, intervention resource provisioning (inputs) and activities influence the reasoning of stakeholders, and this may affect the trajectories of implementation processes and outcomes^{19,22}. To understand the linkages between implementation and results, we must unpack MI intervention complexities by studying the intervention approaches and contexts.

There is limited knowledge of what MI interventions work (or not) under specific circumstances. While research on MI in MCH in Uganda is growing, previous studies have concentrated on assessing determinants of MI in MCH²³⁻²⁴. More so, there are few studies that focus on assessment of intervention mechanisms and circumstances under which mechanisms operate to improve MI^{8-9,35}. This article aims to understand how, when, and under what conditions MI interventions succeed (or fail) to improve MI in MCH in Uganda. The contribution of this paper is theoretical. We have already presented the initial programme theory in Figure 1 informed by initial literature review. In the following section, we describe our methodological protocol based on principles of the realist synthesis approach^{20,22}. Next, we present our results and a refined programme theory for MI, followed by a discussion of results, policy implications, and strengths and limitations of our review. Lastly, we provide recommendations for future research and a conclusion.

Methods

Realist synthesis

We could not apply simple methods of assessment because visible and invisible iterative feedback loops operating through multiple interlinked complex pathways and multi-layers of stakeholders are difficult to assess^{17,25,19}. Realist synthesis was considered a suitable approach to “unpack the complexities” of MI interventions to explain theories and applications that reveal relationships

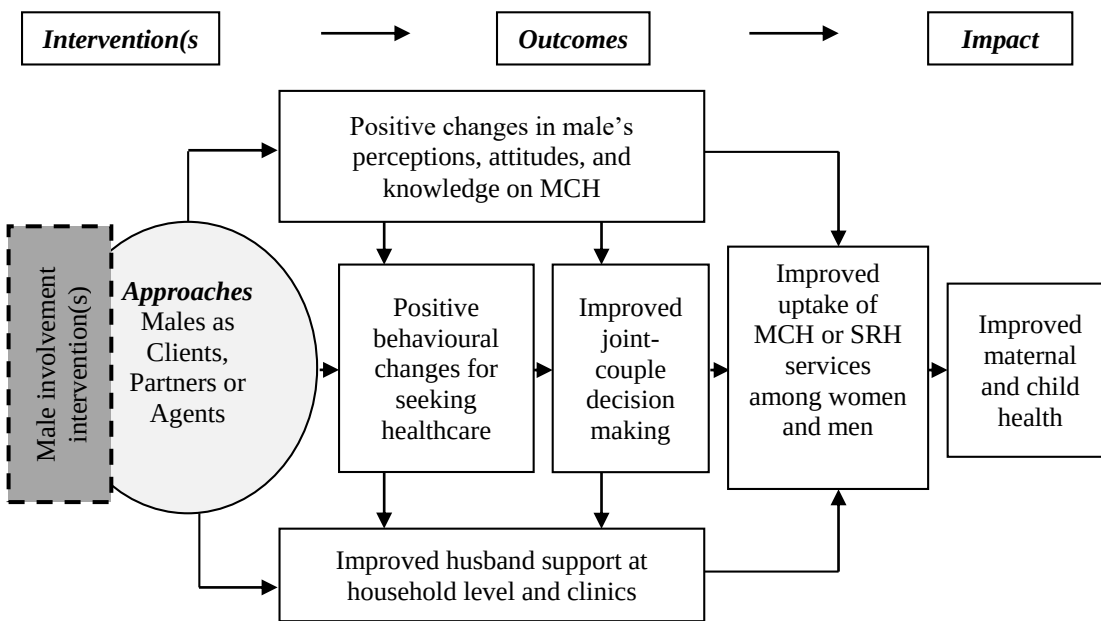


Figure 1: Initial programme theory for male involvement in MCH

between contexts, mechanisms, and outcomes²⁶. Realist synthesis is a theory-driven approach that focuses on a systematic review of evidence on complex social interventions to provide explanations of how and why such interventions work (or not), and for whom in specific circumstances^{17,20,22}. The approach focuses on configurations of context, mechanism, and outcomes (C+M=O) to generate intervention theories. The Context-Mechanism-Outcome configurations (CMOCs) thus depict relationship(s) between particular outcomes resulting from specific mechanisms in specific contexts^{17,27}.

Contexts are essential conditions necessary for the activation of mechanisms required to generate outcomes^{17,28}. These may include individuals' capacities and interrelationships, implementation resources, health system structures, etc. Mechanisms explain how interventions operate in specific contexts to generate outcomes. They are context-sensitive entities, hidden but real processes, result from reasoning and reactions of stakeholders and evolve over space-time and social systems of relationships²⁹⁻³⁰. Mechanisms are not activities but rather processes through which stakeholders operate resources and activities to influence how MI interventions generate outcomes. Outcomes are

resultant components of the interactions between mechanisms and contexts²². Interventions may result in intended or unintended outcomes depending on specific contexts within which particular mechanisms function.

Synthesis scope

We aim to explore how, when, and under what circumstances interventions succeed (or fail) to improve MI in MCH in Uganda. We focused on assessing the initial programme theory of MI interventions under different contexts to provide clarifications on the expected results against the 'actual' practice^{20,26,22}. No realist approach has been applied before to study contexts, mechanisms and outcomes (CMOs) relationships of MI interventions.

Search procedure

As Pawson *et al.* and Wong *et al.* suggest, we purposefully and iteratively searched several databases to acquire documents with potential and relevant evidence to test MI intervention CMOs^{20,22}. We restricted our evidence search to English language using key terms including male/partner/husband involvement, maternal and

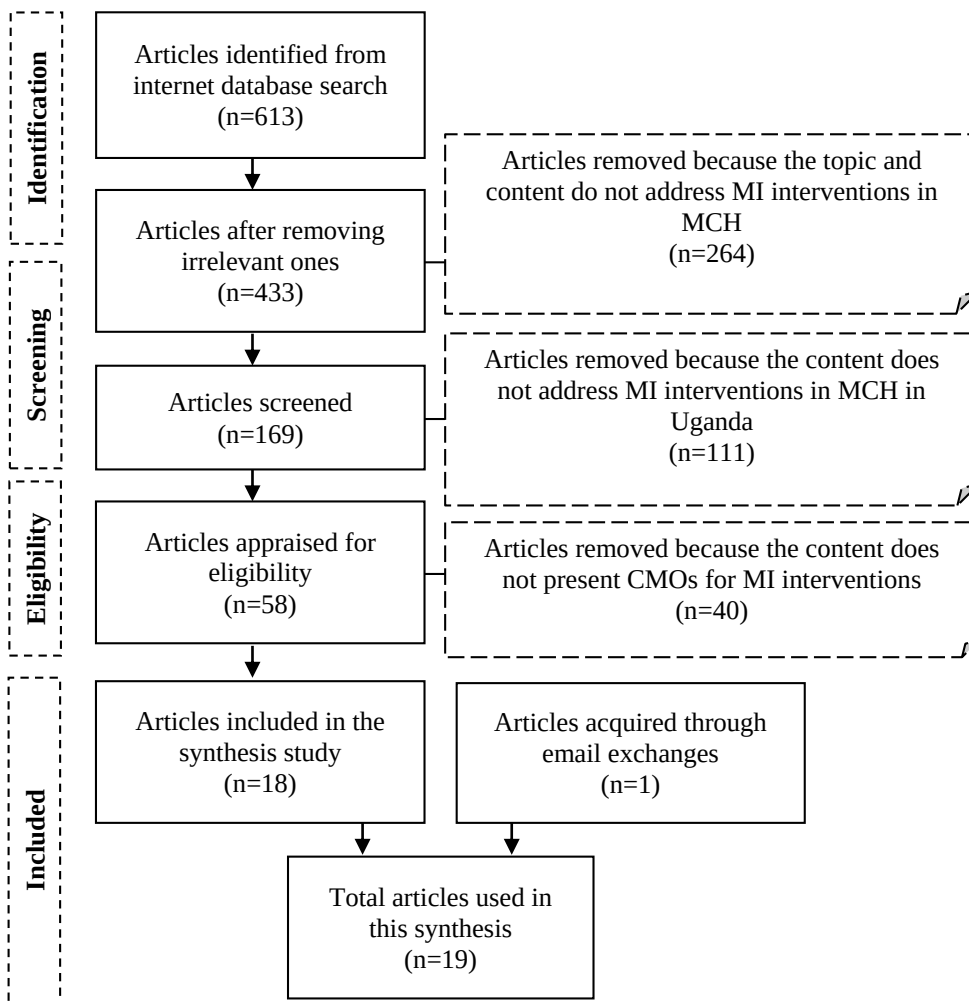


Figure 2: Framework for the process of inclusion and exclusion of articles

child, sexual, reproductive, healthcare, interventions, strategies, Uganda. We searched for evidence in the following internet databases: BMJ Open journal, PubMed Health, BioMed Central, UNICEF (Children and AIDS resource center), WHO, UAntwerp Discovery Service, The National Center for Biotechnology Information (NCBI), MoH Uganda website, Reproductive Health Uganda (RHU), Google search engine and Google scholar. In a bid to expand our search, we also used the snowball and expert network methods to trace relevant references to other documents and to acquire more relevant evidence respectively²⁰. Through emails, we requested for relevant evidence from organizations implementing MI interventions. The organizations included RHU, CARE Uganda, Gulu Women's Economic Development and

Globalization (GWED-G), WHO (Uganda), Marie Stopes Uganda, Women's Health Foundation, and Save the Mothers (East Africa).

Inclusion and exclusion of articles

Due to the complexity of MI interventions our screening process was purposeful and iterative based on conceptual-thickness (theoretical) and contextual-thickness (context)²⁰. We used an inclusion and exclusion criterion to simplify the screening process. To include an article in this study, it had to meet the following requirements: publication in English; topic is about MI in MCH; content is on MI intervention(s) in MCH in Uganda; and content provides context, mechanisms, and outcomes of MI intervention(s). Our criterion

focused not just on relevance but also on gathering and using literature that would ‘sufficiently’ fit to satisfy our study question^{22,31}. Figure 2 illustrates our procedure for identifying, screening and appraising articles for exclusion and inclusion.

Evidence appraisal and extraction

Evidence appraisal was done to enhance the trustworthiness and credibility of our findings²². We assessed evidence to check whether it was ‘sufficient, good or excellent enough’ to provide details on context, mechanisms, and outcomes of MI interventions, and relevant to contribute to theory refining²⁰. Our appraisal relied on cases, abstracts and conclusions of evidence on MI interventions implementation processes. Additionally, to ensure reliability on the screened articles we subjected our abstracted evidence to secondary review³². We extracted data by citing relevant evidence and attaching page numbers to indicate content locations in the included articles. Short descriptions of identified intervention evidence were then made to represent the basis for which inferences were made during analysis²². The descriptions of extracted data included article authorship details, intervention category and contextual features, intervention mechanisms and results²⁶. Table 1 provides a summary of eleven identified MI interventions, key features of interventions and the included articles.

Data synthesis

Our evidence analysis aimed at assessing outcome patterns, generative mechanisms, and contextual conditions that were then used to configure the CMOs underpinning MI interventions^{17,27}. We developed content explanations from the evidence and then turned them into CMOs to further demonstrate how mechanisms are triggered to influence MI intervention outcomes²². The CMOs helped in describing interventions to depict the ‘actual’ realities of intervention implementation. Narratives that explain various propositions of “if-then” were presented to categorize generative explanations and semi-predictable patterns (demi-regularities) describing how patterns of contexts and outcomes work for MI interventions and how such patterns are likely to occur^{17,27}. Our analysis process

was iterative and emergent because of the CMOs variations. The CMOs results informed the development of a refined programme theory. As Wong *et al.* assert refined programme theory “is the product of a realist review” thus “may be a set of CMOs”²².

Results

Although several health policies and programmes in Uganda still lack MI aspects, integration of MI in MCH has gained recognition over the last two decades³³⁻³⁴. Through our evidence search we found that Uganda has had experience in MI in MCH at individual, household, community and health facility levels. Following evidence extraction from the identified articles we provide categories of MI interventions, their descriptions and source of evidence in Table 1. Based on the evidence we found there is no standardized naming or categorization of MI interventions. Therefore, we based our category names and descriptions on those provided in the articles. The category names were mainly based on how particular words were used in a repetitive pattern to explain how males are involved in MCH.

Following the identification and categorization, we assessed the eleven MI interventions to understand the specific context-mechanisms variations. In this section, we present the CMOs for the analyzed MI interventions (see Table 2). We then explain the intervention mechanisms that influence outcomes and later describe semi-predictable circumstances that describe contexts that trigger or limit MI in MCH.

Intervention mechanisms

Males in Uganda are engaged in MCH as clients, partners, or agents who advocate for behaviour change. In this study we refer to these categories of engagement as *male-specific approaches*. They may also be viewed as micro-level mechanisms for MI because they also varyingly influence how specific outcomes in some contexts are realized^{9,35}. When men are engaged as clients, uptake of SRH services increases as health-seeking behaviours positively change³⁵⁻³⁶. As partners, males improve support at the household, community, and health

Table 1: Identified male involvement interventions and sources of evidence

MI intervention	Key intervention features	Evidence sources
Behavioural Change Communication (BCC)	Use of Information Education and Communication (IEC) through multi-media channels such as print media, radio programmes, community outreach, and social events to create awareness on MI in MCH/SRH	JHU-CCP (2012), RHU (2013), Stern <i>et al.</i> (2015)
Male peers	Males knowledgeable of MI and MCH are used for community mobilization, sensitization, recruiting and educating peers, and for referrals of pregnant mothers	UNJPP (2012, 2013), RHU (2013), Doherty <i>et al.</i> (2015), GWED-G (2015, 2016, 2017), Stern <i>et al.</i> (2015), Besada <i>et al.</i> (2016), UNICEF (2016)
Providing incentives for active men and couples	Providing free male-specific health services for men who go to clinics with partners, recognizing and rewarding active males and couples, and giving tokens to women who go with partners to clinics	JHU-CCP (2012), Mukobi (2012), UNICEF (2016), GWED-G (2015, 2016, 2017), Stern <i>et al.</i> (2015), SOGH (2016)
Community dialogues with men	Dialoguing with and sensitizing men on why male support is vital towards improving MCH	Doherty <i>et al.</i> (2015), GWED-G (2015, 2016, 2017), Stern <i>et al.</i> (2015), UNICEF (2015, 2016), Besada <i>et al.</i> (2016)
Training and dialoguing with community leaders	Training community leaders to encourage and advocate for MI in their communities and to aid the implementation of MI initiatives	JHU-CCP (2012), UNICEF (2015, 2016), Besada <i>et al.</i> (2016)
Couple prioritization	First and fast provision of health services to women who come to clinics with their partners or denying services to women who seek services without partners	UNHCO (2010), Mukobi (2012), Doherty <i>et al.</i> (2015), Kiwanuka (2015), UNICEF (2015, 2016), Besada <i>et al.</i> (2016), Yourkavitch <i>et al.</i> (2016)
Partner invitation letters	Sending letters or information slips to males through their wives to invite males to attend specific services at the clinics	Byamugisha <i>et al.</i> (2011), EGPAF (2011)
Family support groups (FSGs)	Meetings with established groups of women or couples who are human immunodeficiency virus (HIV) positive to offer them psychosocial and medical services	Doherty <i>et al.</i> (2015), UNICEF (2015, 2016)
Clinic/antenatal care (ANC) days and extension of ANC hours	(Re) scheduling days and extending hours for ANC to target men. The days or hours when men are presumed available to access services as clients or partners	Mukobi (2012), RHU (2013), Doherty <i>et al.</i> (2015), Stern <i>et al.</i> (2015), UNICEF (2016), Besada <i>et al.</i> (2016), SOGH (2016), Yourkavitch <i>et al.</i> (2016), GWED-G (2016, 2017)
Training and dialoguing with health service providers	Training and dialoguing with health service providers to interest them in encouraging women to go to clinics with partners, and to educate them on how to integrate male-friendly services in MCH service provisioning	Doherty <i>et al.</i> (2015), GWED-G (2016, 2017), UNICEF (2016)
Household visits and dialogues	Dialoguing and sensitizing men and women at the household level to discuss MCH/SRH and share experiences with MI	GWED-G (2015, 2016, 2017), SOGH (2016)

facility levels thus increasing uptake of MCH especially PMTCT and ANC services³⁵⁻³⁸. In interventions where males get involved as agents of behavioural change positive changes in knowledge, attitudes, and practices towards MCH services are realized among men^{35,39-42}. The overlaps of engaging men as clients, partners, and agents of change can result in situations where men may miss

getting involved in one or two of the three categories. Pascoe *et al.* provide more nuanced explanations of the scenarios that result from these categorical overlaps. In this study we go beyond to interrogate the broad approaches for MI⁹. Beyond the male-specific approaches, men are involved using education, training, restriction, environmental restructuring, modeling,

Table 2: Context mechanism outcome configurations for male involvement interventions

MI Intervention	Contexts (C)	Mechanisms (M)	Intended (+O)	Outcomes	Unintended Outcomes (-O)
Behavioural Change Communication (BCC)	Multi-level health promotion structures, stakeholder social networks, accessible multimedia channels, male-friendly environments, available implementation resources, and other determinants of healthcare utilization	Persuasion and education	Positive attitude changes and improved knowledge of MCH among couples, and males become active in MCH		
Male peers	Community institutions that support MI, receptive men, interpersonal relationships among community members, available implementation resources, and other determinants of healthcare utilization	Persuasion, incentivization, education, training, enablement, and modeling	Positive attitude changes among males, improved referrals, improved uptake of SRH, and improved male support for ANC and household work		There is self-exclusion of male peers when remunerations are not provided
Providing incentives for active men and couples	The willingness of men and women to participate for incentives, availability of non-monetary and monetary implementation resources, socio-economic status of individuals and households, and other determinants of healthcare utilization	Persuasion, incentivization, and enablement	Improved uptake of MCH/SRH services by men and their partners		Men in poor households avoid responsibilities, and poor women exchange non-monetary incentives for financial resources to take care of other needs, self-exclusion of men or couples when incentives reduce
Community dialogues with men	Community institutions and structures, interpersonal relationships and social networks, supportive community leaders, available implementation resources, and other determinants of healthcare utilization	Persuasion, training, and education	Positive changes in attitudes and perceptions, improved knowledge of MCH, improved male support at household and clinics and increased couple-uptake of MCH and SRH services		
Training and dialoguing with community leaders	Community institutions and social structures, community leaders willing to participate, interpersonal relationships between leaders and community members, available implementation resources and other determinants of healthcare utilization	Persuasion, training, and education	Positive changes in attitudes and perceptions, improved knowledge and awareness, improved male support and eased implementation of MI interventions		
Couple prioritization	The professionalism of service providers, type of health services, health facility capacity to service couples and other determinants for healthcare utilization	Coercion, incentivization, and restriction	Couples motivated to use MCH/SRH services because of first and fast services for couples		Poor women hiring men to act as husbands, favoritism and discrimination by unprofessional service providers, stigmatization of single women and reduced uptake of MCH

Partner invitation letters	Health facility capacity to service couples, available women accessing MCH services, and other determinants of healthcare utilization	Persuasion and education	Improved awareness among males, increased number of men accompanying women and improved uptake of SRH services	Limited spaces at facilities to accommodate increased numbers of couples, and conflicts resulting from couple HIV testing
Family support groups (FSGs)	The capacity of service providers conducting FSGs, types of health services for HIV positive pregnant mothers or partners, FSGs arrangements, available implementation resources, and other determinants of healthcare utilization	Persuasion, incentivization, environmental restructuring and education	Improved health-seeking behaviours among couples, improved couple relationships and decision-making, and improved uptake of PMTCT and other MCH/SRH services	Challenges of dealing with couples conflicts especially discordant couples
Clinic/ANC days and extension of ANC hours	Health service providers willing to change the standard prescribed service guidelines, availability of males or couples on rescheduled clinic days/hours, available implementation resources, and other determinants of healthcare utilization	Persuasion, incentivization, environmental restructuring, and enablement	Positive changes in health-seeking behaviours, improved male-friendly services, and males motivated to accompany women for MCH services	
Training and dialoguing with health service providers	Health facility capacity to accommodate MI interventions, health administrative support to integrate MI, available implementation resources, and other determinants of healthcare utilization	Persuasion, training, and education	Positive changes in attitudes among service providers, improved commitment to service couples, improved male-friendly services, males motivated to accompany women to health facilities, and increased uptake of MCH/SRH services	
Household visits and dialogues	Households and social networks, interpersonal relationships among men, men willing to participate in dialogues, advocates ready to work at the household level, available implementation resources, and other determinants of healthcare utilization	Persuasion and education	Male perceptions and attitudes change, improved awareness of MCH among men, improved male support at household and clinics, increased number of referrals, and improved uptake of MCH/SRH services	

enablement, persuasion, incentivization and coercion. We refer to these as *broader intervention approaches* and they are the MI intervention mechanisms. Based on Michie *et al.*'s Behavioural Change Wheel¹², these approaches are the intervention methods through which MI interventions function to change men's behaviours. There is an intersection between *broader intervention approaches* and *male-specific approaches*. The latter is more specific to interpersonal relations and interacts with other

broader contexts to influence how the former operates to produce outcomes.

Education

Education broadly involves processes of knowledge acquisition, increasing awareness, and skills development^{12,43}. BCC interventions use Information Education and Communication (IEC) methods to improve knowledge about MI in MCH. Media channels, community outreaches, social and education events, drama, posters, radio programmes

are used to educate and sensitize communities on MI^{35,44}. For example, in the 'Fred and Bernard Campaign' and 'Men Only Outreaches' initiatives, the Health Communication Partnership Uganda (HCP Uganda) and the MoH were using community outreaches, radio dramas, and social events to educate communities on the importance of MI⁴⁵. During community outreach and at health facilities women and men are given educational materials to take home and engage their partners with information on MI and MCH. Additionally, men are used as peer educators to challenge traditional gender norms and educate fellow men and couples thus improving knowledge and awareness on relevance of MI in MCH^{38-39,41,46}. Such intervention strategies create spaces for men and women to share experiences thus creating awareness on MI.

Education at household level is also done with a presumption that men who work far from their households are more likely to miss several MI activities and therefore have less access to MI and MCH information compared to men who work at home and are easily accessed during community-based outreach^{40-42,47-48}. As an educative and awareness creation strategy, health service providers send invitation letters and information slips to men through women to inform men why it is important to accompany their partners for MCH services^{37,49}. Men exposed to these educative initiatives are more likely to improve knowledge and positively change their attitudes and behaviours towards MI in MCH. However, the effectiveness of education mechanisms is influenced by social networks and coordination among health promotion stakeholders and sufficient resource supplies^{35,45}.

Training

Training is a systematic process of imparting skills among the population targeted for behavioural change¹². Men are trained and facilitated as peer educators and cadres to champion as agents that engage with communities to create awareness, advocate for, and support MI initiatives^{35,38-39}. For example, Gulu Women's Economic Development and Globalization (GWED-G) trains and works with over 100 Role Model Men (RMM) to engage other men in dialogues to create awareness on MI in MCH, SRH, and gender relations that affect the health of household members⁴⁰⁻⁴². Community

leaders are also sensitized and trained on how to promote and create inclusive environments for MI in MCH⁴⁵⁻⁴⁶. Training community leaders helps health promoters to gain access and trust of community members. Community members listen to and follow local leaders, and most of these are men, thus making it easier to recruit and mobilize men as clients and advocates for MI in MCH^{35,48}.

Also, health service providers are trained to learn how to integrate men in MCH services and make them aware of determinants of MI. Training and capacity building improves their commitment towards enhancing MI, provision of male-friendly services, and change in attitudes⁴¹. Thus, this creates a conducive environment that motivates men to get involved. The outcomes of training include positive changes in perceptions and attitudes among men, improved awareness among community members and health service providers thus leading to an increase in the number of men supporting women to uptake MCH services^{38,42}. However, not all training efforts are effective and sustainable because participants' contexts change, and refresher training also requires continuous supply of resources. For example, out of a total number of 120 trained peer educators in the Learning Center Initiative (LCI), only 67 remained active to the end of the project because some shifted to other residential areas while others could not be retained because of limited financial remunerations³⁵.

Restriction

Restriction refers to the use of rules such as laws or regulations to deter or increase certain behaviours or define specific practices of the targeted groups¹². Legislations and regulations not only support the design and implementation of behavioural change interventions but may also be used to control behaviours¹². Legal mechanisms are used to reinforce behaviours of men and women that fail to use MCH services as joint couples. Several public health facilities in Uganda established facility-based rules and guidelines that prioritize women who come with their husbands to clinics⁵⁰. The implementation of these rules and guidelines is aimed at improving MI by restricting women from accessing MCH services if they do not go to health facilities with their partners^{38,51}. In the couple prioritization intervention, women are sent back

home or given less attention because service providers provide first and fast services to those who seek MCH as joint couples³⁸. Women who go with their partners can skip the queues at the clinics regardless of the time of arrival⁴⁸. While an increase in number of men accompanying women has been realized at some clinics, the increased numbers are not as significant as initially intended^{46,52}.

Firstly, restrictive mechanisms discourage women and stigmatize single women thus reducing uptake of MCH⁴⁸. Secondly, restrictions result in favoritism and discrimination. In contexts where service providers lack professionalism some women are served unconditionally (without partners) while others are restricted if they come without partners⁵³. This discourages positive healthcare seeking behaviours among women and men. Thirdly, when restricted poor women lack alternative ways of accessing services, they resort to hiring other men to act as their husband to access MCH^{46,51-52}. Restrictive mechanisms have proven to produce unintended outcomes because such mechanisms may not exclusively motivate men to get involved. For example, the type and sensitivity of services such as HIV testing may not match with mechanisms that condition health seeking behaviours^{38,50-51}. Women are subjected to HIV testing during ANC visits, therefore men do not accompany women to clinics fearing to be tested jointly with women².

Environmental restructuring

Environmental restructuring involves any reorganization or arrangement that changes physical or social context¹². Physical and social environments are restructured to create conducive environments that fit into contexts that allow effective MI or ease access and use of MCH. For example, the formation of family support groups (FSGs) during the implementation of the optimizing HIV treatment access (OHTA) initiative focused on creating environments that provided social support to HIV positive pregnant mothers and their partners thus improving MI^{36,46,52}. Restructuring social environment improves couple disclosure and bonding thus enhancing positive attitudes and support among men³⁸. Service providers also reschedule ANC hours and days to create suitable social and physical environments that are

convenient for men to motivate them to participate as clients and partners³⁸. For example, service providers take services from health facilities to communities with a rationale to counter MI barriers such as transport expenditures, long distances, and economic activities^{35,38}. Shifting or extending clinic days and bringing services to communities to target men as clients and partners improves male support for ANC and postnatal care (PNC) service uptake, increases uptake of SRH services such as male circumcision, increases contraceptive use among men as clients and as responsible partners, and men might also become more supportive in doing household chores^{35,38,42}.

Though this mechanism aims at service provisioning that fits in community social structures, the implementers must consider contexts of individual choices and interpersonal relations depending on the services being provided. For example, conflicts may arise between couples, especially discordant couples, in the context of sexually transmitted infections (STIs)^{37,49}. Moreover, improvements in the professionalism of health service providers, health facility guidelines and health system capacity to provide medical supplies and equipment that support such restructurings are inevitable^{35,41-42}.

Modeling

Modeling involves processes of availing examples of behaviours for target population to observe, imitate or aspire to¹². Modeling is done with the assumption that men who are knowledgeable of MCH and practice behaviours of supporting their partners to access and use MCH service will serve as examples for other men to imitate their behaviours. Male or couple models (also known as champions) are used to inspire others to emulate and practice the same behaviours^{35,38,44,46}. For example, GWED-G refers to their trained men as Role Model Men whose primary role is to practice and promote MI as inspiration examples⁴¹⁻⁴². Examples of models are delivered in a variety of ways such as community outreach, dramas, adverts, and other visual aids. For instance, in the '*Fred and Bernard Campaign*' and '*Men Only Outreaches*' male models were used in multi-media adverts and visual aids, and a mini-drama known as "*Neighbours*" was

presented on radio stations for men to learn and imitate the behaviours postulated in the drama⁴⁵.

Use of models improves positive changes in attitudes towards MI and influences an increase in the number of men supporting partners thus improving the use of MCH/SRH services. For example, following the one-year implementation of Male Action Groups (MAGs), there was a registered improvement in awareness of SRH and rights among couples, an increased number of men involved in MCH, and improved referrals for the uptake of ANC, Skilled Birth Attendance (SBA) and PNC services³⁹. MAGs refer to organized and registered functional groups of men with the central role of promoting MI and improving MCH uptake in communities and at health facilities⁵⁴. Male models practice the ideal required behaviours of men as advocates of behavioural change, as clients and supportive partners. However, the effectiveness of modeling mechanisms depends on remuneration and facilitation to sustain the participation of models in activities intended to inspire others. If there are limited facilitations and remunerations then self-exclusion and dropouts of male models are inevitable as experienced in the LCI³⁵ and MAGs³⁹ initiatives.

Enablement

Enablement refers to any process of rendering means to increase capacities and opportunities or reduce barriers towards achieving desired ends¹². According to Michie *et al.* enablement involves capabilities that are “beyond education and training” and opportunities that are “beyond environmental restructuring”¹². Individuals or groups of men and health providers are facilitated to create enabling environments to improve MI and increase uptake of MCH services^{35,39}. For example, GWED-G uses men as agents and remunerates motorcyclists, also known as “*bodaboda*” riders, to participate and ease referrals of pregnant mothers to health facilities⁴¹⁻⁴². Men and women are also given non-monetary and monetary incentives to equip them with necessary health needs and improve their economic capacity to enable them to access and use MCH as joint couples. For example, “*Maama kits*” (items for birth and afterbirth preparedness) for mothers and newborns are provided to reduce on potential costs

couples would initially incur to access MCH services⁴⁷.

On the health service supply side, capacity building and awareness creation initiatives are organized for health providers to counter their negative attitudes and practices that discourage MI in MCH. The initiatives aim at enabling men and women to have trust in the healthcare systems and thus jointly seek health services^{36,46}. Additionally, rescheduling of ANC days and hours and transfer of services to communities on specific days is done to enable men to use health services as clients and partners^{38,46}. Such initiatives reduce barriers such as transport expenditures, long distances and long queues at clinics thus enabling joint uptake of health services^{35,42,48}. Like other mechanisms, enablement also necessitates improvement in the health system capacities and supply of additional resources to reduce limitations to intervention implementation^{36,41,52}.

Persuasion

When messages are well orchestrated, persuasive communication strategies are effective in promoting good health practices⁵⁵. According to Michie *et al.* persuasive mechanisms involve use of communication to “induce positive or negative feelings or stimulate action” among the potential target population¹². Persuasive information and messages promoting MI are channeled through print media, radio and television programmes, community outreach and social events, peer education, information letters, among others⁴⁵. MI interventions focus on channeling health promotion messages to males and females to convince them to positively change behaviours towards joint-couple decision-making and support in seeking MCH services. For example, invitation letters or information slips can be used to send persuasive information that convinces men to accompany their partners when seeking healthcare at clinics^{37,49}. With improved access to information, there is improved knowledge about MCH and importance of MI, positive changes in attitudes and perceptions, improved couple-joint decision making, and improved partner support positively influencing the uptake of MCH^{37,39,41-42}. However, the effectiveness of persuasive mechanisms requires social networks

and coordination among health promotions and continuous resource supplies to match such interventions aimed at covering a vast number of people^{35,45}.

Incentivization

Incentivization mechanisms involve the creation of expectations of rewards if the target populations agree to practice expected behaviours¹². Incentivization consists of giving resources (monetary and non-monetary) to men and women to motivate them to seek MCH services in twosomes. Incentives include free health services, certificates of recognition, vouchers or gift cards, transport refunds, monthly stipend, T-shirts, and other non-monetary materials. The incentives given to men are not only perceived as motivation rewards but also as compensation for the time lost, distance traveled and other inconveniences⁴². Others aim at reducing economic pressures that limit men and women to use health services such as unaffordable cost of services^{41,47}. Community health workers and male agents promoting MI are also incentivized for continuous advocacy and awareness creation on MI^{36,46}. Incentives motivate men to get involved and be more supportive to their partners and motivate women to encourage partners to get involved thus improving uptake of MCH services^{36,40-41,44, 46}.

While incentivization has shown to improve MI, it also has its unintended shortcomings especially when men (or couple) solely get involved to benefit from incentives than participating as committed clients, partners or agents. Firstly, when the supply of incentives (“carrots”) decreases, self-exclusion is inevitable. When “carrots” are inconsistently or insufficiently provided, men (and sometimes women) lose interest of participating as joint-couples in seeking MCH services^{35,39}. For example, by the end of one-year implementation MAGs had reduced from the initial 52 to 44 groups, the number of active men did not reach the recommended number (25 members per group), and the attendance in the regular meetings was meager because men were losing interest due to lack of economic benefits³⁹.

Secondly, men in poor households reduce the support they had initially been giving women before incentives were introduced; and thirdly, some of the poor women exchange their non-monetary incentives for financial gains to cater for other household needs⁴⁷. Thus, without a sustained supply of incentives, incentivization mechanisms are bound to produce short-term and unintended (adverse) outcomes.

Coercion

Coercion aims at creating expectations of punishment or costs if the individuals do not comply with expected behaviours¹². Coercive mechanisms (“sticks”) include MI approaches that are directly or indirectly intended to force men and women to seek MCH services in partnership. Couple prioritization interventions have been implemented in several public health facilities across the country, and these interventions use coercive mechanisms to influence MI in MCH. The core features of this intervention are denying services to women or ‘first and fast’ serving women who come with partners when seeking ANC services^{38,51,53}. Women are warned to expect denial of services as a punishment for not going with their partners to clinics to access MCH.

Related to restrictive mechanism, use of coercion produces less intended and more unintended outcomes. Coercive mechanisms only produce intended outcomes if partners are willing to seek health services as joint couples, yet willingness depends on other contexts such as socio-economic status of households^{24,48}. In situations where men are willing to change behaviours and accompany women positive outcomes such as increased ANC service uptake are realized^{36,38,46}. When women are coerced to bring partners in contexts where men are not willing to get involved, women have been forced to improvise with alternative choices such as hiring men (we refer to the hired men as “fake husbands” in this review) to get the services they need or otherwise forgo uptake of the MCH services^{46,50-52,53}. Denying services to women who do not go to clinics with partners or prioritizing couples at clinics reduces uptake of MCH services.

Table 3: Overview of contexts triggering male involvement

CMO configurations	Contextual theme	Evidence source
If men's and women's perceptions and attitudes are positive towards MCH/SRH and MI, then their health-seeking behaviours will be positive and inclined towards joint-couple decision making and support to use MCH. If household socio-economic well-being is relatively better, men are relatively willing to get involved. If the household is poor and women are not empowered, then there will be a low rate of MI. Poverty will create fear and shame among poor men and women because they cannot afford to pay for the services. Men will also perceive MI as wastage of time and would instead prefer performing economic activities than reproductive roles. If health facilities have enough human resources and medical supplies, then they can cater for the increasing number of couples seeking health services. If the facility capacity cannot provide for the growing number of health-seeker as couples, then males perceive service provision inadequate and not enough for couples, then men lose interest to participate (self-exclusion). If men perceive a health service as female-oriented, they are likely not to get involved. Where male-oriented SRH services are integrated with MCH service provision, MI is likely to increase. If the service requiring couple participation is sensitive (such as HIV testing and counseling), then some men (and women) may not prefer to access the service in twosome with their partners. If service providers are not well trained on how to integrate MI in their provisioning, then men and women lack the motivation to seek healthcare as joint-couples. Also, if health facility administrative decisions do not encourage and support MI, then service providers' capacity and motivation to engage men is limited thus affecting MI negatively. If the supply of MI intervention implementation resources is inconsistent and insufficient, then MI interventions are likely to fail thus negatively affecting MI and uptake of MCH. If community leaders such as traditional, religious, and political leaders (the majority of who are men) are involved as peer educators, then other males are likely to get more involved because leaders influence attitudes and behaviours of their subjects. If interpersonal relationships among community members and service providers are lacking, MI is negatively affected. Also, if multi-sectoral and social networks are missing among policy-makers and implementers, the MI promotion may not succeed because resources and capacities for implementation are affected.	Individual perceptions and attitudes towards MI in MCH Household socio-economic status Health facility capacities Type of health service Health service provider professionalism Availability of intervention implementation resources Community social structures Social networks	JHU-CCP 2012 Stern <i>et al.</i> 2015 Besada <i>et al.</i> 2016 GWED-G 2016, 2017 SOGH 2016 Yourkavitch <i>et al.</i> 2016 Byamugisha <i>et al.</i> 2011 Doherty <i>et al.</i> 2015 GWED-G 2016, 2017 Byamugisha <i>et al.</i> 2011 EGPAF 2011 Mukobi 2012 Stern <i>et al.</i> 2015 Besada <i>et al.</i> 2016 UNICEF 2016 Yourkavitch <i>et al.</i> 2016 UNHCO 2010 JHU-CCP 2012 UNICEF 2016 GWED-G 2016, 2017 UNJPP 2013 Doherty <i>et al.</i> 2015 GWED-G 2016 2017 Besada <i>et al.</i> 2016 UNICEF 2016 JHU-CCP 2012 Stern <i>et al.</i> 2015 UNICEF 2016 GWED-G 2016, 2017 RHU 2013 JHU-CCP 2012 Stern <i>et al.</i> 2015 GWED-G 2016, 2017

Contextual fundamentals

The success of MI interventions depends on contextual factors at the individual, household, community, health facility, and policy levels. Table 3 provides an overview, in the form of demi-regularities, of contexts that trigger or limit MI.

MI interventions must fit within the contexts of community social structures because these structures influence the level of male

participation^{35,41-42,52}. For example, community leaders' receptions of MI interventions influence community members' perceptions and attitudes thus partly influencing their willingness to participate in the interventions^{38,45}. Household social and economic statuses also influence the willingness of men or couples to get involved. Men and their partners require financial resources to afford the health services that require their participation as couples.

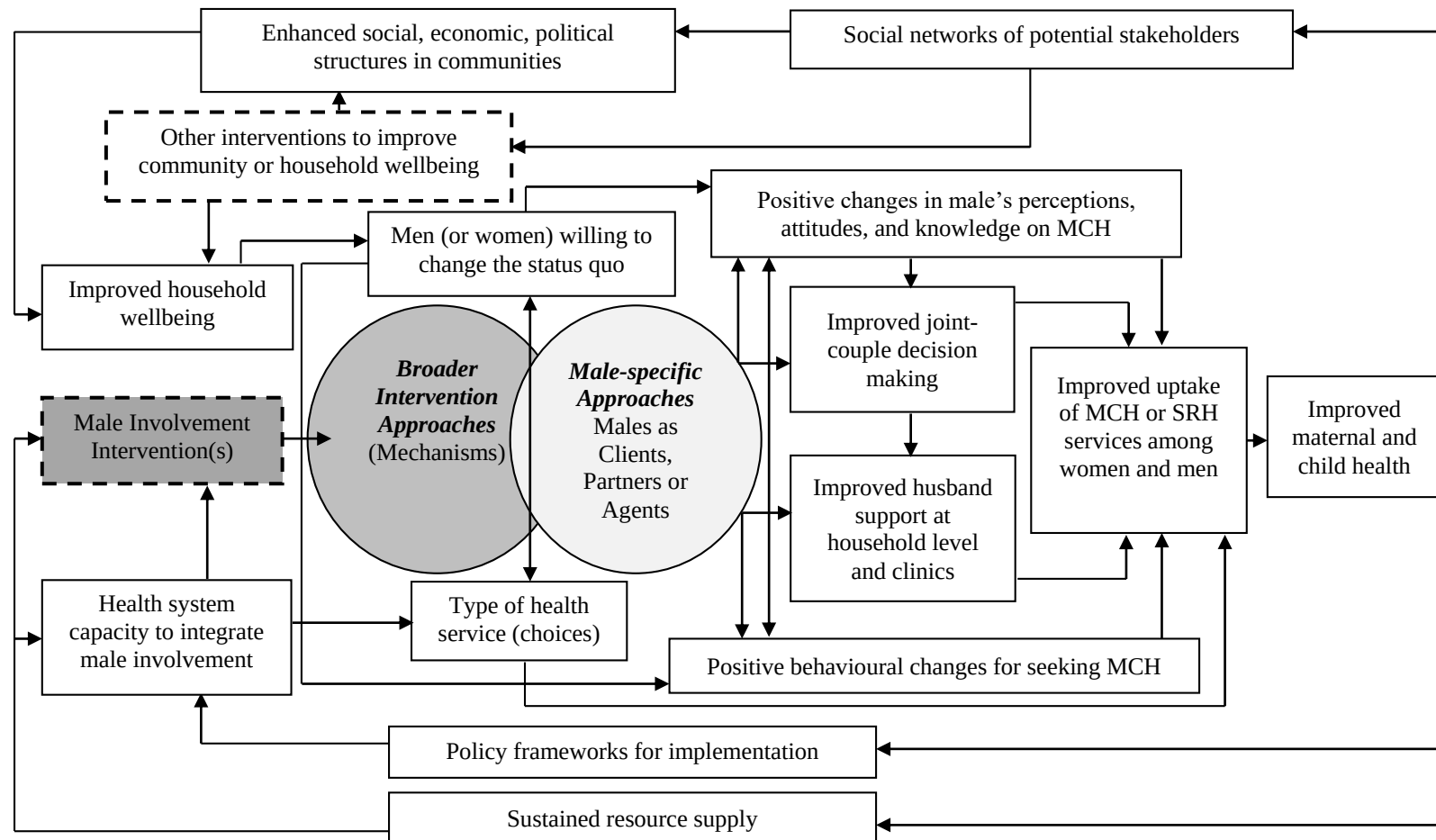


Figure 3: Refined programme theory for male involvement in maternal and child healthcare

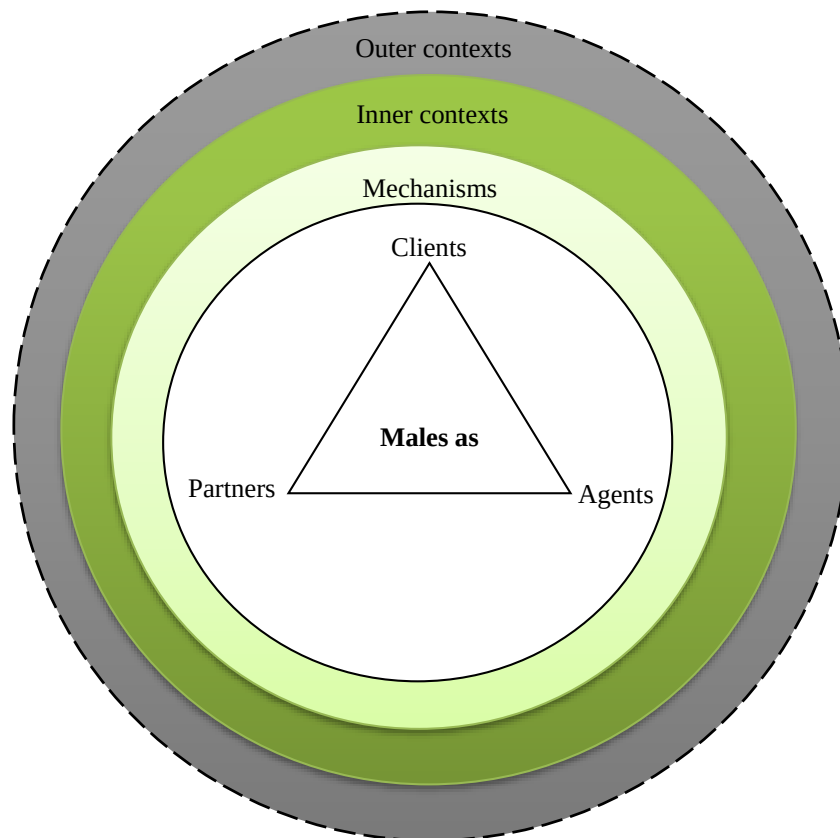


Figure 4: Levels of context-mechanism relationships for MI intervention

Table 4: Contexts for MI interventions created by the dynamic interactions between healthcare system capacity and male involvement

Level of healthcare system capacity	Level of male involvement	
	Low	High
Low	- Limited choices in MCH/SRH health service provisioning - Few or no men and women using MCH/SRH services as couples	- Limited choices in MCH/SRH health service provisioning - More men and women participating as couples to change the status quos of barriers to uptake of MCH/SRH services
High	- Improved choices in MCH/SRH health service provisioning - Limited or average number of men and women using MCH/SRH services as couples despite improved health service provisioning	- Expanded choices in MCH/SRH health service provisioning - More men and women with few or no limitations to participate as couples to use MCH/SRH services

For example, some poor men and women fear seeking health services because poverty renders them unable to afford services or makes them feel ashamed to appear in public^{24,48}. So, MI interventions may require a supplement of additional interventions to first improve the socio-economic statuses of individuals and households.

These additional interventions may apply especially if health services are not free.

The effectiveness of a mechanism depends on the type of service offered and the characteristics of the target population³⁷. Even though individuals may be aware that MI significantly improves uptake of MCH services, some men and women subject

their participation to preferences and choices of specific services and providers. For example, in contexts of checking and treating Sexually Transmitted Infections (STIs), some men and women may prefer getting tested alone not in twosome as wife and husband and others prefer specific service providers based on gender^{35,56}. But such preferences and choices also depend on the capacity of the healthcare system to offer them consistently, in good quality and gender-sensitive manner^{4,57}. The capacity of the healthcare system to provide specific health services influences whether men and women will choose to demand specific health services together or not. It also determines whether health facilities can afford to provide services considering the increase in the number of service seekers as a result of MI interventions³⁷. Otherwise, self-exclusion is inevitable if men or couples cannot afford the service or if the service is perceived inadequate or if the service providers' attitudes and practices do not accommodate MI^{42,48,53}.

Additionally, improving health system capacity and MI interventions fundamentally depends on context-appropriate policy frameworks and a sustained supply of resources^{36,38,39,41-42}. Behavioural change mechanisms require policy frameworks to enable or support intervention designing and implementation¹². Moreover, health policies and programmes depend on reliable and consistent stakeholder social networks, inter-sectoral coordination and partnerships, and evidence-based decision making⁵⁸. Interventions do not work without stakeholders, but rather stakeholders work through mechanisms to produce outcomes³⁰. The effectiveness of MI interventions depends on the levels of partnerships and collaborations between policy-makers, community leaders, male agents, health service providers, etc.^{41-42,45}. In circumstances of shortages of resources or lack of capacity to provide specific services, implementers may resort to partnerships and collaborations with other agencies, institutions or sectors. For example, in its LCI, Reproductive Health Uganda (RHU) could not afford to provide some MCH/SHR, and so resorted to referrals to other service providers such as Marie Stopes Uganda and Little Hospice Africa³⁵. Figure 3

illustrates a refined programme theory for MI in MCH.

We further illustrate and describe the contextual levels under which mechanisms are triggered to produce outcomes. The inner triangle of Figure 4 shows how men are approached as clients, partners or agents (male-specific approaches). Involving males in MCH as clients, partners and agents may be addressed as micro-level mechanisms at individual-level contexts of interpersonal relations that influence how MI mechanisms operate. The MI intervention *mechanisms* are the broader intervention approaches (coercion, persuasion, incentivization, education, training, restriction, environmental restructuring, modeling, and enablement) through which interventions operate to change men's behaviours and improve their involvement in MCH.

The *inner contexts* are the intra-organizational factors such as intervention strategies, activities, resources (inputs), decisions and interests of stakeholders, etc. that influence intervention implementation processes. The *outer contexts* are the factors that apply in settings where MI interventions are implemented. These include individual factors (knowledge, attitudes, perceptions, etc.), social factors (gender norms, traditional and religious beliefs and values, etc.), economic factors (purchasing power parities, costs of transport to health facilities, income levels, etc.), political factors (health policies, legislation, etc.), and structural factors (healthcare system structures, etc.).

Discussion

Our work theoretically contributes to the existing literature by assessing the circumstances under which MI interventions may work or not work. Previous theories evaluate MI mainly focusing on *male-specific approaches*^{8-9,35}. Such specific assessments are limited to individual and interpersonal contexts among men and their partners and miss how *broader intervention mechanisms* operate in other contexts to influence MI intervention outcomes. Our findings on contexts relate to existing models on determinants of healthcare utilization and studies on determinants of

MI in MCH^{3,6,23,59}. Individual attitudes and health-seeking behaviours, household socio-economic statuses, community social and political structures, healthcare system capacities, types of services, service provider professionalism, policy frameworks and availability of resources that support MI interventions influence the success or failure of MI in MCH. With appropriate MI interventions men progressively learn to appreciate the significance of MI in MCH, abandon previous behaviours, and gradually adopt the “new” gender norms and responsibilities. They improve on their support to women and child toward the uptake of ANC, SBA and PNC services. However, the realization of intended MI outcomes can only be generalized for circumstances where the population has similar characteristics and is using similar health services³⁷. In situations where MI intervention mechanisms do not fit contexts such as improved gender-sensitive service providing, unintended outcomes such as self-exclusion are inevitable^{57,60}.

Our findings are congruent to already existing models of behavioural change¹². Use of persuasion, education, training, environmental restructuring, modeling, and enablement is more effective in changing men’s behaviours. For example, education and training can create knowledge, awareness, and skills that may be necessary to promote MI in MCH^{1,4,43}. Also, well-orchestrated persuasive communications are in most cases effective in changing health-related beliefs, attitudes, and behaviours⁶¹. Thus, information communication mechanisms implemented in a context-appropriate manner are more effective in improving sustained MI in MCH compared to coercive, restrictive and incentivization mechanisms⁵⁵. While some MI intervention mechanisms influence outcomes positively, in some contexts, in other contexts they influence outcomes negatively. For example, although incentives may increase intervention effectiveness in changing behaviours of target groups, health promotion stakeholders may need to consider other potential negative consequences⁶². If men and women participate in MI interventions to solely benefit from incentives, self-exclusion and decrease in the number of individuals seeking MCH as couples are inevitable when incentives are insufficient or non-existent.

However, compared to coercive and restrictive mechanisms, incentivization may win the case. In most contexts where choices are valued and provided, individuals would instead prefer “carrots” (incentives for MI) compared to “sticks” (coercive or restrictive measures for MI)⁶³. Promises of rewards and other benefits are better than punishments for men or partners who do not seek MCH as couples. While legislations may support behavioural change and access to health services^{12,62}, use of coercion and restriction to control health seeking behaviours may lightly succeed in changing individual’s behaviours or make situations worse off than they were before intervention⁶⁴. Unlearning gender-related beliefs, values, and behaviours may not easily work by force but rather require prolonged mechanisms such as education, training, persuasion among other strategies that can gradually ‘cultivate’ individuals’ willingness to change. MI interventions with intentions to coerce or restrict women and men do not guarantee an improvement in MI for all categories of individuals. For example, coercive and restrictive mechanisms may work on poor men and women who have few (or no) choices to access MCH but the rich have resources to make other choices such as the use of private clinics because such clinics may not restrict access to MCH based on MI measures. To avoid unintended and harmful outcomes, careful design and implementation of MI interventions is necessary¹⁵. Each of the MI intervention mechanisms is necessary for behavioural change, but none of them works independently to sufficiently cause effectiveness in behavioural change.

Policy Implications

MI interventions should focus on health service provisioning that matches values, goals, choices and other broad contexts of the target population. Health interventions are sometimes unresponsive to people’s own perception of illness, suffering, and healing thus negatively affecting choices to uptake health service⁶⁵. For example, individuals’ ability to choose to seek healthcare (even if it is free) may be negatively affected if they have a poor perception of healthcare as acceptable, poor health risk awareness, and poor trust in the healthcare system and

providers⁶⁶. Due to consistent mismatches between individual choices and the provision of services, men continuously perceive several existing MCH services as services targeting women and consider available health infrastructures as not supporting MI^{9,60}. If men cannot trust and accept that health service provisioning caters for their needs too, then there is likelihood that their involvement in MCH will be limited. Also, healthcare policy actors should not view men, females or couples as homogeneous groups because contextual factors affecting their perceptions of health services or interventions vary. So, designing behavioural change interventions should be based on clear understanding of contexts in terms of who needs to change, when, where, how, and with whom⁶². Such clear definitions of behavioural change parameters enhance the formulation of evidence-based policy and intervention decisions.

Implementation of behavioural change interventions may be better if implementation processes do not limit people's freedom to use services they choose to value⁶⁷. The decisions of men and women to get involved in MCH as joint couples depend on what health institutions and social structures present to them. For example, availability and control over resources, health system arrangements, the healthcare provisioning policies and type of service influence their choices to use a free healthcare service^{4,66}. Therefore, the ability to be healthy not only depends on preferences but also on the resources invested in institutions to expand freedoms and opportunities⁶⁸. Unfortunately, Uganda's government priority to spend on the health sector, especially reproductive health sector, has continuously remained poor⁶⁹⁻⁷⁰. This limited prioritization affects the success of MI interventions because the costs of scaling up health interventions are high and are dependent on the available policy windows that support the implementation of particular types of interventions⁷¹. Uganda's weak health system capacity not only affects the implementation of MI interventions negatively but also affects health-seeking behaviours⁴. As shown in Table 4, to improve effectiveness of MI interventions there must be expanded choices in the supply of MCH and SRH services. But expansion of choices necessitates improvements in healthcare system capacities and

simultaneous investments in other interventions aimed at eliminating other barriers to MCH uptake.

Firstly, in a situation where both health system capacity and MI are low individuals are not only limited by several determinants to use MCH/SRH service as couples, but also the choices in health service provisioning are few or not available. In most cases, this affects the poor especially in remote rural areas^{72,48}. So, limited MI not only becomes a behavioural but also a capacity challenge. For example, the costs of health services are not friendly to poor households, and such costs may constitute a significant percentage of households' incomes⁷³. In this scenario, all possible MI strategies at all contextual levels are essential to change men's behaviours towards couple MCH seeking^{13,74}. Investments must be done to improve service delivery and increase purchasing power parity to improve poor people's choices and freedom in accessing MCH/SRH services⁷². Additionally, some studies highlight that as men are being persuaded to get involved, women themselves need to be empowered to use MCH services^{23,75}.

Secondly, there are situations where health system capacity is high but MI remains low. Choices in health services may be improved through investing in health system capacity, yet other barriers such as cultural and gender norms, negative attitudes, poverty, etc. limit males (and women) from utilizing available MCH/SRH services as couples³⁻⁴. There are high chances that men in poor households will not provide support to their partners towards the uptake of MCH services and women will continue to fear to go for MCH services because of limitations of affordability^{24,48}. MI interventions may not succeed if stakeholders concentrate on improving healthcare system structures and neglect other interventions that focus on strengthening household economic wellbeing and changing socio-cultural barriers such as gender relations. Thirdly, in other contexts, health system capacity is low in combination with high MI. MI may be high because individuals' socio-economic well-being and positive changes in gender relations have improved their willingness to utilize health services, yet the health system remains weak to provide MCH/SRH services. In such a scenario, men and women are aware of the significance of MI and are working together to address other possible barriers to use

MCH/SRH services. In this case, policy-makers should focus more on investing in the healthcare system to improve MCH/SRH service delivery^{66,69}.

Finally, the ideal scenario is where MI is high, the healthcare system is well structured to provide MCH/SRH services that match individual's choices and values, and other barriers to MI and MCH such as poverty have been reduced. In this ideal scenario, more men and women may have few or no reasons not to participate as couples in using MCH/SRH services because there are few social, cultural, economic, political and personal barriers that limit their capabilities to use health services. Creating this ideal context requires multi-sectoral and stakeholder networks because stakeholders influence health policy reforms and decisions at all contextual levels^{11,74}. Implementation of MI interventions also strongly depends on the agency, interests, and capacities of these multiple stakeholders operating at different positions⁵⁸. Multi-level decision making and coordination between stakeholders such as inter-sectoral and ministerial policy-makers, donors, health service providers, community and political leaders, civil society organizations, media among others could effectively aid promotion of MI in MCH. Designing effective MI interventions also calls for inclusive participation of men and women because it may be difficult or impossible to motivate individuals to change their behaviours if policy-makers do not understand people's contexts, beliefs, values, and goals^{15,76-77}. Individuals understand their contexts better than community outsiders.

Strengths and Limitations

This study is the first, at least to our knowledge, to assess relationships of CMOs for MI interventions in MCH in Uganda using a realist approach. Considering the complexity of MI interventions, the realist synthesis approach provided us an opportunity to iteratively interrogate relevant evidence, unpack the intervention complexities, and understand why these interventions work (or not) under specific circumstances^{20,26}. We did an evidence-based assessment of intervention theories and developed a refined programme theory for MI. As asserted by Pawson¹⁷, researchers, policy-makers and other stakeholders could use this

theoretical contribution to make informed and context-relevant intervention decisions.

Although we did a comprehensive evidence search to the limits of our capacities, we still experienced a challenge of unavailability and inaccessibility of data. A comprehensive search did not guarantee finding 'better' evidence³¹. It was evident that sufficient evidence has not yet been captured in the existing or available literature databases regardless of several MI interventions implemented in Uganda. We, therefore, opted for email exchange through expert networks to acquire more grey evidence from organizations implementing MI interventions in Uganda but we registered a low response rate. There is also likelihood that our study missed some evidence due to the common challenge of underreporting negative results on the implementation of interventions⁷⁸. Such a limitation may have contributed to unavailability of 'enough' evidence that could have been used to conceptualize more CMOs and refine the programme theory further.

Implications for Future Research

We recognize that this review may not provide all there is to be known about the theories and practices of MI interventions in Uganda. But we hope that policy-makers and researchers find our theoretical contribution as an additional establishment for future intervention reforms and research. As Pawson *et al.* assert, the process of creating evidence is not finite but rather a continuous one where research and policy discussions move steadily "from 'unknown' to 'known'" policy problems by providing "conditional truths and provisional explanations"²⁵. Due to the scarcity of evidence in the secondary sources we highly recommend a realist evaluation of MI interventions in Uganda. We anticipate that a realist evaluation drawing upon primary data may potentially produce new evidence to further address possible gaps in the CMOs and possibly help in refining our theory further. Additionally, the findings and recommendations in this paper may be extended into future research to understand MI interventions from a capability approach perspective, the influence of social network in the designing and implementation of interventions, inclusive MI

intervention designing, and how to effectively synchronize MI interventions with other socio-economic interventions.

Conclusion

This study aimed at understanding how, when, and under what circumstances interventions succeed (or fail) to improve male involvement in maternal and child healthcare in Uganda. We assessed the relationships between contexts, intervention mechanisms and outcomes to further theory development for MI in MCH. Although interventions improve MI in MCH, there are unintended negative outcomes that accrue as a result of complex interrelationships between specific contexts and mechanisms. Realization of expected behavioural changes may require changes in interventions to apply context appropriate mechanisms that progressively ‘cultivate’ individuals’ willingness to participate in MCH as couples. To minimize unintended outcomes, policy-makers and health planners need not to view men or women as homogenous groups because individuals live different contextual experiences. Such contextual differences may call for inclusive designing of interventions to allow the participation of men and women in the evaluation of context-appropriate intervention approaches. Also, synchronization of MI interventions with other interventions to expand choices and reduce barriers to MI and use of MCH is essential. Such integration thus necessitates multi-level inter-sectoral partnerships, social networks among relevant stakeholders, and continuous monitoring and evaluations of both inner and outer contexts of interventions to sustain positive outcomes.

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Contribution of Authors

SM conceived the idea, wrote the synthesis protocol, searched for evidence and did the analysis. NH supervised and reviewed all the processes from conception to analysis. Both authors contributed to the drafting, formatting and reviewing of successive drafts and the final version.

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