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Maternal and Child Health Outcomes in the Partnered and Unpartnered Model under Health Promotion Partnering Intervention Groups in Kakamega County, Kenya

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Abstract: ***Women living with disability (WLWD) have adverse maternity outcomes compared to able bodied women. Little efforts have been made to improve the maternal and child health indicators of WLWD. WHO principles of health promotion states; health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being and involves partnering with various individuals and groups. The main purpose of the study was to assess efficacy of partnership model intervention for improved maternal and child health outcomes among pregnant women living with disability WLWD in Kakamega County, Kenya. The study utilized cross sectional analytical and experimental study design (randomized controlled trial). Qualitative and quantitative approach was used and data collection was by using structured interview, observational schedules and FGD were utilized. Through a multistage sampling, the sample size consisted of 103 WLWD and 34 able bodied women confirmed pregnancy in first trimester. Partnered group comprised of WLWD and able bodied women, CHVs and Disability agency under the intervention of HPPI modified model. The unpartnered group consisted of WLWD. From the study, WLWD had distorted marriages, more children, dependents, and less ANC attendance unlike the able bodied women. Conversely, able-bodied women were more likely to have their pregnancy planned compared to WLWD (OR: 1.8; 95%CI: 0.6 – 2.2; p=0.008). Able bodied women were 60% more likely to perceive distance to facility≤ 1 hour compared to the WLWD (OR: 1.6; 95% CI: 1.4- 3.5; p=0.01) and were two times more likely to agree with that facility had provisions unlike WLWD. Pregnant WLWD had more health problems, 16.5% (17) babies of WLWD who were from un-partnered areas died and some babies were not immunized postnatally 2.9% (3). There were significant differences between the able bodied and WLWD partnered and unpartnered areas in maternal and child outcomes observations from birth to six week after delivery. In conclusion WLWD conceive at similar rates as the able bodied women though had delayed ANC utilization. Further observations were that maternity care services do not meet needs of WLWD due to access barriers. Thus, Health Promotion Partnering Initiatives Model (HPPI) modified intervention is needed to avert enormous negative disparity on maternal and child outcomes for WLWD. The study therefore recommends the need for provision of disability-friendly transport services, KDHS to include indicators for WLWD, reinforced provision of healthcare facilities policy and disability issues healthcare curriculum. Further, it recommends that partnership model HPPI be adopted to improve maternal and child health outcomes.***

Operational and Definition of Terms

Able bodied women: women without any physical and sensory impairment
Maternal health: Wellbeing of a mother during and up to six weeks after pregnancy.
Maternity care: Care given to women during pregnancy, child birth and postnatally up to six weeks after birth.
Prenatal care: care during pregnancy period
Women living with disability: Includes women in the reproductive age with either physical or sensory motor impairment
Women of reproductive age: Women aged between 15- 49 year

1. Background information on the Study

One billion people, or 15% of the world's population, have some form of disability, and the prevalence is higher in developing countries. This adds up to between 110 million and 190 million people (World Bank 2019). Eighty percent of persons living with disabilities live in developing countries, according to the UN Development Program (WHO, 2018).

Here is no universal agreement on the definition of people living with disabilities. However, the International Classification of Functioning Disability and Health defines disability as "an umbrella term, covering impairments, activity limitations, and participation restrictions." Disability is seen as "a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives" (WHO, 2018).

According to Kenya's Persons with Disabilities Act of 2003, "disability" means "a physical, sensory, mental or other impairment, including any visual, hearing, learning or physical incapability, which impacts adversely on social, economic or environmental participation." The results from the 2009 Census (KNBS, 2010), indicate that the number of people living with disabilities in Kenya at the time was 647, 689 (3.4%) males and 682, 623 (3.5%) females. Women living with disabilities are under-served by health activities and promotions (Pete, 2017). This contravenes Article 25 of the UN Convention on the Rights of Persons with Disabilities (CRPD) which was adopted by the UN General Assembly in 2006 which reinforces the right of persons living with disabilities to

attain the highest standard of health care, without discrimination.

A woman living with a disability tends to be judged and found ineffective in appearance. This is largely due to negative attitudes and stereotypes about what they can or cannot do. There are misconceptions that a woman living with a disability may not be competent in most areas such as learning or being able to be in gainful employment (Pete, 2017).

The Ottawa charter for health promotion which was the first International Conference on Health Promotion, meeting in Ottawa on November 17-21, 1986 Ottawa, Ontario was strategizing to achieve Health for all by the year 2000 and beyond. Health promotion was defined as the process of enabling people to increase control over, and to improve, their health to reach a state of complete physical, mental, and social well-being. An individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health was seen as a resource for everyday life and not the objective of living. The health promotion action meant: build healthy public policy, create enabling environments, strengthen community actions, develop personal skills, and reorient health services. World Health Organization's (WHO) principles of health promotion are: empowerment, participative, holistic inter-sectoral, equitable, sustainable, and multi-strategy (WHO, 2018).

A partnership is a model that achieves more by working together than individual persons or organizations could achieve on their own. Although these groups share the same vision, the background and experience brought forward by individual members are quite diverse. The diversity is what contributes to the partnership's strength, complementary knowledge, skills, and experiences that produce positive outcomes (Estacio et al., 2017).

Basic underlying principles for partnership are; Recognition of the equal value of all partners' skills and contributions in mutual trust and confidence, Contribution and action based on capacity i.e. doing; not things that need to be done but doing the things that can be done, Joint actions focusing on areas of own influence and Clearly defined and agreed objectives targeting areas of possible change (TICH, 2003).

There is a strong link between poverty and disability. Poor people have a higher risk of acquiring a disability; they are more exposed to disabling diseases and conditions. At the same time, disability increases the possibility of poverty due to the exclusion of one from participation in development initiatives (World Bank, 2010). This cycle of disability and poverty can be broken. The World Bank estimates that 20 percent of the world's poorest people have some kind of disability and tend to be seen in their communities as the most disadvantaged. Women living with disabilities are recognized to multiply disadvantaged, experiencing exclusion on account of their gender as well as their disability (World Bank, 2010).

To ensure a safe pregnancy and a healthy baby it is argued that healthcare professionals should focus more on women's abilities than their disabilities and that care and communication should be about empowering women (Kuumuori et al., 2016). Evidence from qualitative research suggests that maternity care needs have not been met for many pregnant women living with disabilities (Kuumuori et al., 2016). Many WLWD say they feel invisible in the healthcare system, stressing that their problems are not simply medical, but also social and political, and that access means more than mere physical accessibility. WLWD face a great deal of unpredictability in their daily lives, they want care that is well planned, and which helps to eliminate the unexpected (WHO, 2013).

There are limited special services to assist WLWD and they are often forced to rely on their families or engage someone whom they must pay for by themselves, to care for their children and the position of WLWD in the rural communities is even worse (KNSPWD, 2008). There are limited strategies or activities by state bodies or health care institutions that take into account the specific health needs of young girls and women living with disabilities (Shadow report, 2004). There is insufficient literature on the effect of the partnership model and its impact on pregnant women living with disability yet in other situations, the impact of partnership yielded positive results. Like in HIV/AIDS where Botswana's ARV program showed that partnerships were useful in initiating a major HIV/AIDS intervention. It led to Botswana having more people on ARV treatment than any other country in sub-Saharan Africa and the only such country to provide free treatment for all (Ilavenil Ramiah and Michael R. Reich, 2005). In tuberculosis program, partnership improved the diagnosis and treatment outcome of TB patients for example, in Indonesia, Timika, partnership approach demonstrates how corporate responsibility providing financial and technical input, coupled with political commitment and coordination between the private and public sectors, achieved sustainable gains in TB control at the district level in a high-burden setting (Ardian, E. Meokbun, 2007).

There is also insufficient interventional research on a partnership model to improve maternal-child health outcomes for pregnant women living with disability and this may be one of the major factors that have persistently led to poor maternal and infant indicators as found out by (KDHS, 2016) that vulnerable women like the poor and WLWD contribute to poor maternal indicators.

2. Problem Statement of the study

Eighty percent of persons living with disabilities are in developing countries and are regarded in their communities as the most disadvantaged. It was noted that females have higher rates of disability than males (UNDP, 2014). The two-way link between poverty and disability creates a vicious circle (TICH, 2003). Women living with disabilities are more likely to lack access to good nutrition, healthcare, sanitation as well as safe living and working condition (UN, 2015). This is an added burden to them. Globally, people with disabilities are recognized as some of the most marginalized and socially excluded groups of

people and amongst them are women with disabilities whose case is worse since they are the most disadvantaged in the social ladder in many countries (WHO, 2018). The Sustainable Development Goals 3 which relate to gender equality and maternal health can only be achieved if women with disability attain equal access to maternal health services as women without a disability (UN, 2015).

The reproductive health needs of women with disabilities have not received much attention in the past. There is insufficient published literature in peer-reviewed journals on the reproductive health status of women living with disabilities in Kakamega County. Though the partnership model has yielded better results in improving health indicators in other programs like TB and HIV, it has not been applied to improve the outcome of WLWD. Though the disability provision policy is in place, the implementation is wanting. There also seem to be a gap in community social system for pregnant women living with disability and even sensitization of community members on ways to support them yet it is a right of everyone to achieve universal access to healthcare service as per Kenya, Vision 2030 (ministry of planning, 2007).

Partnership model emphasizes on working together in sharing of resources, ideas and experience to support and enrich the work of each other to reach a higher level of the quality outcome of positive value to all parties involved with a basic underlying principle among other recognition of the equal value of all partners' skills and contributions and mutual trust and confidence (WHO, 2018). Contribution and action based on the capacity of doing, not things that need to be done but the things that can be done and joint actions focusing on areas of own influence (TICH, 2003).There is insufficient literature on the effect of the partnership model and its impact to pregnant women living with disability yet in other situation, the impact of partnership yielded positive results like in TB management and HIV buddy treatment Like in HIV/AIDS were in Botswana's ARV program showed that partnerships were useful in initiating a major HIV/AIDS intervention positive outcome (Ilavenil Ramiah and Michael R. Reich, 2005). In the tuberculosis program, partnership improved the diagnosis and treatment outcome of TB (Ardian, E. Meokbun, 2007).

There is also insufficient interventional research on a partnership model to improve maternal-child health outcomes for pregnant women living with disability and this may be one of the major factors that have persistently led to poor maternal and infant indicators as found out by (KDHS, 2016) that vulnerable women like the poor and WLWD contribute to poor maternal indicators. In developing partnership, the focus is on building and promoting synergistic relationships in which each partner equitably benefits from the relationship, leading to a level of symbiotic interdependence (WHO, 2018) which does not seem to exist at the moment especially in Kakamega County a fact that has necessitated this research.

Purpose of Study: The purpose of this study was to identify and analyze the challenges faced by women living with disabilities during pregnancy, childbirth and find interventions to bridge the gaps and improve maternal child health outcome by use of partnership model intervention in Kakamega County, Kenya.

Objective of the Study: To compare maternal and child health outcomes in the partnered and unpartnered model under Health Promotion Partnering Intervention groups in Kakamega County, Kenya.

3. Literature Review

Partnership model in health promotion for positive maternal andchildhealth outcomes

A partnership is a model that achieves more by working together than individual organizations could achieve on their own. Although these groups share the same vision, the background and experience brought forward by individual members are quite diverse. The diversity is what contributes to the partnership's strength, complementary knowledge, skills, and experiences that produce positive outcomes (Estacio et al., 2017).

Basic underlying principles for partnership are; Recognition of the equal value of all partners' skills and contributions in mutual trust and confidence, Contribution and action based on capacity i.e. doing, not things that need to be done but the things that can be done, Joint actions focusing on areas of own influence and Clearly defined and agreed objectives targeting areas of possible change (TICH, 2003).

The rationale for the partnership model is; partnership model believes that all people and communities have inherent capacities to undertake sustainable, collective actions to solve their problems. However, they may need facilitation and support from several partners: the service system, the private sector, and academic institutions. It strengthens linkages and levels of participation. The partnership framework recognizes, believes, and builds on the strengths of every stakeholder engaged in development and health. In developing partnership the focus is on building and promoting synergistic relationships in which each partner equitably benefits from the relationship, leading to a level of symbiotic interdependence. (WHO, 2019).

Building Multi-stakeholder partnerships For Disability Inclusion by UN; The Division for Social Policy and Development (DSPD) highlighted the value of multi-stakeholder partnerships in achieving disability-inclusive development and positive outcome. The module also informed on how to form, operate and, successfully participates in partnerships. DSPD recommended that when forming a Multi-Stakeholder Partnership, it should begin by clearly identifying the desired outcome. Partners should seek to advance the realization of the rights and inclusion of persons living with disabilities in line with specific goals. Potential Key Partners should include;

National Governmental Actors and Independent bodies, persons with disabilities, and their Representative, Community Level Actors who are numerous potential allies and stakeholders at the community level who should be meaningfully engaged. It is essential that these groups are actively and fully included in partnerships, not only to utilize the expert resources and experience offered by their members but also to ensure that they are fully aware of disability rights and inclusive development principles and approaches. They are meant to promote a more holistic approach to better outcomes. Multi-stakeholder partnerships allow stakeholders/ persons with unique complementary efforts or core competencies to add value and pool resources and assets for solving problems for people with disabilities. They are grounded on inclusivity, mutual respect, and mutual benefits for all partners (UN, 2015). Many studies have been done on the partnership model for health promotion but there are insufficient studies on the partnership model for WLWD.

A study by (Hlophe, 2010) in Free State province which was researching the role of treatment buddies in the antiretroviral program found out that Clinical adherence and transition from non-adherence were higher amongst patients who had treatment buddies or partners. Access to a treatment buddy significantly influence clinical adherence. Community health worker that access to an emotional caregiver; physical caregiver; improved clinical adherence. The findings were similar to a study by (Peltzer *et al.,* 2010) whereby ART patients in Kwa Zulu Natal who found out that social support led to high adherence levels. Results suggested only access to a physical caregiver was associated with clinical adherence hence support for people on ART was fundamental. Treatment buddies or partners are critical elements in enhancing adherence and in retaining patients in care (Lyon et al., 2003). Patients who had access to treatment partners had improved health-related quality of life and those who participated in the support group were more likely to receive daily visits.

However, in the findings by (Estacio et al., 2017) involving multiple stakeholders from different backgrounds also required respect and trust to ensure that the partnership was sustainable and achieved systemic transformations. In this case, the growth and development of this collaboration were based on mutual trust from individual members and the understanding that the partners were contributing to the achievement of a common goal. There was also respect for the skills and expertise that members of the partnership model were contributing to the team. Interactions in this partnership were often mutual, and a great sense of respect and appreciation for the skills, expertise, and time offered by partners were often expressed. The study believed that it is this spirit of co-operation that has led to the sustainability and on-going nature of this partnership. Willingness to learn from one another is important in establishing genuine partnerships such as in the study. Considering the diversity of backgrounds in this partnership, it was inevitable that members would have different capacities in terms of knowledge and awareness of health, practice, and policy. Although some members were more knowledgeable with the health literacy agenda than others, those who knew more were willing to sharing, while those who knew less were willing to learning. In this study, it stood out clearly that partnership promotes good relationships and a positive healthful environment for positive health outcomes. Estacio concluded that while working as partners in community-based health promotion, one requires having a shared vision, mutual trust, respect, and openness to share and communicate. This involves engagement with key stakeholders, development, and support for community projects, which must be flavored with the sharing of good practice between organizations. This led to the continuous support of the various members of this partnership. (Estacio et al., 2017).

A study by (Jagosh et al., 2015), provided theory and evidence which showed that complex health improvement efforts can be addressed by a partnership model approach involving shared decision making and equitable co-governance. It was found out that trust-building and maintenance can make significant contributions to sustainability and systemic transformation which is key to both increasing pieces of knowledge of factors supporting successful community-academic partnerships and health transformation.

According to the study by (Addison et al., 2016), it was found out that partnerships begin with effective communication and must be maintained to facilitate day to day relationship-building. Communication was key in partners for a common purpose. The partnership model relies on cordial communication amongst all partners. The partnership that was established served as a build bridge and mend fences between academia, families, and the community. The efforts to sustain the interactions and collaborations with the community through partnership empowered the members of the community to develop new skills, adopt new attitudes, and acquire knowledge that would enable them to become more effective and more successful. The study concluded that true partnerships are developed based on trust, and survival is based on trust.

In the study by (Sarah Dennis, 2015), the key themes emerging from the findings centered on the characteristics of partnerships including the time and effort required to develop and maintain these partnerships, the needs of the partners, and key people in those partner organizations. The findings were arranged according to Lasker's determinants of partnership relationships. The framework for synergy included five broad components which were; resources, characteristics of the partner, partnership, relationships, and the external environment. Partnerships with several different stakeholders were important to the successful implementation of healthy eating activity and lifestyle (HEAL™) in the four Local Government Areas LGAs. The four Healthy Communities Coordinators (HCCs) worked in very different areas and faced very diverse challenges. In all four areas, a variety of partnerships with health services, disability services, and Aboriginal medical services were important in developing interest in the HEAL™ program and establishing it in their community. Differences between the LGAs were in the

challenges faced while establishing the partnerships and in the more remote areas these partnerships were slower to establish and harder to maintain.

In a study by (Jagosh *et al.,* 2015) a total of seventeen partners completed and returned questionnaires which included research institutions, civil society organizations, private companies, and networks. Despite the big contrast in the needs of each partner, the analysis of data found similar key themes necessary for successful partnerships include; transparency, openness, honesty, consistency, unambiguity, and effective communication. It was also noted that leadership incorporates not only the allocation of roles and responsibilities but management and accountability. Specific balance and diplomacy are also required when dealing with all collaborators in the partnership. There were also two resolution identified; Firstly, there should be an acknowledgment that partnerships may encounter difficulties, and resolve, perseverance, and determination will be required to deal with any such difficulties. Secondly, while processes of mediation and conflict resolution may bring solutions, there is a need for the dissolution of partnerships. As such, results from this study indicate the need for partners to consider appropriate exit strategies during the partnership formation stage.

Results from a study by Claudia et al., *(*2019) indicate that the Healthy Homes for Healthy Living (HHHL) model addressed risk factors for Chagas disease (CD) at the household level, while at the same time promoting wellbeing emotionally, economically and socially at the levels of local communities. We argue that the sustainability of the CD prevention model proposed by HHHL is enhanced by the confluence of three factors: systemic improvement of families' quality of life, perceived usefulness of control measures, and flexibility to adapt to emerging dynamics of the context. In conclusion, HHHL's led to home improvement, facilitated through system-based rather than disease-specific health promotion processes, enhances agency in populations at risk, and facilitates community partnerships forged around CD prevention. Although an independent analysis of cost-effectiveness is recommended, structural poverty experienced by local families is still the most important factor to consider when evaluating the sustainability and improvement of this model.

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Characteristics of the chosen partners; Partnerships with several different stakeholders were important to the successful results. In all four areas, a variety of partnerships with health services, disability services, and Aboriginal medical services were important in developing interest in the program and establishing it in their community. Differences between the Local Government Areas were in the challenges they faced in establishing the partnerships and in the more remote areas these partnerships were slower to establish and more difficult to maintain. Meeting the needs of the partner organization with the program was both an enabler and a barrier to the implementation of the program. Where the program was perceived to meet the needs of an organization or contributed to their key performance indicators the program was much more likely to be implemented and have the support of the organization.

External environment (community characteristics); Partnerships were strategic, gave them insight into the local community, and also provided an opportunity to advertise to increase recruitment of participants into the program. The program anchored on building the existing capacity and partnering with organizations that were already providing services for people who were disadvantaged and were key target groups for the program. This included disability care services so that people with a disability and their care could be recruited to program, mental health service providers, and organizations providing training and support for unemployed people through which the program was able to access spaces in a higher education institution. Resources (capacity): The partnerships took time to develop and more time was required in the rural and remote areas compared with the less remote areas.

Relationships among partners; The partnerships were not easy to maintain and people talked about repeatedly meeting with certain groups or organizations and working hard to develop those relationships and trust in the program. Leadership in partnering organizations and communities; Even if the program seemed to meet the service delivery needs of the organization it was dependent on a key person driving the engagement, but when this person left the process stalled. Stanley Kwenda, (2010) states that PWD also seems to confront an uncaring society. When they approach members of the public for help in starting market gardening, dressmaking, or music projects, they are regarded as a nuisance. The general feeling is that the only places for a person with disability was in the street or in front of a church, begging. The situation is worse in rural areas, where children with disabilities are usually confined to the house because of long-held traditional beliefs that they are curses from God.

Progress towards the reduction of neonatal deaths has been slow, and maternal mortality remains high in most Countdown countries, with little evidence of progress. Wide and persistent disparities exist in the coverage of interventions between and within countries, but some regions have successfully reduced longstanding inequities. The coverage of interventions delivered directly in the community on scheduled occasions was higher than for interventions relying on functional health systems. Although overseas development assistance for maternal, newborn, and child health has increased, funding for this sector accounted for only 31% of all development

assistance for health in 2007. We provide evidence from several countries showing that rapid progress is possible and that focused and targeted interventions can reduce inequities related to socioeconomic status and sex. However, much more can and should be done to address maternal and newborn health and improve coverage of interventions related to family planning, care around childbirth, and case management of childhood illnesses. (Zulfiqar A Bhutta, 2016).

There is insufficient literature on the effect of the partnership model and its impact on pregnant women living with disability yet in other situations, the impact of partnership yielded positive results. There is also insufficient interventional research on a partnership model to improve maternal-child health outcomes for pregnant women living with disability and this may be one of the major factors that have persistently led to poor maternal and infant indicators as found out by (KDHS, 2016) that vulnerable women like the poor and WLWD contribute to poor maternal indicators.

Theoretical Model: The Ottawa Charter for Health Promotion

The first International Conference on Health Promotion, meeting in Ottawa on November 17-21, 1986 Ottawa, Ontario was a strategy for action to achieve Health for All by the year 2000 and beyond.

Health promotion was defined as the process of enabling people to increase control over, and to improve, their health to reach a state of complete physical, mental, and social well-being. An individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health was seen as a resource for everyday life and not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being and involves partnering with various individuals and groups.

Prerequisites for Health were as follows; peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice, and equity. Whereas, improvement in health requires a secure foundation in the basic prerequisites; making conditions favorable through advocacy for health, Enable Health promotion to focus on achieving equity in health through securing foundation in a supportive environment, mediate by coordinating action by all concerned: by governments, by health and other social and economic sectors, by a nongovernmental and voluntary organization, by local authorities and individuals in the community. The health promotion action meant;

Build a healthy public policy

Health promotion goes beyond health care. It puts health on the agenda of policymakers in all sectors and at all levels, guiding them to be aware of the health consequences of their decisions and to accept their responsibilities for health. Health promotion policy requires the identification of obstacles to the adoption of healthy public policies in non-health sectors, and ways of removing them to make the healthier choice the easier choice for policymakers as well.

Create supportive environments

Our societies are complex and interrelated. Health cannot be separated from other goals. The inseparable links between people and their environment constitute the basis for a socio-ecological approach to health. The overall guiding principle globally and communities alike, is the need to encourage positive maintenance by taking care of each other, our communities, and our natural environment.

Strengthen community actions

Health promotion works through concrete and effective community action in setting priorities, making decisions, planning strategies, and implementing them to achieve better health. At the heart of this process is the empowerment of communities, their ownership, and control of their expectations and destinies.

Develop personal skills

Health promotion supports personal and social development by providing information, education for health, and enhancing life skills. By so doing, it increases the options available to people to exercise more control over their health and their environments and to make healthy choices. Enabling people to learn, throughout life, to prepare them for all of its stages and to cope with chronic illness and injuries is essential. This has to be facilitated in school, home, work, and community settings.

Reorient health services

The responsibility for health promotion in health services is shared among individuals, community groups, health professionals, health service institutions, and governments. They must work together towards a health care system that contributes to the improvement of health. The role of the health sector must move positively towards health promotion direction not only for providing clinical and curative services. Health services need to embrace a wide mandate which is sensitive and respects cultural needs. This mandate should support the needs of individuals and communities for a healthier life, and open channels between the health sector and broader social, political, economic, and physical environmental components.

Table 1: WHO Principles of Health Promotion

World Health Organization (WHO) Principles of Health Promotion	
Empowerment	Health Promotion initiatives should enable individuals and communities to assume more power over the personal, socio-economic and environmental factors that affect their health
Participative	Health promotion initiative should involve the collaboration of agencies from relevant sectors.
Holistic	Health promotion initiative should foster physical, mental, social and spiritual health
Inter-sectoral	Health promotion initiative should involve the collaboration of agencies from relevant sectors
Equitable	Health promotion initiative should be guided by a concern for equity and social justice
Sustainable	Health promotion initiative should bring about changes, community development, legislation, advocacy, education and communication
Multi-strategy	Health promotion initiative should use a variety of approaches in combination with one another, including policy development, organizational change, community development, legislation, advocacy, education and communication

Source: WHO

Health Promotion Partnering Initiatives Model (HPPI Model, modified)

The initiatives were the treatment given to the partnered group, but not given to the partnered group of pregnant women living with disabilities.

Empowerment

Health Promotion initiatives should enable individuals and communities to assume more power over the personal, socio-economic, and environmental factors that affect their health. In this study, pregnant women living with disabilities were given the power to identify the able-bodied women with whom they would walk the journey of pregnancy to childbirth. They were allowed to choose an able-bodied pregnant woman who they felt was easily reachable and could cope with. This gave them power over the mental health (stress) because the social interaction with their partners offered a psychosocial therapy, reduced stigma, and discrimination by community members. Socio-economic factors like table banking and providing them with skills on Income Generating Activities (IGAs) that would assist them during pregnancy and childbirth.

Participation

WHOs' health promotion initiative should involve the collaboration of agencies from relevant sectors. The mothers living with disabilities were involved in planning the design of how their partnering system with able-bodied pregnant women would be implemented for improving their maternal health outcomes. This was done through joint planning sessions between them, the CHVs, and the Disability contact agency. They were also involved in the preparation of the birth plan which included; place of delivery, finances for maternity care, transport to the delivery place, baby's clothing, and nutrition. They were also involved in planning for ANC visits. At the end of their pregnancy, they were involved in evaluating how the partnering system had worked for them and discussed ways in which the model can be improved to enhance the experience.

Holistic

Health promotion initiatives should foster physical, mental, social, and spiritual health. The Health Promoting Partnering initiative fostered holistic health at many levels. For mental health, extreme cases of traumatized pregnant women, there were professional counseling interventions mounted and also linked then with institutions for legal redress. Psycho-social health was fostered through the friendship with the able-bodied pregnant women walking the pregnancy journey with them eliminating stigma, discrimination, and culture myths about WLWD. The partnering women also prayed and attended worship services together, which ensured that their spiritual health was addressed. Physically, the disability agency assisted WLWD with walking devices for the lame, walking sticks for the blind, sign language interpreter for the deaf, and dumb. The epileptic and the women with a mental disability were booked in the mental health clinic near them. Financially, the disability agency enrolled them in the disability register to enable them to get monthly government stipend. The CHVs ensured that they registered with NHIF to take care of their hospital medical cover and facilitated the initiation of table banking by encouraging them to start IGAs.

Intersectoral

Health promotion initiatives should involve the collaboration of agencies from relevant sectors. The HPPI involved the collaboration of agencies and individuals from relevant sectors. Namely, these were the Community Health Volunteers for health education, home visits, identifying pregnancy risks, and advice for the action to be taken. Reminding them on ANC visits, the Disability Agency offered advocacy for them, assisted in assessment and registration to the disability agency, provision of disability aid gadgets, the Families of the WLWD offered social and financial support, the spiritual leaders in the study area provided spiritual leadership and psychosocial support. The government provided health care institutions for maternity care.

Equitable

Health promotion initiatives should be guided by a concern for equity and social justice. In this study, the HPPI was guided by concern for equity and social justice. The services they received in the community and hospital were non-discriminatory. They had ample access to the Disability Generally Agreed upon Principles adopted by Kenya were observed.

Sustainable

Health promotion initiatives should bring about changes, community development, legislation, advocacy, education, and communication. The HPPI brought about changes that the WLWD and community in Kakamega County could maintain beyond the research period. This was from the capacity built into them by the Disability contact persons, CHVs, and Researcher during training and intervention sessions.

Multi-Strategy

WHOs' Health promotion initiative should use a variety of approaches in combination with one another, including policy development, organizational change, community development, legislation, advocacy, education, and communication. The HPPI in this study used a variety of approaches in combination with one another. Specifically, the following took place for the treatment group; advocacy whereby able-bodied pregnant women who were the buddy to the WLWD offered friendship, psychological support, going together for ANC, reminding each other what they had been taught in the ANC, creating awareness in the community to reduce discrimination and stigma against the WLWD. Disability contact persons assisted in tracing the WLWD, they assisted the WLWD with sign language interpretation, walking devices, assessment, and enrollment to disability Centre, and creating awareness in the community on the rights of WLWD. CHVs visited the WLWD in their homes educating them on ANC attendance, birth plan, danger signs of pregnancy, ensuring that they are sleeping under mosquito treated nets, assessing for any sickness during the pregnancy, and advising them on pregnancy care, postnatal care, Infant immunization, and infant care. The county government of Kakamega ensured that the facilities were functional, availability of health workers. Enhanced free maternity care through 'Oparanya care'.

4. Research Methodology

Study Design

Experimental study design (randomized controlled trial). The study utilized both qualitative and quantitative data collection techniques.

This study was majorly a prospective study which is considerably stronger than retrospective study because the researcher can impose controls.

Table 2: Summary of the Research Design

Objective	Variables	Research Design
Partnering Intervention: Maternal and child health outcome between partnered and unpartnered groups	**Maternal health outcomes** Maternal mortality outcomes Maternal morbidity outcomes Number of ANC attendance Number of PNC attendance Place of delivery Method of delivery **Child health outcomes** Child mortality outcomes Child morbidity outcomes Baby immunization of BCG and Polio	Longitudinal experimental

Study Area

The area of study was Kakamega County.

Study Population

The study population comprised of pregnant women living with disabilities and the pregnant able bodied women.

Table 1: Study Population

Study Population Unit	Study Population
Pregnant women living with disability	103
Partners (treatment)were:- • Pregnant able bodied women • CHVs • Disability contact persons	 54 24 12

Sample Size

Since the main research design was experimental, the researcher opted to do a power sample size analysis. A priory sample size calculation was done using the software G*Power 3.1.9.4 for windows. The type of power analysis chosen was bases on f test family of tests, and specifically ANOVA: repeated measures with within-between interactions. As a general guideline, the effect size chosen was 0.25 (medium effect size) with an alpha of 0.05, the power chosen was 0.95, the study had two groups, two between subjects' factors and 5 repeated measurements. The results yielded a 103 total sample size, 54 in the control group and 49 in the experimental group.

Sampling Technique

The study used a purposive sampling technique to identify Kakamega County. All the sub counties of Kakamega County were included in the research. Snow balling sampling technique was used to identify the pregnant women living with disability who in turn identified an able bodied pregnant woman that she would access. To identify the partnered and unpartnered groups, lottery method was used.

Study Tool

Research data was collected using both quantitative and qualitative methods; first step involved the use of structured questionnaires and interview to collect the data. In FGDs, writing pads and pens and tape recorders and videos were used and in case control scheduled observations and records were used.

Questionnaire were designed in English administered by the researcher and trained enumerators in (local language) to collect data. A structured questionnaire for mothers who were able to read and write was distributed for filling in. Interview was used for illiterate mothers who could not read or write.

Data Collection Procedure

The study employed the use of structured questionnaires, observational schedule and Focus Group Discussions.

Inclusion Criteria

All pregnant women in their first and second trimester age between15-49 years and live in Kakamega County.

Exclusion Criteria

All pregnant women in their first and second trimester age between15-49 years and live in Kakamega County but were medical personnel or have participated in reproductive health training.

Study Assumptions

This being a community based Prospective case study, during data collection the study assumed that the information being given is true and not biased. The participants were encouraged to be true to their expressions and feelings and not just to impress the researcher.

Strengths of the Study

The qualitative research approach used to document women's experiences and narrative accounts helped offer first hand contribution to understanding of the challenges women living with disability face in accessing and using maternal healthcare in Kakamega County.

Limitation of the Study

The presence of family friends and partners at interviews with women living with disability could have affected their responses and also, they could have been some misinterpretation of information by the care takers of the pregnant women living with mental, speech and hearing impairments. To address this, we encouraged the WLWD to choose an able bodied woman she was most comfortable with.

Much of the data was self-reported, and collecting data through recall of reproductive history generates information that is liable to recall bias more so in the absence of ANC booklet led to limitation in terms of verification. It was acknowledged that some meaning may have been lost in the translation for those who only understood the vernacular language. Respondents who were involved in the study population were heterogeneous with mental, physical, epilepsy, or sensory disabilities, which may be associated with different risks.

Questionnaire Response Rate

The study involved 152 pregnant women residing in Kakamega County. A total of 137 questionnaires were clean and complete for data analysis. This represents 90.1% of the sample size. According to (Mugenda and Mugenda, 2003) a response rate of 50 percent is adequate, a response rate of 60 percent is good, and a response rate of 70 percent is very good. Therefore, the 90.1% percent response rate reported for this study formed an acceptable basis for drawing conclusions. While we should not expect full response in studies where response is voluntary, scholars utilizing questionnaires should aim for a high response rate (Baruch & Holtom, 2008). A few respondents dropped from the survey and were therefore excluded. The major drop outs were able-bodied women who were partnered with the women living with disability due to stigma, cultural believes and not wanting to be associated with the women living with disability as found out by (Belaynesh, 2017). It is popular cultural believes disability is associates with evil spirits and leads to discrimination.

Reliability test

Table 3: Reliability Statistics

Cronbach's Alpha	N of Items
780	167

Table 3.4 above, shows that Cronbach alpha coefficient for the entire questionnaire, is well above the lower limit of acceptability, of 0.70. The results indicate that the questionnaire used in this study had a high level of reliability (Cronbach = 0.780). According to (Gliem, 2003) a reliability coefficient over 0.65 is acceptable.

Data Processing and Analysis

For quantitative data, the data was entered, cleaned, coded and analyzed using SPSS software (statistical package for social sciences) Version 25. Variables were examined through bivariate and multivariate analysis by computing odds ratio at 95% confidence interval. A p-value of ≤ 0.05 was considered statistically significant. Multiple logistic regression was applied to determine the relationship between the independent variables that showed significance with outcome variable. During analysis, the researcher omitted those questionnaires without responses on vital information of this study. The researcher conducted analyses of normality, for the outcome variable, prior to hypothesis testing by examining kurtosis and skewness of the data. In order to test and identify possible outliers in the data, graphical assessment visuals, including scatter and box plots were used. Elimination of observed

outliers was based on a case by case basis, dependent on standard deviations, and on normality and homogeneity of variance assessments. Normality was assessed using examination of the histograms by seeing how they related or deviate against a normal bell curve distribution and observing the levels of kurtosis and skewness present. Univariate analysis was used to describe the distribution of each of the variables in the study objective; appropriate descriptive analysis was used to generate frequency distributions, tables and other illustrations used to analyze knowledge of self-medication. Bivariate analysis was used to investigate the strength of the association and check differences between the outcome variable and other independent variables. Chi square test of independence at 0.05 level of significance was used to determine if there is a relationship between socio-demographic characteristics and disability status. The test of differences in maternal and child outcomes over time was done using repeated measure ANOVA with within-between subject effects. Data analysis for qualitative data was by content analysis of the four main themes: pregnancy state, care of the pregnancy, society support, government support and way forward and opinion.

Quality Control

A pretest /pilot study was done to ascertain the validity and reliability of the research instruments. The procedures were as in the research design and methodology. These ensured that the wordings used were understood within the context of the study, Research tools were acceptable by the population and ensured validity and reliability of the research tool.

Ethical Considerations

All necessary ethical considerations were observed. The participants were treated with due respect. None was included in the study without their consent; participation in the research was on voluntary basis; research assistants explained the purpose of the study and obtain informed consent of the respondents or the care taker in case of the women with mental disability prior to administering the questionnaires. There was full revelation as to the purpose for collection the information from the individual or groups. Since substantial information was collected about enrolled subjects, their privacy was respected by managing the information in accordance with confidentiality rules (NCST, 2014). In addition, part of the questionnaire which was read to the interviewees had confidentiality clause which guarantee anonymity. Besides the participants were provided with information on the purpose of the study individually and also in the focus group discussions. The participants were at liberty not to participate if they didn't feel like. The research assistants signed the confidentiality forms before embarking on the exercise. The outcome of the research will be shared by the ministry of health to enable the country address the problem of maternal and child mortalities. It would be ethically wrong to keep this data yet the country is struggling with addressing this problem. The researcher will send the final report to the county for their use. The data collected from the study will be made available to the stakeholders because of their role on policy regulation on health. In the report the county stakeholders' contribution will be acknowledged appropriately.

MMUST protocol proposal defense, Ethical review committee and NARCOSTI were sought for approvals. Also, the approval to carry out the study was obtained from Kakamega County Health Management Team.

5. Research Findings

In this study, Kakamega County which has twelve sub counties, in which six sub counties, women living with disability were partnered with able-bodied women. This became the case group and the treatment was the partnership model. This group would be together during pregnancy time, reminding each other on important pregnancy advices, lessons and appointments. They would also go together for ANC visits, postnatal visit, during baby's immunization be there for each other during delivery and many other issues concerning their pregnancy. Some escorted their partners to the hospital during labor, some visited each other in the hospital and most of them become friends. Six sub counties were not partnered so the pregnant women living with disability were receiving all the required services from the CHVs and healthcare workers as required. This was the control group which had no treatment (the partnership model). The study tested the effectiveness of partnership model in pregnant women living with disability.

Table 4: Difference in maternal and child health outcome between the partnered model group and the unpartnered model group in the outcomes

	Partnered	Unpartnered
Pregnancy planned	60.6	39.4
ANC attendance ≤4visits	63.80%	59.00%
Child Alive	92.8	78.8
Baby Immunized BCG	92.7	75.4
Baby Immunized Polio	92.7	75.4
Post-natal attendance	38.5	50.9
Home Delivery	4.8	3.7
Hospital delivery	95.1	96.2
Method of Delivery SVD	95.1	98.1
Method of Delivery CS	4.8	1.8

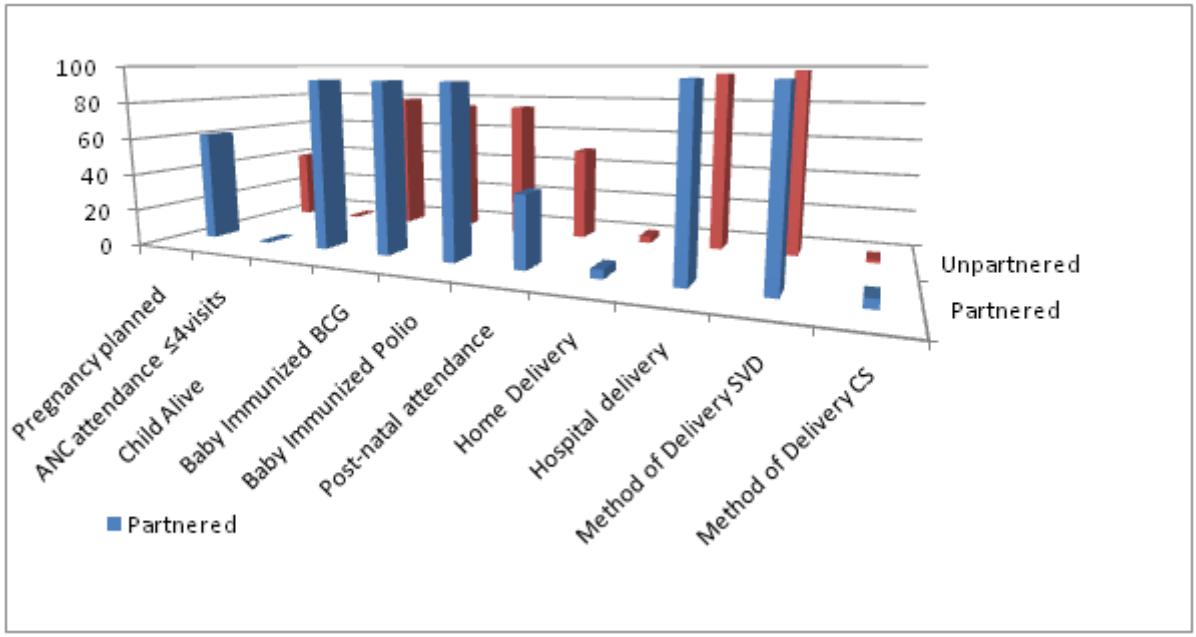

Figure 1: Difference in maternal and child health outcome between the partnered model group and the unpartnered model group in the outcomes

Tests of within-between groups Differences in Maternal outcomes before Birth with partnership as a between groups factor

The test of differences in maternal outcomes before birth was done using repeated measure ANOVA with within-between subject effects. The between subjects' factor was Partnered and unpartnered groups of women. The overall scores for schedule one to three were converted to z-scores before the repeated measures were done. The Mauchly's test of sphericity indicated (0.783, p<0.01) that the differences of the variances of all possible pairs within groups in the maternal outcomes were not equal hence the researcher used Greenhouse-Geisser for epsilon correction. The Levene test of homogeneity was done and the results showed homoscedasticity of variances based on means (Observation schedule one *f* (1, 135) =4.573, *p*=.409, Observation schedule two *f* (1, 135) =3.439, *p*=066, observation schedule three *f* (1, 135) =11.941, *p*=.100). As Table 4.13 indicates, a repeated measures ANOVA of maternal outcome scores (Time (observation schedules over time) × partnered group / unpartnered group) indicated a non-significant main effect for maternal outcomes change over time (Greenhouse-Geisser 1.634, 270 =.117, *p*=864, η^2=0.001), a non-significant main effect for partnership groups (*f* (1, 135) =.342, *p*=.670, η^2=0.001) and a non-significant Time × Group interaction effect (Greenhouse-Geisser 1.643, 270 =2.617, *p*=.110, η^2=0.017) .The Bonferroni post hoc test for within subject effect was not done because there were no significant within subjects effects. This means there was no significant differences in maternal outcomes amongst schedules one, two and three. Moreover, there were no significant differences between the partnered group and the unpartnered group of women in a linear combination of all the maternal outcomes in the three time periods

Table 5: Tests of Within-Subjects/between subject Effects

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Time	Greenhouse-Geisser	.117	1.643	.071	.104	.864	.001
Partnership		.342	1	.342	.183	.670	.001
Time * Partnership	Greenhouse-Geisser	2.617	1.643	1.593	2.326	.110	.017

Tests of within-between groups Differences in Maternal outcomes after Birthwith partnership as a between groups factor

The test of differences in maternal outcomes after birth was done using repeated measures ANOVA with within-between subject effects. The between subjects' factor was partnership. The overall scores for schedule four and five were converted to z-scores before the repeated measures were done. The Mauchly's test of sphericity was not computed because of presence of only two within subjects' factors. The Levene test of homogeneity was done and the results showed homoscedasticity of variances based on means (Observation schedule four *f* (1, 133) =15.492, *p*=.127, Observation schedule five *f* (1, 133) =20.157, *p*=.623. As Table 4.14 indicates, a repeated measures ANOVA of maternal outcome scores (Time (observation schedules over time) × able bodied women group / disabled women group) indicated a significant main effect for maternal outcomes change over time (Greenhouse-Geisser 1, 133 =2200.02, *p*<0.01, η^2=0.669), a significant main effect for partnership groups (*f* (1, 133) =1032.23, *p*=.009, η^2=0.051) and a non-significant Time × Group interaction effect (Greenhouse-Geisser 1, 133 =11.29, *p*=.243, η^2=0.010). These shows there were significant differences between the partnered and unpartnered women in a linear combination of maternal outcome observations at birth up to six weeks after birth

Table 6: Tests of Within-Subjects/between subject Effects

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Time	Greenhouse-Geisser	2200.03	1	2200.03	268.64	.00	.669
Partnership		1032.23	1	1032.23	7.09	.009	.051
Time * Status	Greenhouse-Geisser	11.285	1	11.285	1.378	.243	.010

Tests of within-between groups Differences in Child outcomes with the partnership as a between groups factor

The test of differences in child outcomes after birth was done using repeated measures ANOVA with within-between subject effects. The between subjects' factor was a partnership. The overall scores for schedule four and five were converted to z-scores before the repeated measures were done. The Levene test of homogeneity was done and the results showed homoscedasticity of variances based on means (Observation schedule four f (1, 133) =15.492, p=.211, Observation schedule five f (1, 133) =20.157, p=.623. As Table 4.16 indicates, a repeated measures ANOVA of child outcome scores (Time (observation schedules over time) × partnership group / unpartnered group) indicated a significant main effect for child outcomes change over time (Greenhouse-Geisser 1, 133 =2200.02, p<0.01, η^2=0.669), a significant main effect for partnership groups (f (1, 133) =1032.23, p=.009, η^2=0.051) and a non-significant Time × Group interaction effect (Greenhouse-Geisser 1, 133 =11.29, p=.243, η^2=0.010). These shows there were significant differences between the partnered and unpartnered women in a linear combination of child outcome observations at birth up to six weeks after birth. The table 4.17 gives a summary of the descriptive statistics.

Table 7: Tests of Within-Subjects/between subject Effects (child outcomes)

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Time	Greenhouse-Geisser	2200.03	1	2200.03	268.64	.00	.669
Partnership		1032.23	1	1032.23	7.09	.009	.051
Time * Status	Greenhouse-Geisser	11.285	1	11.285	1.378	.243	.010

6. Discussion

Partnership model

In this study partnership model was the treatment adopted in WHO principles of health promotion to improve the maternal and child health outcomes of women living with disability. During FGD one of the respondent said;

"I never knew anyone would ever love me because even my husband left me when I got pregnant. Since I got a partner to be within this pregnancy, she has shown me a lot of love. She even bought new clothes for my baby when I delivered. I was so happy. This is what has made me to give birth to a healthy baby. I always thank God for her."
Similarly, a deaf woman noted:

"My partner was God sent; she always used to encourage me throughout this pregnancy. She even used to fetch water for me as I rested. As we would go for our ANC visit, she helped me in understanding what the nurse was saying. I owe her for my health baby"

They felt wanted and loved which improved their perception of pregnancy and took good care of them during pregnancy. However some women who were partnered with these women living with disability refused to be partnered due to various cultural reasons like fearing that they would give birth to disabled children. Others felt embarrassed to be seen with them. Others felt like being with the women living with disability would be time wasting for they would drag them behind. This was confirmed by Ganle *et al, (*2016). The study indicated that majority of the able bodied women interviewed suggested negative beliefs and perceptions about disability and reproductive health often combine to weaken the support given to women living with disability during pregnancy and childbirth. Survey by KNSPWD, (2008) found out that community attitudes and practices encroached in cultural beliefs, taboos, rites of passage and religion can create obstacles to people living with disabilities' participation in social or economic activities. Common belief among majority of the communities in then Nyanza, Western, Eastern, Coast and Rift Valley provinces was that disability was a curse. According to one participant in rural Kisii said:

"We enclose them indoors. It is a curse and great shame to the family. Some families do not even mention their names or talk about them."

Health Promotion Partnering Initiatives Model (HPPI Model)

Health Promotion Partnering Initiative Model (HPPI Model) was a modified model from the WHO principles of health promotion developed in November 17-21, 1986 in Ottawa, Ontario and was a strategy for action to achieve Health for All by the year 2000 and beyond. Under it, the following strategies were emphasized:

Empowerment

The pregnant women living with disability were given power to identify the able-bodied women with whom they would walk the journey of pregnancy to child birth. This gave them power over the mental health (stress) and socio-economic factors that would affect their reproductive health during pregnancy. These resulted to significant differences between the partnered and unpartnered women in a linear combination of maternal outcome observations

at birth up to six weeks after birth because of reduction of feeling of stigmatization and discrimination by the community which resulted to positive self-esteem. They would freely share information, ideas, freely interact and make friendship with their able-bodied partners. There were similar findings by Peta et al., *(*2017) which found out that partnership for WLWD empowers them to open up and discuss about health issues affecting them. They also benefit on knowledge from their partners.

Participation

WLWD do not want sympathy rather they want a conducive environment for them to be able to take care of themselves with little assistance. The WLWD were involved in planning the design of how their partnering system with able-bodied pregnant women would be implemented for improving their maternal health outcomes. This was done through joint planning sessions between them, the CHVs and the Disability contact agency. At the end of their pregnancy, they were involved in evaluating how the partnering system had worked for them, and discussed ways in which the model can be improved to enhance the experience. Participation in partnerships allow stakeholders with unique complementary efforts to add value and pool resources and assets for solving problems for people living with disability. They are grounded on inclusivity, mutual respect and mutual benefits for all partners (UN, 2015). A study by (Sarah Dennis, 2015) found out that noting the diversity of backgrounds in this partnership, it was inevitable that members would have different capacities in terms of knowledge and awareness of health, practice, and policy and their participation in the programme improved on the outcome.

Holistic

The Health Promoting Partnering initiative fostered mental health at many levels. For extreme cases of traumatized pregnant women, there were professional counselling interventions mounted. For the others, social health was fostered through the friendship with the able-bodied pregnant women walking the pregnancy journey with them, and eliminating stigma. The partnering women also prayed and attended worship services together, which ensured that their spiritual health was addressed. Similarly (UN, 2015) stated that partnership models are meant to promote a more holistic approach to better outcomes. Results from a study by Claudia *et al, (*2019) indicate that partnership model promotes a holistic wellbeing approach emotionally, economically and socially at the levels of local communities.

Intersectoral

The HPPI involved the collaboration of agencies and individuals from relevant sectors. Namely, the Community Health Volunteers, the Disability Agency, the Families of the mothers, the spiritual leaders in the study area. Each of the partner had unique role to play in the life of WLWD. This improve the maternal and child health outcome for the partnered group in this study. Jagosh *et al, (*2015) found out that despite the big contrast in the needs of each partner, collaborations need transparency, openness, honesty, consistency, unambiguity, and effective communication. It was also noted that leadership incorporates not only the allocation of roles and responsibilities, but management and accountability. This leads to positive impact in the results. Multi-stakeholder partnerships allow stakeholders and persons with unique complementary efforts add value and pool resources and assets for solving problems for people living with disability. They are grounded on inclusivity, mutual respect and mutual benefits for all partners (UN, 2015).

Equitable

The HPPI was guided by concern for equity and social justice. The services they received in the community and hospital were non-discriminatory. They had ample access to health care services and the Disability Generally Agreed upon Principles adopted by Kenya was observed. The disability agency educated the WLWD on their right as PLWD. According to (WHO, 2019), the partnership framework recognizes, believes and builds on the strengths of every stakeholder engaged in development and health. It focuses is on building and promoting synergistic relationships in which each partner equitably benefits from the relationship, leading to a level of symbiotic interdependence.

Sustainability

The HPPI brought about changes that the WLWD and community in the Kakamega County could maintain beyond the research period. This was from the capacity built into them by the Disability contact persons, CHVs and Researcher during training and intervention sessions. Which included health education in terms of pregnancy, child birth and child care postnatal. In this study, sustainability was evidenced by the WLWD being able to demonstrate positive uptake of ANC, giving birth in the hospital and taking their children for immunization. Economically, participants were trained on income generation activities in preparation of care for the unborn baby. A participant who after the training decided to start making fried potatoes for sale testified that she could afford to feed herself and the family from the profits of the business. She has also been able to buy clothes and save some cash in preparation of the newborn. Partnership model share same vision, the background and experience brought forward by individual members are quite diverse. The diversity is what contributes to the partnership's strength, complementary knowledge, skills, and experiences that produce positive outcomes (Estacio *et al,* 2017).

Multi-Strategy

The HPPI used a variety of approaches in combination with one another. Specifically, the following took place for the treatment group;

Advocacy: Able bodied pregnant women who were the buddy to the WLWD offered friendship, psychological

support, going together for ANC, reminding each other what they had been taught in the ANC, creating awareness in the community to reduce discrimination and stigma against the WLWD.

Disability contact persons assisted in tracing the WLWD, they assisted the WLWD with sign language interpretation, walking devices, assessment and enrollment to disability centres. They also assisted in creating awareness in the community on the rights of WLWD. CHVs visited the WLWD in their homes educating them on ANC attendance, birth plan, danger signs of pregnancy, ensuring that they are sleeping under mosquito treated nets, assessing for any sickness during the pregnancy and advising them on pregnancy care, postnatal care, Infant immunization and infant care. County government of Kakamega ensured that the facilities were functional, availability of health workers. Enhanced maternity care through 'Oparanya care.' Deaf participant who attended their ANC in Kakamega County referral hospital acknowledged to have had a nurse who understood sign language and was so helpful to them in terms of communication during hospital visit. They said that it improved the outcome of their babies. The diversity from different sectors and persons is what contributes to the partnership's strength, complementary knowledge, skills, and experiences that produce positive outcomes (Estacio *et al,* 2017). Jagosh et al (2015) found out that despite the big contrast in the needs of each partner, collaborations need transparency, openness, honesty, consistency, unambiguity, and effective communication. It was also noted that leadership incorporates not only the allocation of roles and responsibilities, but management and accountability.

Empowerment

The pregnant women living with disability were given power to identify the able-bodied women with whom they would walk the journey of pregnancy to child birth. This gave them power over the mental health (stress) and socio-economic factors that would affect their reproductive health during pregnancy. A participant said that she felt loved and encouraged through the partnership model which she believed contributed to a good pregnancy outcome. Contribution and Joint actions focusing on areas of own influence and clearly defined and agreed objectives targeting areas of possible change normally creates positive outcomes (TICH, 2003).

Maternal health outcome for partnered and unpartnered group during Pregnancy

In this study, Kakamega County which has twelve sub counties, in six sub counties, the women living with disability were partnered with able-bodied women. This became the case group and the treatment was the partnership model. This group would be together during pregnancy time, reminding each other on important pregnancy advices, lessons and appointments. They would also go together for ANC visits, postnatal visit, during baby's immunization. They would be there for each other during delivery and in many other issues concerning their pregnancy. Some escorted their partners to the hospital during labor, some visited each other in the hospital and most of them become friends.

Six sub counties were not partnered so the pregnant women living with disability were on their own though they received all the required services from the CHVs and healthcare workers. This was the control group which had no treatment (the partnership model). The study tested the effectiveness of partnership model in pregnant women living with disability. It also tested the difference of the outcome between the women living with disability and able bodied women.

Tests of within-between groups Differences in Maternal health outcomes after Birth with partnership as a between groups factor

The findings from this study have implications that should not be ignored the test of differences in maternal health outcomes after birth was done using repeated measures ANOVA with within-between subject effects. The between-subjects' factor was a partnership model. This showed that there were significant differences between the partnered and unpartnered women in a linear combination of maternal health outcome observations after birth up to six weeks. This was similar to KNSPWD, (2008) which revealed that people living with disability (PLWDs) in most rural areas face more obstacles in accessing modern health care and other essential services than those living in urban areas. Unfortunately, there are few studies exploring the empowerment or community mobilization roles of CHWs. One reason could be that there are few CHW programs that articulate and visualize this role for CHWs. Another factor may be that funding of CHW programs and their evaluations are compelled to focus on individual health outcomes and thereby ignore work on social determinants (Ingram et al., 2008).

Tests of within-between groups Differences in Child health outcomes with the partnership as a between groups factor

Partnership model proved to be a very important intervention for the child health outcome for babies of women living with disability. In this study, only one child of women living with disability who was partnered died unlike 16 babies who died among the unpartnered. The test of differences in child health outcomes after birth was done using repeated measures ANOVA with within-between subject effects. The between subjects' factor was a partnership model. These shows there were significant differences between the partnered and unpartnered women in a linear combination of child health outcome observations at birth up to six weeks after birth. Support from their partners who were able bodied boosted their self-esteem. They shared what they were taught in the health facilities which improved the care to their babies. They also became friends which eventually reduced stigmatization and discrimination in the community. Reminding each other of the hospital appointments was also an advantage in those partnered which lead to positive child health outcomes unlike in the unpartnered area. In a

study by Carvalho & Brito, (2017) The respondents testified to the support they get from people with whom they live with during the pregnancy and following the birth, this comprised of the support network constructed by them. Even for those without this experience gave their opinions regarding partnership. Support was significant in their accounts:

"*Even the family can help, too. I know a lot of people around here who already had one child and nowadays the family also helps. My mother called me over to her house: 'stay here for a few days, take it easy, don't clean house, let me take care of the boy', that care of a mother with her daughter. I have a marvelous family. What is my parents', is mine, and what is mine, is theirs. Because of this, it was marvelous during this period*"

Women living with disability also require support from close circles, the health professional should assist her to construct a support network. However, the above-mentioned approach must be made in such a way as not to categorise her as incapable. For this, it is necessary to encourage this woman to consider her strength and therefore the type of support which she wishes to receive, and who will attend her. Through having this network strengthened, she feels more confident during the pregnancy and childbirth period. From this study, able bodied women testified to have benefitted from women living with disability citing that they had better memories and in fact they were the ones who always reminded them of the clinic days.

A respondent indicated the importance of support from health professionals:

"*I didn't find this either too complicated, or difficult. The health professionals took care of me due to my disability. I thought that the care they provided was fairly different due to this, my disability, they were always there. Anything that I felt, it was 'ah, you can call us 'I've always met angels in my life. Like the doctor who didn't let me suffer even a little bit* (laughing)."

Another study by Ganle*et al, (*2016) on limited support revealed that the mobility challenge that the women living with disability face is linked to limited support from family, community members and the health system. According to this account, such women who got pregnant were often avoided or reminded of their disability and the need for them to focus on that rather than getting pregnant which affects the pregnancy outcome.

"It is not that I don't want to go for antenatal. My problem is…you know… I can't move alone without support, and people are very reluctant to help me. They normally say if I knew I couldn't walk to the clinic then I shouldn't have gotten pregnant."

Partnership support in this study improved significantly the maternal and child health outcomes for WLWD who are among the vulnerable groups. The partnership model is required for positive maternal and child health outcome of WLWD and general reproductive health indicators.

7. Conclusion

In this study, partnership model improved maternal and child health outcomes for women living with disabilities.

Social support from partners improved maternal and child health outcomes of both WLWD and the able bodied women.

Difference in maternal and child health outcomes between partnered model group and unpartenered group

Recommendation:

Policy

Partnership model has strongly proved to be a major intervention to avert this enormous disparity. Health policy makers should adopt partnership model as a policy for assisting the vulnerable especially women living with disability during pregnancy, delivery and postnatally for positive maternal and neonatal indicators. This will go a long way to improve maternal neonatal indicators and achieve the SGD goal number 3 on universal access to healthcare service (Kenya, Vision 2030).

Practice

There is a need to train community health volunteers on how to deal with women living with disability and their reproductive issue and implementation of partnership model for women living with disability and other vulnerable group during pregnancy.

There is a need to create awareness programs on disability issues in families and communities in order to reduce stigma.

Research

Further research should be conducted on the role of partners and level of engagement and define other partners other than able bodied women who could assist women living with disabilities.

References

[1] Ardian, E. Meokbun, L. Siburian, E. Malonda, § G. Waramori, P. Penttinen, J. Lempoy, E. Kenangalem, E. Tjitra, P. M. Kelly (2007). *A public-private partnership for TB control in Timika, Papua Province, Indonesia.* District Ministry of Health, A district-level tuberculosis (TB) control INT J TUBERC LUNG DIS 11 (10):1101–1107©2007

[2] Belaynesh Tefera, Marloes Van Engen, Jac Van der Klink and Alice Schippers (2017).*Thegrace of motherhood: disabled women contending with societal denial of intimacy, pregnancy, and motherhood in Ethiopia* Disability & Society volume 32, 2017 - Issue 10Pages 1510-1533

[3] Claudia Nieto-Sanchez, Benjamin R. Bates, Darwin Guerrero, Sylvia Jimenez, Esteban G. Baus, Koen Peeters Grietens and Mario J. Grijalva (2019). *Home improvement and system-based health promotion for sustainable prevention of Chagas disease: A qualitative study.* PLOS

[4] Clifton C. Addison, *Brenda W. Campbell Jenkins, Darcel Odom, Marty Fortenberry, Gregory Wilson, Lavon Young, and Donna Antoine-LaVigne (2016), *Building Collaborative Health Promotion Partnerships:The Jackson Heart Study*, Int J Environ Res Public Health.

[5] Fiona Larkan, OgennaUduma, Saheed Akinmayọwa Lawal and Bianca van (2016) Bavel *Developing a framework for successful research partnerships in global health* Globalization and Health volume 12, Article number: 17, BMC

[6] Grue, L., and Tafjord-Laerum, K.T. (2002). *Doing motherhood: some experiences of mothers with physical disabilities.* Disabil Soc, 17 (6), 671–683.

[7] Gudlavalleti Venkata S Murthy, Neena John and Jayanthi Sagar (2014). *Reproductive health of women with and without disabilities in South India, the SIDE study* (South India Disability Evidence) study: a case control study *licenseeBioMed Central Ltd.*

[8] Joanna Morrison, Machhindra Basnet, Bharat Budhathoki, Dhruba Adhikari Kirti Tumbahangphe, Dharma Manandhar, Anthony Costello andNora Groce (2014) *Disabled women's maternal and newborn health care in rural Nepal: A qualitative study* Science direct, midwifery Volume 30, Issue 11, November 2014, Pages 1132-1139

[9] John Kuumuori Ganle, Easmon Otupiri, Bernard Obeng, Anthony Kwaku Edusie, Augustine Ankomah and Richard Adanu (2016) *Challenges Women with Disability Face in Accessing and Using Maternal Healthcare Services in Ghana:* A Qualitative Study Published 2016 Jun 27. doi: 10.1371/journal.pone.0158361

[10] Joy E. and Lawn e (2009) Reducing intrapartum-related deaths and disability: Can the health system deliver? *International Federation of Gynecology and Obstetrics*. Published by Elsevier Ireland Ltd. All rights

[11] Kakamega County Development profile (2013) *Kakamega County background, history and culture.*

[12] Kate Tulenko, Sigrun Møgedal, Muhammad Mahmood Afzal, Diana Frymus, Adetokunbo Oshin, Muhammad Pate, Estelle Quain, Arletty Pinel, Shona Wynd, and Sanjay Zodpey (2013) *Community health workers for universal health-care coverage: from fragmentation to synergy* World Health Organ. 2013 Nov 1; 91 (11): 847–852.

[13] Kenya National Bureau of Statistic. *Kenya demographic and health Survey2013-014 report* Calverton, Maryland, USA: June 2014

[14] Kenya National Survey for Persons with Disabilities (2008) *Kenya National Survey for Persons with Disabilities Preliminary Report*, National Bureau of Statistics Ministry of Planning and National Development, National Coordinating Agency for Population and Development www.ncapd-ke.org

[15] **Kenya Vision 2030** social pillar – Health, https://informationcradle.com/kenya/**kenya-vision-2030**-social-pillar-health

[16] Kesterton, A. J., Cleland, J., Sloggett, A., and Ronsmans, C. (2010). *Institutional delivery in rural India: the relative importance of accessibility and economic status*. BMC pregnancy and childbirth, 10 (1), 30.

[17] Maggie Redshaw, Reem Malouf, Haiyan Gao and Ron Gray (2013). *Women with disability: the experience of maternity care during pregnancy, labour and birth and the postnatal period.* BMC Pregnancy and Childbirth, 13 (174),

[18] Lusweti Consolata, Oyugi Henry, Wafula Charles, and Chebor Alex (2015). *Factors Associated with Woman in Child Bearing Age Not Wanting to Deliver in a Health Facility Despite Antenatal Care Attendance, in Kakamega Central Sub-County*, IISTE journal Vol 5, No 18 (2015)

[19] Matthew J. Breiding, PhD and Brian S. Armour, PhD (2016) *The association between disability and intimate partner violence in the United States* PMC.

[20] Maria K. Houtchens, Natalie C. Edwards, Gary Schneider, Kevin Stern, Amy L. and Phillips (2018), *Pregnancy rates and outcomes in women with and without MS in the United States American* Academy of Neurology, DOI:

[21] Ilavenil Ramiahand Michael R. Reich *Public-Private Partnerships And Antiretroviral Drugs For HIV/AIDS: Lessons From Botswana* Health Affairs Vol. 24, No. 2: Racial & Ethnic Disparities REPORT PUBLISHED: March/April 2005 Free Accesshttps://doi.org/10.1377/hlthaff.24.2.545

[22] Ministry of Public Health and Sanitation. Annual Health Sector Statistics. 2008. http://www.publichealth.go.ke

[23] Ministry of Planning and National Development, *Kenya Vision 2030*, www.planning.go.ke

[24] Monika Mitra, PhD, Karen M. Clements, ScD, MPH, Jianying Zhang, MD, MPH, Lisa I. Iezzoni, MD, MSc, Suzanne C. Smeltzer, EdD, RN, FAAN, and Linda M. Long-Bellil, PhD, JD (2015) *Maternal characteristics, pregnancy complications and adverse birth outcomes among women with disabilities* PMC, Med Care. 53 (12): 1027–1032. doi: Med Care. 2015 Dec; 53 (12): 1027–1032.

[25] NGO Shadow Report (2012) *United Nations Convention on the Elimination of All Forms of Discrimination against Women*, Frauen: Rechtejetzt! NGO Forum for the implementation of CEDAW in Austria (Ed.) .www.frauenrechte-jetzt.at

[26] Office of the Prime Minister, Ministry of state for planning (2009) National Development and Vision 2030 *Kakamega Central District Development Plan 2008-2012* Government Printer, Nairobi Kenya June 2009.

[27] Sarah Dennis, Sharon A. Hetherington, Jerrad A. Borodzicz, Oshana Hermiz and Nicholas A. Zwar (2015), *Challenges to establishing successful partnerships in community health promotion programs: local experiences from the national implementation of healthy eating activity and lifestyle*

(HEAL™) program. Health Promotion Journal of Australia, Wiley online library.

[28] Sophie Mitra & Usha Sambamoorthi (2015) *Disability prevalence among adults: estimates for 54 countries and progress toward a global estimate*, Volume 36, 2014 - Issue 11 Pages 940-947, Disability and Rehabilitation multidisciplinary journal.

[29] S. Scottet (2013) *Maternal mortality, birth with a health professional and distance to obstetric care in Indonesia and Bangladesh* John Wiley & Sons Ltd

[30] Stanley Kwenda (2010*) "Africa's disabled will not be forgotten, People with disabilities fight for services, rights, dignity"*

[31] TICH (2003) *The quest for equity in access to Health and Development: Scaling up of Best Practices in Decentralized District Systems.* Nairobi: TICH

[32] UNFPA (2016) *Summary Report of the Assessment of UNFPA's Advocacy Campaign to End Preventable Maternal and New-Born Mortality in Kenya,* UNFPA

[33] UN (2015) *Building Multi-stakeholder partnerships for Disability Inclusion*, The Division for Social Policy and Development

[34] World Bank Report (2010). http://siteresources.worldbank.org/EXTANNREP2010/Resources/WorldBank-AnnualReport2010.pdf

[35] World Health Organization. (2018) *Proportion of births attended by a skilled health worker.* Geneva, Switzerland.