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Evaluating Monitoring and Outreach for Maternal Safety Postpartum: A Training Program for Community Health Workers

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Background

The United States (U.S.) has the highest maternal mortality rate among developed nations.[1] In 2018, the U.S. maternal mortality rate was more than two times that of other high-income countries (17 per 100,000 versus <3 per 100,000).[1] Although global maternal mortality has decreased by 43% since 1990, the U.S. is the only developed country where maternal mortality has increased in the same time period.[1,2] In fact, despite spending two and a half times more per person on healthcare than economically similar countries, the U.S. ranks 46th, among all countries, in the number of deaths per 100,000 live births.[2]

Approximately 17% of maternal deaths occur on the day of delivery, and 52% of maternal deaths occur up to a year after delivery.[1] Specifically, maternal mortality rates for African American mothers are significantly higher than for other mothers in the U.S.; low-income mothers have higher maternal mortality rates than average;[3] and as maternal age increases, so does the mortality rate.[4] Maternal morbidity, like maternal mortality, disproportionately affects non-White mothers and mothers with lower income and education levels.[5] Maternal morbidities (e.g., hemorrhage) are severe health conditions that may need life-saving intervention to avoid death. They may begin during pregnancy, delivery, and/or after delivery and last for a short time or a lifetime.[6] In the U.S., approximately 50,000 mothers per year experience a maternal morbidity.[5] Moreover, infants of mothers with severe maternal morbidities are 39% more likely to die than infants born to mothers without severe maternal morbidities.[5]

Over 80% of pregnancy-related deaths could be prevented "with reasonable changes to patient, family, provider … and/or community factors,"[7] emphasizing the urgent need for improved maternal health interventions.[8] Community health workers (CHWs) can foster such changes by increasing mothers' knowledge about physical, mental, and emotional risks; providing strategies for communicating with providers; assisting with health care navigation; and supporting healthy behaviors. CHWs are trusted public health professionals that work closely with their communities to provide culturally appropriate support and outreach. They help individuals navigate the health care system, promote healthy

behaviors, and connect families to essential services, especially in underserved areas.

Monitoring and Outreach for Maternal Safety (MOMS) Postpartum is an evidence-based online professional development course (course) that builds CHWs' knowledge, skills, and self-efficacy to 1) recognize postpartum mothers' risk factors for and warning signs of negative physical, mental, and emotional health; 2) assess mother's physical, mental, and emotional health; 3) inform and educate mothers about reasonable changes using tailored recommendations; 4) support and refer mothers to available resources; and 5) empower mothers to care for their physical, mental, and emotional health.

This brief outlines the methods and findings of the MOMS Postpartum course evaluation, which assesses the extent to which the MOMS Postpartum course increases CHWs' knowledge, attitudes and beliefs, self-efficacy, and intentions to provide support to postpartum mothers.

Methods

Recruitment and study population

The MOMS Postpartum evaluation was a randomized pretest/posttest survey experimental design, where the treatment group was exposed to four MOMS Postpartum lessons: 1) Welcome and introduction to MOMS Postpartum; 2) Health disparities experienced by minority mothers; 3) CHWs' role in supporting maternal health; and 4) Working with maternal health professionals. The control group did not receive access to any materials between the pretest and the posttest. KDH Research & Communication (KDHRC) recruited CHWs for the MOMS Postpartum training by working with local partners to recruit their affiliated CHWs: eleven evaluation partners nationwide, including CHW associations, Area Health Education Centers (AHECs), and other community-based organizations (CBOs).

Inclusion criteria included that participants were at least 18 years of age, self-identified as a CHW, lived in the U.S., conducted outreach to minority women, had at least six months of field experience, worked actively as a CHW within the last six months, and had Internet access either at home or at work.

Data collection

There were 193 CHWs that met inclusion criteria from the eligibility screener and 157 that were enrolled in the study by completing a consent form. Surveys were self-administered and completed on Alchemer, a secure online survey platform. After completing the eligibility and consent forms, participants completed a pretest survey that included questions on knowledge, attitudes and beliefs, self-efficacy, and intentions to conduct maternal health outreach. Next, participants were randomized into either the control or treatment group. Treatment participants then reviewed the MOMS Postpartum online lessons while the control groups received no materials to review. Treatment participants completed the posttest survey, which included knowledge, attitudes and beliefs, self-efficacy, and intentions questions, upon completion of the online lessons. Control participants were asked to complete this posttest survey one week after the pretest. Only the treatment group was asked to complete course satisfaction questions. Data analysis was limited to CHWs who completed both the pretest and posttest.

Findings

Study participation

Overall, 157 (81.35%) participants enrolled in the study after completing the consent form. Of the consented participants, 120 (75.80%) participants completed the pretest (60 control group and 60 treatment group). The participant total includes 94 participants who completed the posttest (41 control

group and 53 treatment group). Of these participants, 93.62% were female, 65.96% identified as Black, 24.47% identified as Hispanic/Latino, and the average age was 43.80 (SD = 12.30). CHWs had an average of 5.70 (SD = 5.99) years of experience, 55.32% had 30+ hours of training, 67.02% had a paid position, and 64.89% had a state-recognized certification.

Measures

We observed positive outcomes across MOMS Postpartum evaluation measures, including CHWs' knowledge, attitudes, self-efficacy, and intentions to conduct maternal health outreach, as well as their satisfaction with the training lessons.

Knowledge about conducting maternal health outreach

- **Between control and treatment groups:** Knowledge gains were slightly greater in the treatment group compared to the control group (p-value = 0.05), although not significantly so.
- **Within treatment group:** Participants in the treatment group showed a significant increase in knowledge from pretest to posttest (p-value < 0.01) while the control group did not have a significant increase.
- **Changes in knowledge** were not significantly associated with any with any of the demographic characteristics.

Attitudes about conducting maternal health outreach

- **Between control and treatment groups:** Attitude gains were greater in the treatment group compared to the control group (p-value = 0.11), although not significantly so.
- **Within treatment group:** Participants in the treatment group showed a significant increase in attitudes from pretest to posttest (p-value < 0.01) while the control group did not have a significant increase.
- **Changes in attitudes** were not significantly associated with any of the demographic characteristics.

Self-efficacy to conduct maternal health outreach

- **Between control and treatment groups:** Self-efficacy gains were greater in the treatment group compared to the control group (p-value = 0.09), although not significantly so.
- **Within treatment group:** Participants in the treatment group showed a significant increase in self-efficacy from pretest to posttest (p-value < 0.01) while the control group did not have a significant increase.
- **Changes in self-efficacy** were not significantly associated with any of the demographic characteristics.

Intentions to conduct maternal health outreach

- **Between control and treatment groups:** Self-efficacy gains were greater in the treatment group compared to the control group (p-value = 0.05), although not significantly so.
- **Within treatment group:** Participants in the treatment group showed a significant increase in intentions from pretest to posttest (p-value < 0.01) while the control group did not have a significant increase.
- **Changes in intentions** were not significantly associated with any of the demographic characteristics.

Skills for conducting maternal health outreach

- **Between control and treatment groups:** Skills gains within each skills category were greater in the treatment group compared to the control group, although not significantly so for any category.
- **Within treatment group** Both participants in the treatment group and the control group showed significant increases (p-value < 0.01) across all skills categories from pretest to posttest.
- **Changes in self-efficacy** were not significantly associated with any of the demographic characteristics.

Satisfaction with the MOMS Postpartum training lessons for treatment participants

Treatment group participants had an average satisfaction rating of 9.12 (SD = 1.00) out of 10, showing high positive regard for the program experience.

Discussion

Our findings suggest that the MOMS Postpartum training program had a positive impact on CHWs' knowledge, skills, attitudes, self-efficacy, and intentions related to conducting maternal health outreach. Although between-group differences did not reach statistical significance across all outcomes, possibly due to sample size limitations, the within-group analyses revealed significant improvements among treatment participants in all measured outcomes. The CHWs exposed to the MOMS Postpartum course showed significant gains ($p < 0.01$) from pretest to posttest in knowledge, skills, attitudes, self-efficacy, and intentions, while the control group not exposed to the MOMS Postpartum course showed little or no significant change, suggesting that the course effectively increased key competencies related to maternal health outreach.

The high satisfaction ratings from treatment participants further highlights the MOMS Postpartum course's perceived effectiveness and usefulness. While between-group comparisons did not reach statistical significance, the treatment group consistently demonstrated more favorable outcomes, indicating that the intervention may offer meaningful benefits despite statistical limitations. These findings hint at the potential of structured, postpartum-focused online training courses to build capacity for maternal health outreach. Future research with larger sample sizes or longer-term follow-up may be needed to confirm these outcomes and assess their impact on actual outreach behaviors and maternal health outcomes in communities.

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