

## Spotlight on Magnesium Sulfate for Pre-eclampsia and Eclampsia

The second leading cause of maternal death worldwide is pre-eclampsia and eclampsia (PE/E). It's most often detected through the elevation of blood pressure during pregnancy, which can lead to seizures, kidney and liver damage, and death, if untreated. The risk that a woman in a developing country will die of PE/E is approximately 300 times higher than that for a woman in a developed country. Magnesium sulfate (MgSO<sub>4</sub>) is the most effective medication for the prevention and treatment of PE/E, yet remains underutilized. It is one of 13 underutilized commodities identified by the UN Commission on Life-Saving Commodities for Women's and Children's Health that if more widely accessed and properly used, could save the lives of more than six million women and children worldwide.



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A review was conducted to analyze and synthesize current key evidence in order to understand the social and behavioral drivers of MgSO<sub>4</sub> demand and utilization, examine effective practices in implementing demand generation programs, and inform future programming. The evidence review

found 14 documents related to demand generation for MgSO<sub>4</sub> that met the inclusion criteria. The evidence was documented from Latin America (2), Africa (7) and Asia (2), along with three documents with a global focus.

### Social and Behavioral Drivers

The review highlighted a number of barriers to increasing the uptake of MgSO<sub>4</sub>, including the lack of provider and community knowledge about MgSO<sub>4</sub> and symptoms of PE/E. Incorrect knowledge regarding potential side effects to a mother and unborn child made health providers reluctant to administer MgSO<sub>4</sub> in a timely manner, even when providers understood the severity of PE/E (Barua et al., 2011; Ridge, Bero, & Hilton, 2010).

Although most countries have MgSO<sub>4</sub> on their essential medicines list, the studies reviewed show a gap in policy and practice regarding the use of MgSO<sub>4</sub>. Barriers to demand included lack of country-specific clinical guidelines for administration, low procurement of MgSO<sub>4</sub> and subsequent poor availability of the medication, lack of incentives for health care providers to use MgSO<sub>4</sub> and lack of political will for the issue.

### Demand Generation Interventions

Interventions have focused on policy and service delivery changes to increase use of MgSO<sub>4</sub>, with a focus on building health care provider knowledge and capacity to administer the medication. In Kano, Nigeria, where eclampsia is the most common cause of maternal death, a comprehensive multi-level approach was taken to increase demand and acceptability of MgSO<sub>4</sub> for the treatment of PE/E (Tukur et al., 2011, 2012). This approach integrated advocacy, collaborative protocol development and health care provider training.

Low-cost, participatory, upstream efforts also can engage policy makers and researchers to create a window of opportunity where priorities for maternal health and MgSO<sub>4</sub> overlap. Results from a three-

country study in southern Africa suggest the process of putting evidence into practice was more successful when key stakeholders were involved in generating and evaluating the evidence, and participated in development of guidelines (Woelk et al., 2009).

Although the majority of research focused on provider level administration, MgSO<sub>4</sub> can be administered at the community level. Results of a quasi-experimental intervention in rural Bangladesh showed remarkable achievements in using MgSO<sub>4</sub> at the community level for cases of eclampsia and severe eclampsia; of 256 women participating in the study, three maternal deaths were reported in the study group (2.3 percent), compared to 14 (10.4 percent) in the non-intervention group (Shamsuddin et al., 2005).

## Conclusions and Recommendations

Recommendations to overcome barriers in order to accelerate the uptake of MgSO<sub>4</sub> include: (1) increasing provider knowledge about treatment options and guidelines for PE/E; (2) increasing political support for MgSO<sub>4</sub>; and (3) conducting more research on community-level implementation of MgSO<sub>4</sub> treatment.

To read the full report, visit <http://sbccimplementationkits.org/demandrmnch/evidence-synthesis/>.

For tools and resources on demand generation for life-saving commodities, visit <http://sbccimplementationkits.org/demandrmnch/>.

## References

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