

Diversity and Cultural Differences in Preeclampsia Beliefs and Management Practices: A Narrative Review

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Abstract

Preeclampsia is a hypertensive disorder that poses significant risks to maternal and fetal health. Effective management is critical to minimize maternal and fetal morbidity and mortality. Preeclampsia management practices vary widely across different cultural and geographical settings. This review explores the cultural differences in the beliefs and management of preeclampsia. High income countries benefit from well-established diagnostic and treatment protocols however, low- and middle-income countries face challenges related to lack of knowledge, resources, and access to care. Cultural factors, including the use of traditional medicine and the influence of family decisions on healthcare, often delay receiving appropriate medical care. In some cultures, traditional birth attendants and community health workers are the primary antenatal carers, but their approaches can conflict with modern medical practices. By understanding these cultural influences in healthcare, it can improve maternal health outcomes. This review emphasizes the need for culturally competent healthcare, improved training for healthcare workers, and the implementation of standardized protocols globally. By integrating culturally competent practices into maternal healthcare systems and addressing the structural barriers to care, healthcare providers can optimize the diagnosis, treatment, and long-term outcomes for women with preeclampsia.

Introduction

Preeclampsia is the development of new onset hypertension that occurs during pregnancy, typically after the 20th week, with accompanying proteinuria¹. If not properly managed, it can lead to severe maternal complications including organ damage, eclampsia, as well as fetal complications including fetal growth restrictions, and fetal demise¹. Patients with preeclampsia typically have complaints of a new-onset headache that is not responsive to medication and may be accompanied by visual disturbances². Other symptoms one may present with are nausea, vomiting, or epigastric pain¹. In addition to new onset hypertension and proteinuria on urinalysis, assessments for preeclampsia includes an elevated protein to creatinine ratio and abnormal liver and kidney function tests¹. Early interventions are crucial to mitigate complications however, practices surrounding management differ across cultures.

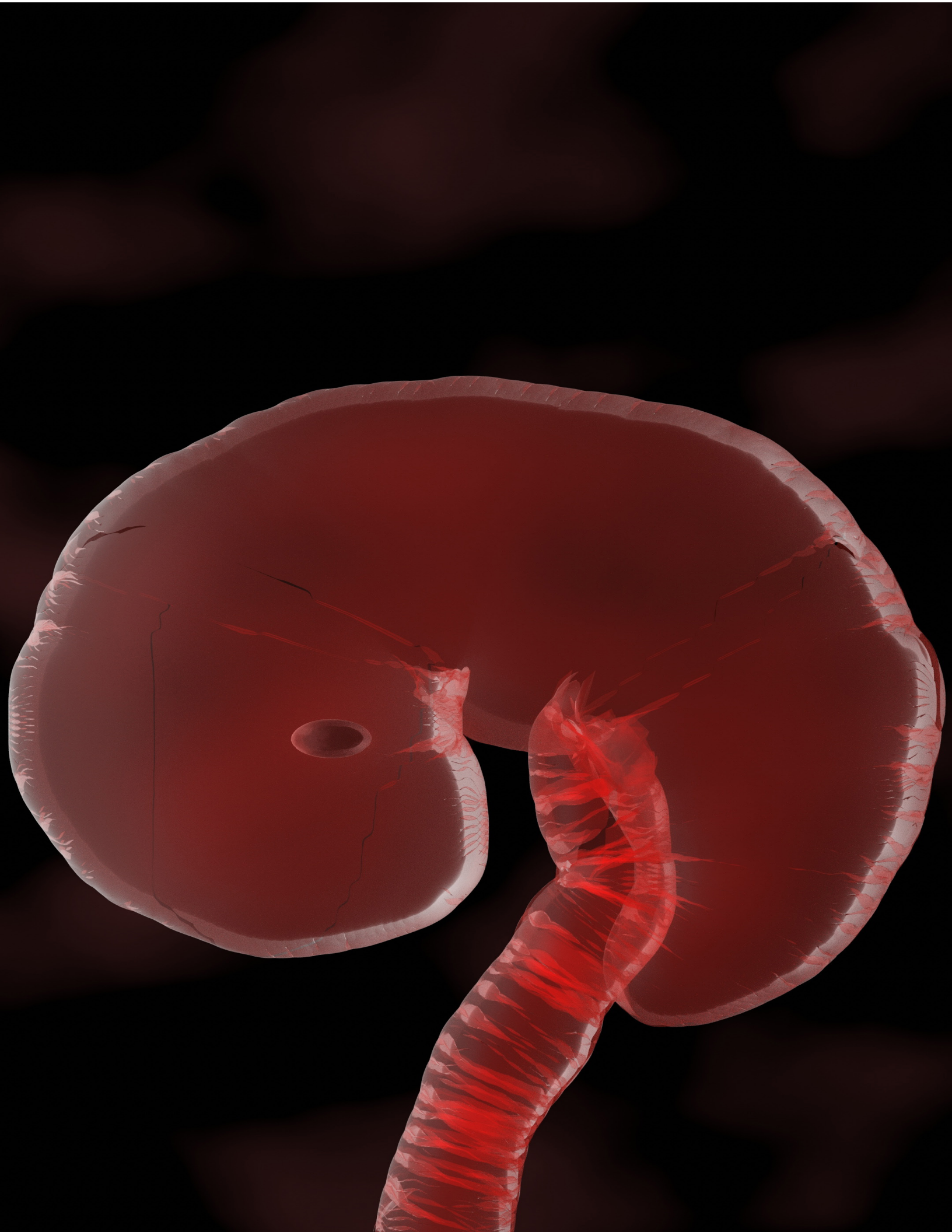
Different management practices can be attributed to a combination of healthcare system disparities, and socio-economic conditions, that influence healthcare-seeking behaviours and medical practices^{3,4}. High-income countries have well-established clinical guidelines and the availability of advanced diagnostic tools which generally lead to early detection and intervention⁵. Many middle- and low-income countries face challenges including limited access to healthcare services, and inadequate infrastructure³.

Cultural perceptions play a key role in preeclampsia management^{6,7}. For instance, some cultures prefer traditional or alternative treatments over medical interventions, which can delay or prevent women from seeking appropriate care^{6,7}. By understanding the cultural context of preeclampsia management, it can improve health outcomes in diverse and underserved populations. This review examines how cultural differences influence the management of preeclampsia and discusses potential strategies to overcome these challenges.

Methods

A literature search was performed in December 2024 using PubMed, Academic Search Complete, and Google Scholar journals. Search terms included “preeclampsia”, “cultural beliefs”, “traditional medicine”, “low-income” and “management practices”. Boolean operators combined variations of the terms for a comprehensive retrieval. Inclusion criteria included peer reviewed studies published up until December 1, 2024 in English that addressed preeclampsia beliefs or management across diverse cultural settings. Studies that were published in a non-English language, did not directly discuss preeclampsia views or management, and lacking clear methodology were excluded. Data extraction of the eligible studies included study location, design, attitudes and management of preeclampsia.

Many studies were observational, qualitative, or cross-sectional, limiting causal inferences. Sample sizes in several low-middle income countries were small, reducing generalizability.



Most evidence for herbal therapies stemmed from small pilot studies or anecdotal reports. Overall, evidence supporting traditional practices is weak due to heterogeneous methodologies and absence of standardized outcome measures.

Health Beliefs and Practices with Cultural Influences

The National Institute for Clinical Excellence (NICE) made recommendations for the development of guidelines in assessing risk and created a schedule to monitor women in the community after 20 weeks of gestation⁸. The guidelines recommend assessment of preeclampsia at 16, 28, 34, 36, 38, 40 and 41 weeks for healthy women⁸. The guidelines are followed in Western societies where there is greater availability to diagnostic tools and better healthcare infrastructure¹.

In many non-Western societies, traditional medicine is commonly used for managing preeclampsia^{6,8}. The term traditional medicine describes alternative medicine practices developed by cultures over time, and often emphasize the balance in mental, physical, and spiritual health^{10,11}.

In South Asian culture, the use of Traditional Birth Attendants (TBA)'s is prevalent where they assist in childbirth based on cultural practices of the communities they serve, traditional knowledge, and experience, rather than formal medical training^{4,5}. This includes using herbal remedies, dietary adjustments to manage hypertension due to the belief it is more natural or safer⁵. There are also Lady Health Workers (LHW) that work in the community and provide basic healthcare services to women for their antenatal care⁵. In terms of the beliefs surrounding preeclampsia, many women are aware of high blood pressure developing during pregnancy but did not recognize it as a distinct medical condition⁵. It was commonly believed that stress and weakness were the primary causes of high blood pressure during pregnancy, and that it led to symptoms like headaches⁵. The understanding of high blood pressure was largely symptom-based rather than being grounded in actual measurements⁵.

In several areas of Africa, traditional medicine plays a significant role in maternal health care⁶. Traditional healers are common as primary health care workers for pregnant women to promote a healthy pregnancy and to ensure a normal birth⁶. Studies done in Nigeria have shown the prevalence of herbal remedy use ranges from 12-67% during pregnancy¹³. This is because many perceive it as being safer to take during pregnancy and more effective^{9,13}. In Ghana, medical recommendations provided during pregnancy may contradict the religious and cultural beliefs¹⁰.

Women rely on socially spread misleading pregnancy beliefs, since many women do not receive clinical education in pregnancy¹⁰.

Cultural attitudes toward healthcare providers influence behaviour in seeking care and can be demonstrated by many countries in the Middle East¹⁴. Decisions are made as a family about medical interventions which may delay the care the women receive, since members of the family may prioritize traditional solutions over medical management¹⁴.

Traditional Chinese Medicine (TCM) considers concepts of cause, diagnosis, and treatment¹¹. TCM holds that during pregnancy, the majority of a mother's blood is directed to the placenta to nourish the developing baby, which can make other maternal organs such as the liver, spleen, and kidneys are more susceptible to damage¹¹. Spasms in the arterioles were identified by TCM as being the pathophysiological mechanism of preeclampsia¹¹. Herbal treatments which are taken or made from plants are believed to help manage preeclampsia by promoting vasodilation and enhancing blood circulation¹¹.

Healthcare Infrastructure and Barriers to Resources

As mentioned earlier, the NICE guidelines for preeclampsia monitoring had recommendations about how often and when women should be monitored for preeclampsia⁸. This has been implemented in developed countries that have adequate resources¹. However, this demanding schedule of hospital visits may not be feasible in low – or middle-income communities, where health systems are already overwhelmed, and patients often struggle to access healthcare due to financial constraints and distance barriers^{3,8,16}. Non-attendance at antenatal visits is a significant risk factor for the development of preeclampsia, as it often leads to failure of prevention and inadequate management^{5, 13}.

Studies have also found that in low- or middle- income countries, women are not regularly screened at their antenatal visits for hypertension due to limited knowledge from healthcare providers^{3,5}. In many developing countries, delays in seeking care during obstetric emergencies are common¹³. These delays are frequently due to insufficient knowledge about when and where to seek help¹³. Additional factors including limited decision-making power among women, poverty, and rising healthcare costs exacerbate this issue¹³. Socio-demographic factors, including education levels and marital status as well as cultural beliefs surrounding maternal health also play a significant role in shaping health seeking behaviours^{4,14}. Social determinants have been identified as contributing up to 27% of maternal deaths¹⁷. For

example, in rural areas of South Asia where healthcare access is limited and due to low health literacy, many pregnant women rely on information from older women, friends, and family members, rather than consulting healthcare professionals^{5,17}. In addition, personal, societal, and structural barriers such as feelings of shame or fear of stigma can prevent women from discussing their pregnancies openly with doctors^{10,14}.

Treatment Approaches

Management of preeclampsia focuses on blood pressure control and preventing seizures¹. Earlier diagnosis and intervention are the most beneficial in preventing complications from developing¹. Antihypertensive medications that do not have adverse effects on the fetus and adequately control blood pressure, include beta blockers such as intravenous labetalol, vasodilators such as intravenous hydralazine and oral calcium channel blockers such as nifedipine¹. Prophylaxis management in preventing the development of eclampsia, includes intravenous magnesium sulfate or levetiracetam if magnesium sulfate is contraindicated¹. If eclampsia develops, intravenous benzodiazepine medication is administered such as diazepam¹.

In Pakistan, studies have found misconceptions among health care providers in administering magnesium sulfate including, overestimating the toxicity risks of magnesium sulfate and the need for women to be admitted in the intensive care unit^{5,18}. Doctors in Pakistan did not appreciate the importance of giving magnesium sulfate to reduce the morbidity or mortality risk⁵. This is because the providers mentioned that it is relatively uncommon for women to have preeclampsia in Pakistan, despite it globally being the second-leading cause of maternal mortality⁵. Due to the low prevalence of preeclampsia, doctors report to lacking the confidence in dealing with these patients, leading to women being untreated when referred to other healthcare facilities^{5,1}.

In the community where Pakistani women are most treated by Lady Health Workers, it is reported that some of these providers give medications that they have learnt from interacting with doctors who have treated women with preeclampsia such as methyl-dopa along with advising a low salt and low-fat diet⁵. Another traditional birth attendant gave traditional medicine including Phakki which is an herbal remedy for constipation to manage blood pressure however, there is no rigorous evidence of antihypertensive efficacy⁵.

As mentioned earlier, women in South Asia are more likely to treat symptoms rather than treating the hypertension such as self-medicating for headaches⁵. Occasionally, women in rural areas believed home remedies and spiritual treatments can be

beneficial for managing preeclampsia such as 'reciting holy verses or drinking holy water and are perceived as safe¹⁵. However, delays in seeking medical care are common when symptoms escalate¹⁵.

The current South African management guidelines recommend Aspirin as a preventative treatment for women at high risk of developing hypertension without proteinuria during pregnancy¹⁹. However, the use of herbal remedies in prevention and treatment are still commonly used in South Africa¹⁰. Healthcare providers including physicians and pharmacists have also been shown to lack the knowledge of the efficacy and safety profile of most herbal medications available in the country¹⁰. Hence, most healthcare providers do not recommend herbal products to their patients¹⁰. Many of the herbal remedies are self-prescribed based on the patient's own cultural beliefs and knowledge⁸. In addition, despite a caesarean section being the ideal mode of delivery when there is complication in preeclampsia, many cultures including African and Asian cultures have a strong preference for vaginal deliveries¹⁰.

In Chinese culture, Chinese herbal medicines are very popular and are reported to be effective in treating preeclampsia¹¹. Herbal remedies such as Chuan Xiong Qin which is known as ligustrazine that has been extracted from rhizome of Sichuan lovage, is thought to encourage vasodilation and increase blood flow¹¹. Chuan Xiong Qin is commonly used in treating women with preeclampsia in China, where it is also suspected to cause a sustained reduction in blood pressure¹¹. Other herbal medicines such as Dan Shen (salvia miltiorrhiza) is thought to dilate small arteries¹¹. Yi Mu Cao (herba leonuri), Chuan Xiong and Dan Shen are thought to also decrease platelet aggregation¹¹. These are some of the several Chinese herbal remedies that are prescribed for preeclamptic women and are taken based on the different symptoms they are experiencing¹¹. Risks of traditional Chinese herbal medicine include herb-drug interactions. More research is needed in order to understand the safety profile and interactions of these herbal medicines.

Discussion

Preeclampsia is a dangerous medical condition and obstetric emergency since there are many complications associated with it to the mother and fetus¹. By managing the condition early on, the risk of developing complications reduces, hence the need for a standardized treatment approach. It is essential for cultural competency in healthcare to address these challenges. By training healthcare providers in cultural differences, they will be able to improve communication and engagement with patients.

The management of preeclampsia varies over the world

where it is influenced by access to resources, cultural beliefs, and health care systems⁸. This article demonstrated the difference in terms of beliefs and management between cultures, especially between high and low-income countries. In well developed countries, the medical approaches to preeclampsia management are established with guidelines and recommendations, whereas in resource poor areas, there is often a delay in diagnosis and treatment, which can lead to poor maternal outcomes¹⁶. In resource poor areas, nifedipine can be administered orally, as opposed to the requirement of intravenous access for other antihypertensives treated in pregnancy. Therefore, oral administration provides the possibility of administration in the community.

Most countries have a strong area in midwifery, including low- and middle-income countries⁵. There is great importance in educating midwives on recognizing obstetrical emergencies, as midwives are likely the only point of care women may receive¹⁶. In rural areas, health workers such as LHW should receive training on understanding the importance of preeclampsia and be able to recognize it and how to manage it. By implementing standardized protocols and improving the training of all healthcare workers in obstetrics, clinicians can become more confident in prescribing essential medications such as magnesium sulfate.

Future research should focus on rigorous evaluation of commonly used herbal remedies and conduct randomized placebo-controlled trials to assess safety, dosing and efficacy of widely used preparations, along with detecting any adverse events. To address the lack of consistent cross-country comparisons, studies that enroll pregnant women across diverse cultural settings to document management pathways, outcomes and cultural influences, is important for a clear comparison. Lastly, future research can look into developing and testing educational interventions with local religious and community leaders to address any misconceptions surrounding preeclampsia and its management, and promoting evidence-based practice. This can then be measured in changes of care-seeking behaviour and clinical outcomes.

Conclusion

Preeclampsia is one of the leading causes of maternal morbidity and mortality. Cultural differences play a significant role in the management of preeclampsia where it influences patient outcomes and medical practices. By adopting culturally competent approaches to maternal care and enhancing cultural sensitivity, it can improve access to maternal healthcare and the health outcomes for women with preeclampsia. By enhancing healthcare access and providing maternal education through community-based healthcare workers in rural and underserved areas, it can help bridge the gap in healthcare access and enhance preeclampsia management.

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