de vacunación incompleto. Al hacer referencia al cumplimiento de los objetivos en el trabajo cuestionado, así como al apego a los criterios de *Strengthening the Reporting of Observational Studies in Epidemiology* (Strobe) que tuvieron los autores, en la *Respuesta de la autora* se afirma que "[…] los estudios observacionales pueden realizarse con el propósito de describir la magnitud y distribución de un problema de salud en la población". Esto presenta un aspecto parcial de la utilidad de este tipo de estudios, que también pueden ser de naturaleza analítica o explicativa. La característica distintiva de los estudios observacionales es en realidad la ausencia de manipulación de la variable de exposición por parte del investigador.[4]

Por otro lado, difiero sobre la afirmación de que la prevalencia sea una "[…] medida absoluta aislada de ocurrencia de la enfermedad, y que en la actualidad es menos utilizada por los epidemiólogos, quienes prefieren medidas epidemiológicas más populares como la razón de momios".

La prevalencia es una medida relativa, por ser un cociente, específicamente una proporción, la cual considera el tamaño de la población en que se realiza la medición.[4,5]

En cuanto a un posible menor uso actual de la prevalencia, esta medida es indispensable para describir la magnitud con que se presenta un evento de salud en una población, sólo que resulta de menor interés cuando la investigación se centra en aspectos etiológicos, ya que la prevalencia refleja tanto los determinantes de una enfermedad como los determinantes de la sobrevivencia a la enfermedad.[5,6] De manera adicional, en comparación con la prevalencia puntual, de uso muy amplio, la prevalencia lápsica sí es cada vez menos utilizada[4,7] porque combina casos prevalentes con incidentes.[4]

La elección de recurrir a otras medidas, como sería el caso de la razón de momios, no obedece a preferencias de los epidemiólogos, sino a necesidades que derivan de los objetivos del estudio y que además hacen natural un cierto diseño epidemiológico. El estudio se ceñirá al cálculo de medidas de frecuencia si tiene un propósito descriptivo. En forma adicional, un estudio requerirá la estimación de medidas de asociación o de impacto potencial si busca estimar relaciones causales, o bien, si busca estimar el efecto de cierta exposición en la población de estudio o en la de referencia.[4,6,8]

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Treating patients with severe preeclampsia and eclampsia in Oaxaca, Mexico

To the editor: The Mexican state of Oaxaca continues to be marked by dramatic maternal mortality rates (MMR). In 2009, it had the second-highest MMR with 98.3 maternal deaths per 100 000 live births, compared to the national average of 62.2.[1] Almost one-fourth of these deaths were due to hypertensive disorders during pregnancy.[1] One such disorder, preeclampsia, is characterized by high blood pressure and excess protein in the urine, usually during the second half of gestation, and is 'severe' when manifested with extreme hypertension, heavy proteinuria or substantial maternal organ dysfunction. If not managed properly, severe preeclampsia can progress to eclampsia, triggering convulsions.[2]

The Mexican Ministry of Health (MOH)'s technical guidelines list magnesium sulfate (MS) as the drug of choice to prevent and treat convulsions; only when MS is unavailable do they recommend other antihypertensive drugs like phenytoin or phenobarbital. Furthermore, termination of the pregnancy or delivery of the fetus and placenta within six hours of diagnosis is strongly advised.[3]

Prior studies in Mexico have suggested, however, that providers often do not treat according to technical guidelines, using MS inconsistently or not at all.[4,5] The purpose of this letter is to document the treatment of women with preeclampsia and eclampsia in MOH hospitals in Oaxaca, identify barriers to optimal treatment, and develop recommendations for improved practice through a series of studies.

We used a combination of quantitative and qualitative methods for our research. For our quantitative analyses, we reviewed medical records of women diagnosed with severe preeclampsia and eclampsia in 2008 across eight general MOH hospitals and one community-based facility. That year, there were 23 300 obstetric events archived,[6] 493 of which had complete records and were reported as cases with severe preeclampsia and eclampsia. To gauge usage of antihypertensive and anticonvulsant

drugs for patients with severe preeclampsia and eclampsia, 84 obstetric physicians from 12 general MOH hospitals and one community-based facility self-administered anonymous surveys. We performed descriptive analyses of socio-demographic characteristics and analyzed the use of anticonvulsant drugs disaggregated per hospital.

For our complementary qualitative analyses, we reviewed 13 maternal mortality records that recorded hypertensive disorders as the main cause of death, and extracted relevant variables in an Excel spreadsheet. Additionally, we recruited 14 key stakeholders, including heads of Obstetrics and Gynecology departments and researchers in the maternal health field in Oaxaca, via snowball sampling to participate in an in-depth interview. Interviews explored types of drugs used to treat preeclampsia and eclampsia, adherence to MOH technical guidelines, and general implementation of evidence-based practices. Themes were then extracted from transcribed interviews.

Our medical record review found that in 33% of cases, pregnancy termination took longer than six hours. Only 5% of women were admitted to intensive care units (ICU), and 33% of hospitals lacked ICUs. For these cases, the use of anticonvulsant medication did not follow technical guidelines. Of women with severe preeclampsia, only 50% were treated with MS. Of these, almost one-quarter were administered MS in combination with other anticonvulsants; 38% were not provided anticonvulsant treatment at all. For women with eclampsia, MS was given in 82% of cases, of which three-quarters received MS in conjunction with other drugs.

Of the 13 women whose death certificates we reviewed, nine were referred from a smaller facility to a general hospital. Reasons included lack of an obstetrics and gynecology laboratory, or ICU. According to the records, only two of these women were given MS.

Of the 84 physicians surveyed, 96% reported being aware of their hospital's treatment guidelines for care of preeclampsia and eclampsia, and 92% stated that MS was always available in their facilities. Barriers to its usage included fear of side effects and lack of experience managing the drug. Stakeholder interviews further explored barriers to MS usage. These included erratic or incomplete administration of MS due to shift changes or unclear information from a referring facility; the amount of time it takes to prepare dosages of MS; lack of supervision over guideline implementation; and staff shortages and heavy patient-loads that make consistent, quality monitoring of patients difficult.

To improve alignment between knowledge of technical guidelines and practice, we recommend stocking facilities with pre-prepared dosages of MS; establishing incentives for staff to follow evidence-based practices; ensuring adequate coverage of shifts and supervision; and improved communication between referral facilities and providers regarding the order and timing of treatment. While these recommendations would require wide-sweeping health system changes, a comprehensive approach is vital to avert maternal mortality in Oaxaca and in other states of the country.

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An education-support program that addresses many of the shortcomings of medical social service in Mexico

To the editor: Mexico has achieved universal health insurance coverage,[1-2] but for many marginalized populations coverage signifies little more than an enrollment card, and fails to ensure access to high quality care.[3] In the recent article "Social Service in Medicine in Mexico" published in your journal, Gustavo Nigenda explains that social service physicians (*pasantes*) are an important health care provider for these marginalized populations, but also accurately outlines shortcomings of this model: '*pasantes*' are typically unpracticed and unsupervised during their social service year (*pasantía*), and lack the experience necessary to provide high quality care independently.[4] We have