

Commentary

Violence against women and the risk of infant and child mortality

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The preceding paper by Åsling-Monemi et al. tests the hypothesis that violence against women, either before, during, or after pregnancy, increases the risk of child and infant mortality among their offspring. Their findings are startling — after controlling for other possibly confounding factors, the children of women who were physically and sexually abused by a partner were six times more likely to die before the age of 5 years than children of non-abused women, and partner abuse was found to account for around one-third of all deaths of under-5-year-olds in the study region of León, Nicaragua. Among neonates the main proximal causes of death were preterm delivery and low birth weight, and among older age groups infectious diseases. The authors speculate that this relationship between violence and child mortality is mediated through chronic stress of the mother, possibly affecting both the fetus and the care provided to the child.

The paper by Åsling-Monemi et al. is timely and important in view of the recently published *World report on violence and health* (1), which found that interpersonal violence may produce a wide spectrum of health consequences quite apart from deaths and injuries. This means that violence, in addition to warranting preventive attention as a direct cause of physical and psychosocial damage, is also a significant risk factor for other health outcomes, and the stronger the evidence for the size and strength of these risk effects, the stronger the arguments for preventing violence. To claim, albeit in the specific setting of Åsling-Monemi et al.'s study, that one-fourth of all under-5 mortality is causally related to violence against the mothers of the deceased is to claim a massive health risk-effect for violence against women. If this claim is validated for Nicaragua and shown to apply in other countries, it would be a powerful additional argument for increased investment in developing and implementing effective violence-prevention strategies.

The findings reported by Åsling-Monemi et al. are consistent with those of a handful of other studies that have associated violence during pregnancy with premature labour and birth, fetal injury, and low birth weight (2–7). They are also consistent with one other study linking violence during pregnancy to infant death (8). Where Åsling-Monemi et al. go beyond these existing studies is in looking at violence not only during but also after pregnancy, and in attempting to estimate the proportion of all under-5 mortality that could be attributed to violence against mothers.

A strength of the study is the fact that it adjusted for several important confounding variables such as the mothers' age and parity, educational level, employment status, and the

degree to which basic needs were satisfied. However, like all pioneering studies of relatively under-researched areas of public health concern, it suffers from some limitations, as discussed below.

Because the exposure data were obtained retrospectively, the possibility that recall bias accounted for some or all of the reported associations cannot be excluded. Such bias may have arisen because women who were in abusive relationships may have remembered their experiences differently from other women (9). Physical and sexual abuse are widely believed to be detrimental to family functioning and health. Mothers who experienced the loss of a child may have consciously or unconsciously exaggerated their prior level of exposure to abuse if they believed it was related to the child's death, which would artificially inflate the estimate of the risk to infant and child mortality represented by violence towards the mother.

As mentioned by the authors, the study neither collected data on the extent to which the pregnancies were intended nor on child abuse. Without such data it is difficult to test the hypothesis that offspring born to mothers who experience violence before during and after pregnancy will be more likely to die than those borne to mothers who do not experience violence. The population-attributable risk (33% of all under-5 mortality in the study area) reported by the authors must therefore be treated with caution and is most likely to overestimate substantially the true association.

Data on child abuse and pregnancy intendedness would possibly have helped to explain better the relationship between violence towards the mother and subsequent child death. Such information may have also provided useful indications of when to intervene to prevent more effectively abuse and neglect. Examples of early interventions for the prevention of abuse and neglect within the family include the prevention of unintended pregnancies (10) and home visitation in the first 3 years after birth (11, 12). Information on the added risk of death for infants due to abuse by their mothers could potentially and more cost-effectively target violence-prevention interventions.

This is an important study which replicates findings about the relationship between violence against women and infant mortality, and which for the first time attempts to measure the scale of the impact on infant mortality. However, its methodological weaknesses raise major uncertainties about the size of the estimated impact of violence towards mothers on infant mortality. These uncertainties must be resolved through further studies in different settings that use improved methods to test the hypothesis.

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To date, the role of violence as a risk factor for health consequences other than injuries has been studied extensively in respect of the distal consequences of infant and child physical and sexual abuse on adult-onset psychiatric disorders (e.g. depression, anxiety disorders), behavioural problems (e.g. smoking and substance abuse, unsafe sexual practices), and the perpetration of violence (e.g. child maltreatment, youth violence, self-directed violence). Indeed, such is the weight of evidence for child sexual abuse as a risk factor that it is included as such in the *World health report 2002*. Prevention of child abuse through home visitation and parent support are among the most effective violence prevention interventions

known to date (11, 12). Coupled with findings showing the proportion of adult-onset disease attributable to child sexual abuse, the results of such studies are strong arguments for investing in the prevention of child sexual abuse.

It is hoped that, if the findings of the study by Åsling-Monemi et al. are confirmed, and that as similar evidence accumulates for the non-injury health consequences of violence against women, prevention of violence towards women during and beyond pregnancy will be brought even further into the mainstream of public health interventions. ■

Conflicts of interest: none declared.

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