

Risk Factors for Maternal Mortality: a Case-Control Study in Dakar Hospitals (Senegal)

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ABSTRACT

This study was conducted in the three main hospitals of Dakar, the capital city of Senegal. Each case of 152 maternal deaths identified over a 12-month period was matched with two controls: a safe delivery in the same clinic, and a safe delivery in the same neighbourhood of residence. Controls were matched on age, birth order, place, and time of delivery. The leading causes of death were: puerperal sepsis and other infections (51 cases), haemorrhage (32 cases), eclampsia (29 cases), ruptured uterus (11 cases), and anaemia (7 cases). Results of the case-control study revealed the major risk factors associated with health system failures: medical equipment failure (odds ratio [OR] = 55.0), late referral (OR = 23.2), lack of antenatal visit (OR = 16.9), and lack of available personnel at time of admission (OR = 6.6). Various indicators of maternal status at time of admission (complications, blood pressure, temperature, oedema, haemoglobin level) and of health history prior to admission (previous complications, previous C-section, lack of treatment) were also strong predictors of survival. Lastly, socio-demographic factors also appeared as correlates of maternal mortality, in particular: first pregnancy (OR = 2.3), pregnancy of high birth order (OR = 1.9), rainy season (OR = 2.4), being unmarried (OR = 2.5), and low level of education (OR = 1.6). Implications for policy are discussed. (*Afr J Reprod Health* 1997;1(1):14-24)

RÉSUMÉ

Facteurs de risque de la mortalité maternelle: une étude cas-témoins dans les hôpitaux de Dakar (Sénégal)

L'étude a été conduite dans les trois principaux hôpitaux de Dakar, la capitale du Sénégal. Chacun des 152 cas de décès maternels relevés au cours d'une période de 12 mois a été apparié avec deux témoins: un accouchement dans la même clinique et un accouchement dans le même quartier de résidence. Les témoins ont été appariés selon l'âge, le rang de naissance, le lieu et le jour d'accouchement. Les principales causes de décès étaient: les infections puerpérales et les autres infections (51 cas), les hémorragies (32 cas), les éclampsies (29 cas), les ruptures utérines (11 cas), et les anémies (7 cas). Les résultats de l'étude cas-témoin révèlent les principaux facteurs de risque associés avec les dysfonctionnements du système de santé: les défauts de l'équipement médical (RC = 55,0), l'évacuation tardive (RC = 23,2), l'absence de visite prénatale (RC = 16,9), et le manque de personnel au moment de l'admission (RC = 6,6). Divers indicateurs de l'état de la femme au moment de l'admission (complications, pression sanguine, température, oedèmes, niveau d'hémoglobine), et l'histoire obstétricale avant l'admission (complications antérieures, césarienne, absence de traitement), avaient aussi une forte valeur prédictive pour la survie. Enfin, les facteurs socio-démographiques étaient aussi corrélés à la mortalité maternelle, en particulier la première grossesse (RC = 2,3), les grossesses de rang élevé (RC = 1,9), la saison des pluies (RC = 2,4), être non mariée (RC = 2,5), et le faible niveau d'éducation (RC = 1,6). Les conséquences des résultats pour une politique de santé sont discutés. (*Afr J Reprod Health* 1997;1(1):14-24)

KEY WORDS: *Maternal mortality, cause of death, risk factors, case-control study, health system, Senegal, Africa*

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