

Sadder but fitter

The evolutionary function of depressive symptoms following fetal loss

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Abstract

A literature review about an evolutionary model of fetal loss depression is presented. This model conceptualizes depression following miscarriage or stillbirth as an evolutionary protective mechanism to avoid further fetal loss. It postulates that depressive symptoms delay the next reproduction and save maternal resources. These symptoms along with hypochondric symptoms of depression which lead to a search for causes and reappraisal of environmental factors, are probably adaptations to causes of further fetal loss (e.g. epidemics, famines, infections, environmental toxins).

A PDF-file of this poster is available at www.binser.de.

Situation

Billewicz, W. Z. & McGregor, I. A. (1981). The demography of two West African (Gambian) villages, 1951–75. *Journal of Biosocial Science*, 13, 219–240.
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Carroll, G., Rooney, C. & Villar, J. (2001). How effective is antenatal care in preventing maternal mortality and serious morbidity? An overview of the evidence. *Paediatric and Perinatal Epidemiology*, 15, Suppl. 1, 1–42.
Forrest, G. C. & Jansen, W. H. (1998). Postabortion Care Services: an Update from PRIME. *Resources for Women's Health*, 1(2), 1–10.
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cues for
recurrent
fetal loss
(fitness costs)

Reaction

Beutel, M., Willner, H., Deckard, R. & Von Rad, M. (1996). Similarities and differences in couples' grief reactions following a miscarriage: Results from a longitudinal study. *Journal of Psychosomatic Research*, 40, 245–253.
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Neugebauer, R., Kline, J., O'Connor, P., Shrout, P., Johnson, J., Skodol, A., Wicks, J. & Susser, M. (1992a). Depressive symptoms in women in the six months after miscarriage. *American Journal of Obstetrics and Gynecology*, 166, 104–109.
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Swanson, K. M. (2000). Predicting depressive symptoms after miscarriage: A path analysis based on the Lazarus paradigm. *Journal of Women's Health and Gender Based Medicine*, 9, 191–206.
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reactive,
not chronic
depression

Depressive Symptoms

motivational

physiological

social

Hypochondria

cognitive

loss of energy,
hypersomnia &
hyperphagia

physiological
stress reaction

diminished
sexual & social
contacts

compulsive
thoughts &
self-reproaches

Functions

Hamamy, H. & Alwan, A. (1997). Genetic disorders and congenital abnormalities: strategies for reducing the burden in the Region. *Eastern Mediterranean Health Journal*, 3, 123–132.
Klerman, L. V., Phelan, S. T., Poole, V. L. & Goldenberg, R. L. (1995). Family planning: an essential component of prenatal care. *Journal of the American Medical Association*, 273, 147–151.
Rief, W., Hiller, W. & Margraf, J. (1998). Cognitive aspects of hypochondria and the somatization syndrome. *Journal of Abnormal Psychology*, 107, 587–595.
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Wasser, S. K. (1994). Psychosocial stress and infertility - cause or effect? *Human Nature*, 5, 293–306.

protection of
maternal
resources

delay of sub-
sequent
reproduction
works against time variable
causes: famines, epidemics

search for
causes &
reappraisal
works against controllable
causes: e.g. noxious food,
infections

Effect

Binser, M. J. (2003). Evolutionäre Funktionalität von depressiven Symptomen nach Fehl- und Totgeburten. Unpublished diploma thesis, Department Psychology, Ludwig-Maximilians-Universität.
Binser, M. J., & Försterling, F. (2004). Sadder but fitter: Die evolutionäre Funktionalität von depressiven Symptomen nach Fehl- und Totgeburten (Sadder but Fitter: The Evolutionary Function of Depressive Symptoms following Fetal Loss). *Zeitschrift für Sozialpsychologie*, 35(3), 2004.
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healthy
birth
in the EEA

Discussion

Empirical evidence for most paths of the model was ascertained (Binser & Försterling, 2004). It shows that fetal loss depression meets the criteria of an emotional mechanism sensu Cosmides and Tooby (2000). An empirical test of the entire model has not been conducted yet. However, other theories can hardly explain specific predictions of this model, such as the strong influence of the maternal physical health or childlessness on depression*.

Hedonism may be the purpose of human species, but the purpose of its genes is surviving. Thus, depression makes "sadder but fitter".

*despite controlling the desirability of a new child

— · — · — · — · — = no empirical evidence (up to now)
————— = empirical evidence