

Thesis title:

Explication of abnormal delivery caused by pregnant women's sensitivity to cold (*hiesho*) —Adjustment of Confounding Factors by Using Propensity Scores—

Purpose

The purpose of this study is to analyze the influence of *hiesho* on postpartum Japanese women during delivery and estimate causal effects between *hiesho* and premature labor, premature rupture of membranes, uterine inertia, prolonged labor, and atonic bleeding.

Method

The study design was a retrospective cohort study. The study was conducted on Japanese women after delivery for nearly twelve months from October 19, 2009 to October 8, 2010 at six hospitals in the Greater Tokyo Metropolitan Area. Information was extracted from questionnaire surveys and medical records. In this analysis, confounding factors were adjusted using propensity scores.

(Ethics Review Committee approval number: 09-057)

Results

Analysis was conducted on 2,010 women. The correlation between *hiesho* and incidence of premature labor was 3.38 times higher (analysis of covariance) or 3.47 times higher (stratified analysis) among pregnant women with *hiesho* than those without *hiesho* ( $p < 0.001$ ). The chance of premature rupture of membranes was 1.69 times higher (analysis of covariance) or 1.7 times higher (stratified analysis) among women with *hiesho* ( $p < 0.001$ ). Uterine inertia was 1.95 times more prevalent (analysis of covariance) or 2.01 times more prevalent (stratified analysis) among them ( $p < 0.001$ ) and incidence of prolonged labor was 2.37 times higher (analysis of covariance) or 2.44 times higher (stratified analysis) among them ( $p < 0.001$ ). However, the chance of atonic bleeding was 1.22 times higher (analysis of covariance) or 1.29 times higher (stratified analysis) among women with *hiesho* compared with those without *hiesho* and there was no clear significant difference depending on the presence or absence of *hiesho* ( $p = 0.07$ ).

Conclusion

It was estimated that there were causal effects between *hiesho* and premature labor, premature rupture of membranes, uterine inertia, and prolonged labor. Yet, no causal effects were found between *hiesho* and atonic bleeding.