

Abstracts From the 12th International Congress on Twin Studies

Belgium, 8–10 June 2007

Local Organizing Committee: J.-P. Fryns (Congress President), C. Derom, R. Derom, M. Dhondt, C. Debruyne.

Local Scientific Committee: P. De Sutter (Chair), L. De Catte, C. Derom, R. Derom, J. Gerris.

International Scientific Committee: K. Ohm Kyvik (Chair), M. Adcock, D. Dick, J. Kaprio, B. Luke, N. Martin, L. Peltonen, J. Sung.

SLEEP-WAKE PATTERNS OF TWINS AND THEIR MOTHERS IN THE POSTPARTUM PERIOD

Asami E. and Hayakawa K.

Division of Health Sciences, Osaka University Graduate School of Medicine, Osaka, Japan

E-mail: easami@naramed-u.ac.jp

The purpose of this study is to observe the sleep-wake behaviors of twin infants and their mothers in the postpartum period. This longitudinal study examined the development of the circadian sleep-wake rhythm of twin infants and their mothers simultaneously during the first 8 months after birth. Data were obtained from 3 healthy identical twins and their mothers in domestic settings for 6 continuous 14-day periods, at 1st, 6th, 11th, 16th, 21st and 32nd week, using actigraph monitoring. Small actigraph units were mounted on the mothers' nondominant wrist and the infants' ankles. We examined the development of circadian rhythm by autocorrelograms for each observed periods. The infants' autocorrelograms clearly indicated 24-hour peak of correlation coefficient from 11th to 16th week age. The mothers' autocorrelograms also clearly indicated 24-hour peak of correlation coefficient from 2nd to 6th postpartum week. In the 17th week, synchronization of the infants' circadian rhythm and the mothers' circadian rhythm appeared, and the synchronization was increasingly observed subsequently. The process of the development of circadian sleep-wake rhythm of twin infants did not show much difference from that of nontwin infants. These results may explain the reasons why mothers of twins suffer from the strong sense of fatigue caused by childrearing such as the lack of sleep until the circadian sleep-wake rhythm of the twin infants was stabilized along the development. The result suggests that it is quite important for healthcare providers to provide mothers with intervention to reduce the child-rearing burden during the postpartum period.

THE HERITABILITY OF SOMATIC SYMPTOMS IN A SRI LANKAN TWIN SAMPLE

Ball H.A.,¹ Siribaddana S.,² Sumathipala A.,² McGuffin P.,¹ and Hotopf, M.³

¹ Social, Genetic and Developmental Psychiatry Centre, Institute of Psychiatry, United Kingdom

² Sri Lanka Twin Registry, Institute of Research and Development, Sri Lanka

³ Department of Psychological Medicine, Institute of Psychiatry, United Kingdom

E-mail: nipuna@stmail.lk

Few twin studies have examined large representative samples in nonwestern, developing countries. This is important to address because the relative magnitude of environmental influences on common mental disorders may differ in populations experiencing qualitatively and quantitatively different environmental risk factors to those commonly experienced in more developed countries. It has been suggested that depressed people in nonwestern populations often present with a high rate of somatic symptoms. We measured somatic symptoms that are cross-nationally associated with depression and anxiety, using the Bradford Somatic Inventory (BSI), on our population-based twin sample ($N = 930$ adult pairs). We ran variance components models in Mx to assess the relative contribution of genetic (A), shared environmental (C) and nonshared environmental (E) factors to the variance in BSI scores. The shared environmental factor accounted for 20% of the variance in BSI scores for females, but none for males. The rest of the variance was accounted for by genetic and nonshared environmental factors in approximately equal proportions. Environmental as well as genetic factors are important in explaining somatic symptoms in Sri Lanka, and the environmental influences differ in men and women. These results are a good indicator of the relative importance of genetic and environmental factors on anxious and depressive disorders in this population.

THE ASSOCIATION BETWEEN PRENATAL MATERNAL EXPECTATIONS AND ADJUSTMENT TO THE MATERNAL ROLE AMONG MOTHERS OF TWINS: COMPARISON BETWEEN IVF AND SPONTANEOUSLY CONCEIVED MOTHERS

Baor L.¹ and Soskolne V.²

¹ School of Social Work, Ashkelon Academic College, Ashkelon, Israel

² Faculty of Social Sciences, School of Social Work, Bar-Ilan University, Ramat-Gan, Israel

E-mail: lbaor@netvision.net.il

Over the last few years, the number of twin births in Israel and abroad has risen significantly as a result of the extended use of fertility technologies. This research joins a broad spectrum of research attempting to determine whether the use of these fertility technologies change various aspects of the transition to parenthood. This research examined the relations among prenatal maternal expectations, parenting stress, and coping resources (sense of coherence, maternal efficacy, perceived social support and perceived marital quality) 6 months after birth, among first time mothers of twins conceived through assisted reproductive technologies — in vitro fertilization (IVF), in comparison to first-time mothers of twins conceived spontaneously. Ninety-eight conceived-spontaneously mothers of twins and 88 conceived through IVF were recruited from 28 maternity clinics during the years 2003 to 2005. Main results show that IVF mothers had higher maternal expectations and experienced higher levels of parental stress than spontaneously conceived mothers. There was no association between maternal expectations and parental stress in both groups. Moreover, IVF mothers' coping resources were depleted in comparison to those of the comparison group of spontaneously conceived twins. It can be concluded that first-time IVF mothers, especially mothers of premature babies, should be considered as a high-risk population. Ongoing consultation is needed to assist these mothers in decreasing the stress they experience, which might adversely effect their children's development and wellbeing.

CONSIDERATIONS IN THE ANALYSIS OF RESEARCH STUDIES USING SIBLING DATA

Begg M. D.

Columbia University, New York, United States of America

E-mail: mdb3@columbia.edu

The past 2 decades have witnessed tremendous growth in the number of methods available for analyzing cluster-correlated data with continuous and discrete outcomes. These methods have been applied to a wide range of studies using clustered designs, due to widespread appreciation of the fact that clustered data cannot be analyzed using 'ordinary' methods for independent data. But there remains a question as to whether common analytic practices make the best use of the richness of correlated data. For example, public health researchers rely on family (or sibling or twin) studies to evaluate the impact of a host of factors on health in infancy, childhood, and even adulthood. These study designs permit us to discriminate between factors operating at the family level and those operating at the level of the individual within a family. This 'sifting' of effects might allow for better control of confounding factors, separation of environmental and genetic influences, and causal interpretation of effects. These advantages, however, may not always be realized. We will review strategies for model specification and their implications for inference in the analysis of family studies using regression models for clustered data.