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Short Communication

Sociodemographic factors associated with infant abandonment in maternity hospitals in Kazakhstan: a case–control study

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Introduction

The phenomenon of abandonment of infants is poorly understood and remains one of the most understudied public health issues with limited evidence from research, no clear policy or systematic collection of data on abandoned or surrendered infants in either the UK or the USA.[1–4] Although the evidence on factors associated with infant abandonment is limited, it is often linked to social circumstances.[1,2] The rates of abandonment tend to increase during economic hardships.[5] Women who abandon their children are more likely to be young, poor, unmarried, have low education and social support, and having an unwanted pregnancy.[6]

Countries of the former Soviet Union experienced tremendous economic hardships during transition from communist to market economy accompanied by impoverishment by the majority of the population, decrease in life expectancy and quality of life. A dramatic increase in the number of abandoned and institutionalized children has been reported from Russia during the 1990s often linked to the HIV epidemic.[7] Institutionalized children in Russia have been reported to be vulnerable to developmental delay, cognitive impairment, chronic health problems, homelessness and suicide.[8]

Kazakhstan is the second largest country among the former USSR with a similar path through transition as observed in Russia and many other former Soviet republics. Kazakhstan is a multi-ethnic state with a total population of 16.7 million (2012). Kazakhs account for 64.6% of the population and the most populous ethnic minority are Russians (22.4%). Life expectancy is among the lowest in the European WHO region: 63.6 years for men and 73.5 years for women in 2009.[9] At the same time, the proportion of children in institutional care in Kazakhstan is 1670 per 1,00,000, which is the highest among all transitional economies of the former Soviet Union and is among the highest in the world representing a

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considerable public health problem.[10] However, little is known about determinants or consequences of infant abandonment in Kazakhstan.

We studied sociodemographic factors and factors linked to the index pregnancy associated with infant abandonment shortly after birth in an urban Kazakhstani setting.

Methods

This case–control study was conducted in the town of Semey (former Semipalatinsk) located in the northeastern province of East Kazakhstan. The town is internationally known for being the main Soviet nuclear weapons test site until 1991. The population of Semey is 331.5 thousand (2012) and consists mainly of Kazakhs (63%) and Russians (30%) with other ethnic groups constituting less than 7%. There are three maternity hospitals in the town with 5916 births in 2012 (birth rate 17.8 per 1000).

Cases were all 17 women gave birth in Semey from September 2011 through September 2012 and gave up their infants for institutional care during the stay in the maternity hospital. Cases were identified by the hospital personnel and recruited prospectively during their stay in the maternity hospital. Altogether, 140 randomly selected women from the same maternity hospitals during the same period, who did not abandon their infants served as controls.

Data on maternal sociodemographic characteristics of all study participants were collected by an interview performed by the first author using a structured questionnaire during 72 h after birth.

Maternal age was dichotomized into 15–19 years and 20+ years. Education was categorized into vocational or higher and secondary or lower. Marital status was coded as married, cohabiting, single and divorced. The latter two categories were merged for further analyses due to small numbers. Source of permanent income was dichotomized into yes and no. Place of residence was classified as urban and rural. Ethnic background was categorized as Kazakh, Russian or other.

Wantedness of the index pregnancy by the woman and the infant's father were used as dichotomous variables. By the timing of the first antenatal care visit all women were categorized into 'during the first trimester', 'after the first trimester' and 'no antenatal care'. Data on parity, infant sex and birth weight were obtained from the medical records. Parity was categorized into three categories: no previous births, one, and two or more previous deliveries. Birth weight was dichotomized into low birth weight (<2500 g) and 2500 g or more.

Bivariate analyses were performed using Pearson's Chi-square tests with continuity correction where appropriate. The most important factors associated with the outcomes were selected by backward elimination procedure in multiple logistic regression analysis. Crude and adjusted odds ratios (OR) with 95% confidence intervals (CI) were calculated.

All analyses were performed using SPSS software, version 20.0 for Windows (IBM Ireland Product Distribution limited, Ireland).

The study was approved by the ethics committee of the Semey State Medical University. All women were informed about the aims of the study and signed informed contest.

Results

Altogether, there were 17 (0.3% of all births in the town) women who gave up their infants shortly after birth in maternity hospitals during the one-year period. Crude analyses (Table 1) revealed that these mothers were significantly more likely to be teenagers, had no permanent income and were single or cohabiting. Maternal ethnic background, place of residence and parity were not associated with the odds for abandonment while the findings for maternal education were inconclusive. Pregnancies which resulted in infant abandonment were more likely to be unwanted by both mothers and fathers. Infants born to cases were more likely to have low birth weight than infants born to controls.

After applying backward elimination procedure for selection of the variables which have the strongest association with the outcome, only three variables remained in the logistic regression model. Both single and cohabiting mothers were more likely to abandon their infants than married women. Mothers who abandoned their infants in maternity clinics were more likely to have unwanted pregnancy and infants who were abandoned were more likely to be low birth weight (Table 1).

Discussion

This is to the best of our knowledge the first study on factors associated with infant abandonment in Central Asian republics of the former Soviet Union. Kazakhstan has the highest proportion of institutionalized children in the European WHO region and our results can be considered as the first step towards development of a strategy for early identification of mothers who are at risk of abandoning their infants with further aims to develop effective interventions for prevention of infant abandonment.

As in previous reports from other countries, women who gave up their infants were more likely to be unmarried, have an unwanted pregnancy and a low birth weight baby. However, no association was found with young maternal age. Indeed, only one woman among the cases in this study was under-aged, while limited reports from other countries suggest that women who abandon their infant are more likely to be young and single.[1–4] Single women were also at greater risk of infant abandonment in our study, but so were women who live with their partners without being officially married. This may reflect the importance of official marriage in a Kazakhstani society.

Previous studies reported that boys were more likely to be abandoned.[3] This was not the case in our study and may be associated with the general perception of a boy as a more desired child in Central Asia. No associations were found between infant abandonment, maternal ethnic background and place of residence that may be associated with lower level of