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*Social and medical factors of risk
of premature births and prematurity*

Społeczne i medyczne czynniki ryzyka
porodów przedwczesnych i wcześniactwa

The aim of the study is to estimate the influence of medical and social factors on the occurrence of premature births.

INTRODUCTION

The topicality of the problem of premature birth and prematurity connected with it results most of all from high death-rate of prematurely born children as well as children with low birth body weight. On the basis of numerous statistic analyses issuing from different countries it has been stated that the percentage of prematurely born children in total birth-rate is as high as about 75% (3).

Premature birth is a clinical phenomenon caused by complex factors among which there are numerous well-known medical factors as well as socio-economic factors defined according to the level of education, employment, income, age of the mother etc (1, 2, 4). There are still many controversies about the question which factors indirectly influence the level of risk of premature birth and related to that phenomenon prematurity and to what extent.

MATERIAL AND METHODS

The studies concerning premature births in the Maternity Ward of The State Clinical Hospital No. 4 in Lublin have been carried out in 16 months' period i.e. from January 1996 to April 1997. All the information gathered comes from the hospital records (pregnancy course charts, birth charts, records of prematurely born children). They concern 331 cases of prematurely finished pregnancies i.e. between 22nd and 37th week of pregnancy.

Statistic analysis of the collected data took the following variables into account: age of pregnant woman, her marital status, residence, education, professional activity, medical factors of risk, age of pregnancy, frequency of consultations with doctor during the time of pregnancy.

RESULTS AND DISCUSSION

During the period from January 1996 and April 1997 331 premature births of single fetuses took place in The Maternity Ward of The State Clinical Hospital No. 4 in Lublin. The remaining 89 cases of prematurely finished pregnancies concern multiple pregnancies that have not been included in the further analysis. The average age of the examined group of women was 28.9. The most numerous in the group were women aged 20–25 (31.7%) and 26–30 (26.9%). A smaller percentage was constituted by patients aged 31–35 (20.8%) and older, aged 36–40 (12.1%). The smallest group of prematurely parturient women were pregnant women aged 40 and more (5.4%) and the youngest ones under 19 (3%). Among the women under examination 87.9% were married, the remaining 12.1% – single.

The majority, i.e. 59.2% of the women came from towns, of which 25.1% – from Lublin, the remaining 40,8% were residents of the country.

Nearly half of them, i.e. 45.6% were women with secondary education. 29% of the pregnant women had technical education, 13% – university education. Women with elementary education constituted the lowest number – 12.4%.

Women professionally active during pregnancy composed the definite majority, i.e. 61% of the total number of which 9.4% were women working in the field of farming. The remaining 38.6% of the pregnant women did not work professionally of whom 20.5% were unemployed and 4.2% – entitled to disability benefit. 177 women, i.e. 54.4% of the total number had clear maternity records. In the remaining cases there had been miscarriages or/and premature births in previous pregnancies, which could utter a potential threat to the following pregnancies.

The analysis of pregnancy time shows that the large majority of cases, i.e. 70.1% of premature births concerned the period between the 31st and 37th week of pregnancy. The remaining 29.9% of the premature births concerned the period between the 22nd and 30th week of pregnancy. 39% of births took place by means of natural ways, the remaining 61% – by means of caesarian section.

The occurrence of medical factors of risk of premature birth is presented in Figure 1.

Among most frequently observed reasons for premature births untimely uterus contractions constituted 34.4% and premature amniotic liquid outflow – 29%, the latter produced the risk of intrauterine infection. The danger of asphyxia was an indirect reason for premature parturition in 15.5% of all cases. Pregnancy intoxication that produced a substantial risk for mother and child concerned 13.3% of the examined women. Among the reasons that may have influenced the time of pregnancy were also constitutional diseases of the mother such as: diabetes, hypertension, thyroid and heart diseases that have been recorded in 9.1% of the cases.

Premature birth often results in prematurity and low birth weight. A very low birth weight, i.e. 1500 g producing the largest danger concerned 36.2% of the new-born children. The percentage of the children with birth weight over 1500 g was 63.8%. Figure 2 illustrates selected symptoms of diseases recorded among the new-born children. The fact especially worth attention is that symptoms of intrauterine infection appear in 19.3% of new-born children and breathing disorder syndrome, typical of prematurely born children, appears among 16.3% of them. Innate defects recognized after birth affect-

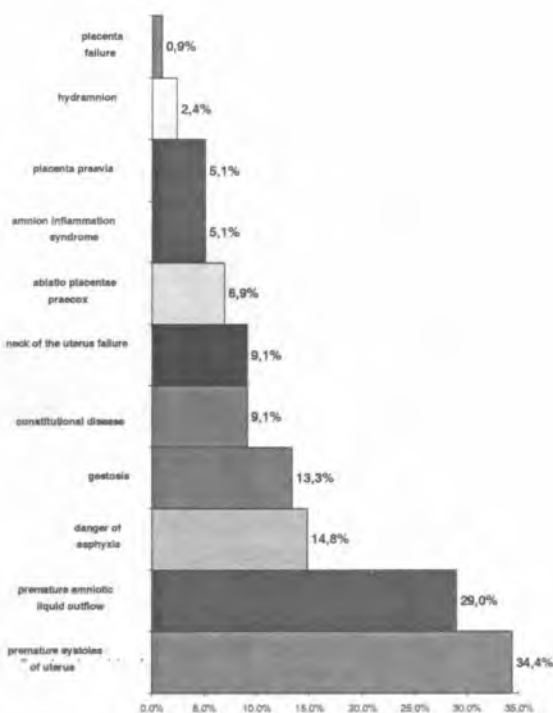


Fig. 1. Selected diseasing factors of the mother that influence course of pregnancy

ed 9.7% of the new-born children. The most frequent among them are: cardiac defects, limbs defects, meningeal-medullare hernia, hydrocephalus.

Among prematurely born children the most imperilled group were new-born children with symptoms of intrauterine undernutrition. Features of intrauterine hypotrophy concerned 13.9% of the prematurely born children. Table 1 presents data concerning occurrences of intrauterine hypotrophy and its interdependence with selected socio-economic factors. On the basis of these data it has been stated that this disease occurs more often among those mothers of prematurely born children who are under 19 (30%) and among older ones, over 40 (22.2%); more often among single women (20%) than among married women (13.1%); among town residents (14.8%) than among country residents (12.6%). In the group of professionally active women the percentage of new-born children with intrauterine hypotrophy was smaller (11.3%) in comparison with women not working professionally during pregnancy (18%). The disease that has been discussed more frequently concerned women with elementary education (19.5%) and it most rarely happened among women with university education (7%).

The results of the analysis concerning hypotrophy of prematurely born children converge with the studies by other authors. They corroborate positive correlations existing between hypotrophy and socio-demographic factors. The above situation may be connected with inferior economic situation of single or unemployed women. Likewise, greater exposure to stressing factors and the lack of acceptance of the pregnancy can account for the negative influence of the single marital status. Lower awareness of pregnancy hygiene as well as harder physical work, both connected with lower educa-

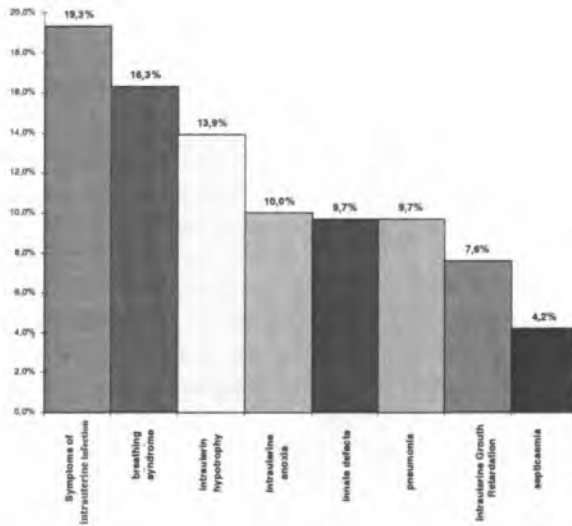


Fig. 2. Selected pathological states among prematurely born children

tional level may result in more frequent occurrences of intrauterine undernutrition among prematurely born children.

An essential danger connected with premature birth is the risk of death of a prematurely born child. Among the examined population 13.9% of demises of prematurely born children immediately after their birth have been recorded. They mainly concerned children of greatest risk with a very low birth weight under 1500 g.

Proper medical care is of great importance in the preventive treatment of premature births and prematurity. Especially significant is an early recognition of a disease in health service centres and continuity of treatment. In the examined population the average number of consultations with a doctor for one pregnant woman was 4.5, which can be accounted insufficient if we base our judgement on the assumptions of contemporary perinatology.

CONCLUSIONS

1. In the group of surveyed women the influence of medical factors on the occurrence of premature births turned out to be of greatest significance. Only among 34.4% of the subjects idiopathic, premature birth induction took place without any additional pathological states.

2. Selected socio-economic factors such as: age under 19 and over 40, single marital status, lower level of education and unemployment of the mother enlarge the danger of intrauterine hypotrophy among prematurely born children.

Table 1. Selected socio-demographic factors and their influence on premature births of children with symptoms of intrauterine hypotrophy

Factors of risk	Prematurely born children with symptoms of hypotrophy		Prematurely born children with no symptoms of hypotrophy		Total	
	n	%	n	%	n	%
Age of pregnant women						
< 19	3	30	7	70	10	3.0
20–25	18	18.1	87	82.9	105	31.7
26–30	9	10.1	80	89.9	89	26.9
31–35	9	13.0	60	87.0	69	20.8
36–40	3	7.5	37	92.5	40	12.1
> 40	4	22.2	14	77.8	18	5.4
Marital status						
Married	38	13.1	253	86.9	291	87.9
Single	8	20.0	32	80.0	40	12.1
Place of residence						
Town	29	14.8	167	85.2	196	59.2
Country	17	12.6	118	87.4	135	40.8
Education						
Elementary	8	19.5	33	80.5	41	12.4
Technical	13	13.5	83	86.5	96	29.0
Secondary	22	14.6	129	85.4	151	45.6
University	3	7.0	40	93.0	43	13.0
Professional activity						
Professionally active	23	11.3	180	88.7	203	61.4
Not working professionally	23	18.0	105	82.0	128	39.6

3. There still exists the necessity of consolidating preventive and educational actions among pregnant women as well as intensifying the efforts to eliminate the variable factors of risk of premature births and prematurity. Special attention should be paid to the care over unemployed women whose number has been growing since the times of economic transformations started. In recent years unemployment being the source of risk of hypotrophy among prematurely born children has increased.

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STRESZCZENIE

Poród przedwczesny jest zjawiskiem klinicznym o złożonych przyczynach. Istnieje korelacja pomiędzy porodem przedwczesnym a statusem społeczno–ekonomicznym zdefiniowanym na podstawie poziomu wykształcenia, stanu cywilnego, wieku, zatrudnienia itp. Celem pracy było określenie wpływu socjoekonomicznych oraz medycznych czynników ryzyka na występowanie porodów przedwczesnych i związanego z tym wcześniactwa. Na podstawie dokumentacji medycznej oddziału położniczego Państwowego Szpitala Klinicznego nr 4 w Lublinie zebrano informacje o 331 porodach przedwczesnych, które odbyły się od początku stycznia 1996 r. do końca kwietnia 1997 r. W analizowanych przypadkach istotny okazał się wpływ medycznych czynników ryzyka na występowanie porodów przedwczesnych. Jedynie u 34,4% kobiet przedwczesna indukcja porodu wystąpiła bez istnienia dodatkowych stanów patologicznych. Natomiast wybrane czynniki społeczno–ekonomiczne zwiększały ryzyko hipotrofii wewnątrzmacicznej u wcześniaków.