

# Maternal and child health problems in the USSR

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*This is the first paper in a series showing the problems facing the medical services for children in different countries.*

The mother and child health services of USSR are currently facing a number of acute unsolved problems. The priority tasks stipulated in the resolution of the Central Committee of the USSR Communist Party and of the Council of Ministers of the USSR dated 19 November 1987 and entitled 'The principal lines of development of public health and of the reconstruction of USSR health services in the twelfth five year plan and in the period to year 2000' are being realised very slowly and a number of considerable difficulties are being encountered.

In the first place, priority funds for obstetric and paediatric services so far have not been secured. The experience in various areas of the country in the new economic climate shows that the USSR Ministry recommendations are being ignored locally and that correction coefficients have to be introduced when the finances per head of population with due consideration of the age/sex distribution are being calculated.

Secondly, the realisation of the All-Union Congress of Doctors resolution on abolition of the 'departmental medicine' and creation of a unified health service on the geographical principle is being delayed. Two parallel (departmental and geographical) structures of adult health services often duplicate each other and, when funded from a single source, are an intolerable burden on local budgets. Obstetric and paediatric services can thus be funded only by residue financing and consequently become subject to severe economies.

Thirdly, so far attempts to secure additional central funds for pressing specific needs in the field of mother and child services, such as family planning, genetic counselling, early (childhood) prevention of invalidity, vitamin administration to pregnant women and children, etc, have proved unsuccessful.

These general shortcomings in the provision of mother and child services are compounded by certain persistent personal attitudes. Still far from all party managers at various levels and health service administrators have recognised the futility of endeavours aimed at improving the health of the population without radical changes in the investment policies in favour of mother and child care.

For these reasons the materiel-technological basis of obstetric and paediatric services remains unsatisfactory. For instance, in 1989, the number of new obstetric/paediatric beds accounted for only 17% of all new beds brought into use and that of paediatric and obstetric/gynaecological units for only 11% of all new outpatient/polyclinic establishments. The increases in the number of paediatric, obstetric,

and labour beds have lagged behind the growth of these groups of population. Consequently, in various republics (Turkmenkaya, Uzbekskaya, Tadzhikskaya, Kirgizskaya, and Azerbaidzhanskaya SSRs) the numbers of paediatric/obstetric/labour beds represent drops by factors of 1.5-2 below the requirements. Even the beds lost are not being currently replaced.

Close to 50 administrative territories have no autonomous district paediatric hospitals; 25 000 paediatric beds are situated in condemned buildings. The floor area per mother/child bed has been reduced by the factor of 2.5. Overcrowding in maternity hospitals continues to cause outbreaks of infections.

The total number of paediatric beds for treatment of infectious diseases in the country is 2.5 times below the requirement and 70% of paediatric infectious disease hospitals are grossly overcrowded and occupy non-purpose built but adapted buildings, often without drainage/sewerage and without either cold or hot water supply.

Further reductions of maternal and neonatal mortality in the country largely depend on securing the appropriate technical equipment levels in the paediatric treatment/prevention units and obstetric establishments. At present the shortcomings in this area are very great indeed and in some respects only 30-40% of requirements are satisfied.

An analysis of equipment levels in various geographical areas showed that the paediatric/obstetric services are clearly lagging behind the adult network. For instance, the mean figure for medical technological funding for republic and oblast (district) hospitals for adults equals 2.75 thousand roubles per bed, as against 1.02 thousand roubles per paediatric bed; the corresponding figures for city hospitals are 1.27 and 0.7 thousand roubles. In Kirgizskaya SSR the figure for obstetric hospitals was 0.5-0.18 thousand roubles, for the republic paediatric hospital—0.7 thousand roubles, for oblast paediatric hospitals—0.2 thousand roubles and for regional hospitals—0.050-0.059 thousand roubles. In the Russian Soviet Federative Socialist Republic (RSFSR) the medical technological funding per adult bed was 2.5 times below that per paediatric bed. The same situation was found in the Ukrainian SSR.

Gross shortages are also being experienced in the provision of drugs. Requests for supplies of such important groups of medicaments as enzymes, biopreparations, immunoglobulins, haematinics, and blood substitutes are met in only 30-60%.

However, discussion of the difficulties and

unresolved problems alone could not be justified. A board meeting in the Ministry of Health of the USSR held on 31 January 1990 discussed the present state of affairs, as well as the measures required to satisfy the technological requirements, the funding and the material supplies of the paediatric and obstetric treatment and prevention units. A number of vital resolutions were adopted. These were designed to secure the necessary finances for the principal lines of the mother/child services, to eliminate the funding deficiencies in mother/child treatment and prevention units and earmarked no less than 40% of the available capital for construction of mother/child establishments and development of medical technology. A decision was also made to extend the scope of the existing and newly constructed diagnostic units to investigation of women and children. For this purpose the units will receive the necessary additional apparatus and equipment.

Resolution No 1120, dated 21 December 1989, of the Council of Ministers of the USSR stipulated separate financing, as from 1 January 1990, of labour beds and neonatal beds and thus

Table 1 Infant mortality rates in the USSR and in the individual soviet republics

| Administrative area         | First year death rates/1000 live births |       |                                  |
|-----------------------------|---|-------|----------------------------------|
|                             | 1988                                    | 1989* | Variation in absolute number (%) |
| USSR                        | 24.7                                    | 22.3  | -2.4 (-9.7)                      |
| RSFSR                       | 18.9                                    | 17.3  | -1.6 (-8.5)                      |
| Ukrainskaya SSR             | 14.2                                    | 12.6  | -1.6 (-11.3)                     |
| Belorusskaya SSR            | 13.1                                    | 11.5  | -1.6 (-12.2)                     |
| Uzbekskaya SSR              | 43.3                                    | 37.5  | -5.8 (-13.4)                     |
| Kazakhskaya SSR             | 29.3                                    | 25.4  | -3.8 (-13.0)                     |
| Gruzinskaya (Georgian) SSR  | 21.9                                    | 19.4  | -2.5 (-11.4)                     |
| Azerbaidzanskaya SSR        | 27.0                                    | 26.0  | -1.0 (-3.7)                      |
| Litovskaya (Lithuanian) SSR | 11.5                                    | 10.7  | -0.8 (-7.0)                      |
| Moldavskaya (Moldavian) SSR | 23.0                                    | 19.6  | -3.4 (-14.8)                     |
| Latviiskaya (Latvian) SSR   | 11.0                                    | 10.9  | -0.1 (-0.9)                      |
| Kirgizskaya SSR             | 36.8                                    | 32.5  | -4.3 (-11.7)                     |
| Tadzhikskaya SSR            | 48.9                                    | 43.2  | -5.7 (-11.7)                     |
| Armienskaya (Armenian) SSR  | 25.3                                    | 20.5  | -4.8 (-19.0)                     |
| Turkmenskaya SSR            | 53.3                                    | 54.2  | +0.9 (+1.7)                      |
| Estoniskaya (Estonian) SSR  | 12.4                                    | 14.6  | +2.2 (+17.7)                     |

\*Only interim data are available for 1989.

provided means for resolving many supply problems in maternity hospitals. The same resolution increased the food funding to 2 roubles in paediatric hospitals and sanatoria. The list of diseases qualifying for free issue of drugs in outpatient clinics has been increased to include infantile cerebral palsy, SPID with early genital development, as well as all pregnant women and children domiciled in the areas affected by the Chernobyl disaster.

Revision of service priorities led to important advances in the development of the materiel-technological basis; 75 laboratories for prenatal diagnosis of fetal infections and 30 laboratories for neonatal hypothyroidism screening were purchased in 1988-9. In the last year purchases of resuscitation equipment and of incubators for premature babies increased by the factor of two; rehydration equipment requirements have been fully satisfied.

Compared with 1988, the neonatal mortality dropped by 9.7% (table 1). The greatest drops were recorded in the Belorusskaya, Uzbekskaya, Kazakhskaya, Moldavskaya, and Armienskaya SSRs. However, in Estonskaya and Turkmenskaya SSRs infant mortality increased and this finding calls for a thorough investigation.

The relative importance of causes of infant mortality continue to vary (table 2). In 1989 the list was headed by perinatal factors and, for the first time, the incidence of endogenous (congenital and perinatal) exceeded that of exogenous causes (infections and respiratory tract diseases), at 45.9% and 45.1% respectively.

Without exaggerating the importance of favourable statistical shifts, the latter appear clearly linked to the realisation of regional programmes designed to reduce mother and child mortality figures. These programmes deserve thus close attention and must be pursued with maximum energy (table 3).

One of the main efficacy indices of mother and child health services is the maternal mortality rise. In USSR this figure is high; in 1988 it was 43 per 100 000 newborn, that is, four times

Table 2 Relative incidence of causes of infant mortality in USSR. Results are number/1000 (%)

| Cause                             | 1981         | 1985         | 1988         | 1989*        |
|-----------------------------------|--------------|--------------|--------------|--------------|
| Infections and parasitic diseases | 4.5 (16.8)   | 4.1 (15.8)   | 3.8 (15.4)   | 3.3 (14.8)   |
| Respiratory tract diseases        | 11.0 (41.0)  | 10.1 (38.9)  | 7.8 (31.6)   | 6.8 (30.5)   |
| Congenital defects                | 3.0 (11.2)   | 3.3 (12.7)   | 3.2 (13.0)   | 3.1 (13.9)   |
| Perinatal conditions              | 5.5 (20.6)   | 6.0 (23.1)   | 7.0 (28.3)   | 7.2 (32.3)   |
| Other                             | 2.8 (10.4)   | 2.5 (9.6)    | 2.9 (11.7)   | 1.9 (8.5)    |
| Total                             | 26.8 (100.0) | 26.0 (100.0) | 24.7 (100.0) | 22.3 (100.0) |

\*Only interim data are available for 1989.

Table 3 Principal directions of medical activity in the regions with different maternal and infant mortalities

| Levels of maternal and infant mortality  |  |   |
|--|--|---|
| Low  | Intermediate   | High  |
| (1) Early diagnosis and prognosis of unfavourable outcome of pregnancy and of hereditary and congenital diseases | (1) Family planning—fight against induced abortions  | (1) Family planning—increased spacing of births   |
| (2) Family planning—fight against induced abortion   | (2) Early diagnosis and prognosis of unfavourable outcome of pregnancy and of hereditary and congenital diseases | (2) Development of hospital and extrahospital first aid, resuscitation and intensive care services                  |
| (3) Medicosocial assistance for at risk social groups  | (3) Development of hospital and extrahospital first aid, resuscitation and intensive care services               | (3) Rational diet for pregnant and breast feeding women   |
| (4) Attention to health hazards and general improvement of working conditions of women                           | (4) Attention to health hazards and general improvement of working conditions of women                           | (4) Attention to health hazards and general improvement of working conditions of women. Instruction in healthy life |

the figure reported in the Federal Republic of Germany, six times that in the UK and USA figures, and 15–20 times the Canadian and Scandinavian ones.

Because of irregularities in medical death certificates and resulting underregistration by USSR State Statistical Office, however, these maternal mortality figures are unreliable. For instance, in 1988, ZAGS offices\* underregistered 479 deaths and the actual maternal maternity rate was 51.9 per 100 000 live births, which was 17% more than the USSR State Statistical Office figure. When all deaths pertaining to maternal mortality figures are taken into account, the true index for many individual republics exceeds the USSR State Statistical Office figure by a factor of 2 or more, and more exactly by a factor of 2.6 for Turkmenskaya SSR, 2.2 for Gruzinskaya SSR, 1.7 for Uzbeksckaya SSR, and 1.6 for Tadzhikskaya SSR.

To provide means for systematic follow up of maternal mortality rates the Minister of Health of the USSR introduced special regulations for reporting of all cases of maternal deaths, with effect from 1 January 1990.

Another important efficacy index of mother and child health services is the perinatal mortality rate and this has remained high for a number of years: in 1988 it was 17.3 per 1000 live and stillbirths. The figures for individual republics ranged from 8.7 per 1000 for the Litovskaya SSR to 25.2 per 1000 for the Tadzhikskaya SSR. The profile of causes of perinatal mortality in the last three years remained unchanged and has been headed by asphyxia (50.8%, of all perinatal deaths), followed by respiratory diseases (17.6%), congenital anomalies (12.9%), and birth injuries (7.2%) in that order. Examination of maternal causes of perinatal mortality shows that the diagnosis 'cause not established' accounts for 24.6% of all fetal and newborn deaths, while extragenital maternal pathology accounts for 16.1%, placenta praevia and placental separation for 11.9% and late toxemia for 11.1% of the overall figure.

A rather frightening finding is the high proportion of full term neonates in perinatal losses. In 1988 it amounted to 51.8% of all stillbirths and deaths in the first six neonatal days. In various national statistics full term perinatal deaths do not account for more than 25% of perinatal mortality. This finding indicates poor antenatal and delivery supervision, as well as unsatisfactory organisation of neonatal care. The fact that an increasing fraction of stillbirths is attributed to antenatal death (in utero) (from 44% in 1980 to 56% in 1988) further confirms these inadequacies; the 1988 index for the Tadzhikskaya SSR was 70%.

The stillbirths/early neonatal mortality ratio for the USSR was 1.3:1. This value approached 1:1 for the Baltic republics and 2:1 for the Tadzhikskaya, Turkmenskaya, and Azerbaïdzhanskaya SSRs.

From the statistical point of view the fact that stillbirth mortality rates exceed early neonatal mortality rates by a factor of close to two suggests that early (in the first few hours) neonatal

deaths are grouped with stillbirths and also that organisational aspects of intensive care and resuscitation of the newborn require close re-examination.

Another pressing problem facing the medical services of the country as a whole is the need for reduction in the number of induced abortions and prevention of unplanned pregnancies. Induced abortion is recognised as a frequent cause of infertility, miscarriage, other complications of pregnancy and labour, and of high maternal and infant mortality rates. The losses to economy caused by induced abortions and the resulting gynaecological morbidity amount to over 1000 million roubles yearly. The number of induced abortions in USSR in 1988 was over 7 000 000, meaning that in that year 3500 obstetrician-gynaecologists were fully occupied on these procedures alone. The number of induced abortions per 1000 women of child-bearing age in USSR is among the highest in the world: 103.7 (1988), as against 10.2 in Canada, 12.4 in Finland, 12.8 in the UK, and 14.9 in France. The number of induced abortions in primigravidae under 17 years of age is increasing and every fifth induced abortion in this age group is done outside hospital services. The incidence of induced abortion related complications is not falling and fatal outcomes are not unusual. In the last three years the number of induced abortion related deaths was 2020 and 76.7% of these deaths were due to complications of abortions performed outside hospitals. Despite the measures adopted the preventive work in this area can not be accepted as adequate. Local family planning services are grossly underdeveloped. In USSR only 13.5% of women of childbearing age use modern effective means of contraception, while the corresponding figures for developed countries range from 60 to 80%.

The main cause of this highly unsatisfactory state of affairs in the field of family planning and of fight against induced abortions is the lack of modern contraceptives. The seriousness of the problem has been compounded by the mistaken belief shared over many years by Soviet scientists and the workers of the USSR Ministry of Health that the use of hormonal contraceptives is not advisable because of the possible harmful side effects. These fears have been convincingly dispelled by the experience gained in Japan, USA, France, the Federal Republic of Germany, and other developed countries.

The USSR Ministry of Health is now examining the problem of family planning as a special branch in the context of mother/child health services. Scientific studies have shown that prevention of pregnancy in women under 19 and over 35–40 years of age, combined with spacing of births to not less than 2.5 years may reduce maternal mortality and early neonatal mortality rates by factors of 2 and 4 respectively. According to WHO figures the mortality rates for children whose births are spaced at less than one year are twice those for children born at intervals of two years or more.

These figures provide convincing guidelines for concentration of means and efforts required for the speediest possible reduction of maternal and infant mortality rates. Family planning faci-

\*Local (or zonal) death registration bureau.

lities must be provided in all treatment and prevention centres, starting with feldsher (nurse-practitioner)-midwife units, and educational work must be widely intensified and should involve television, press, and religious workers.

At present the problem of creation of a Soviet contraceptive industry is being discussed at the state level. The amounts of modern contraceptives imported from abroad increased in 1990 by a factor of 2.5.

One of the pressing problems of primary medical care is radical re-examination of our approach to mother/child care in rural areas, where the discrepancies in the levels of health services are particularly evident. Of the whole population of USSR, 40% of women and 43% of children live in rural areas, and in the central Asian republics the figures are over 60%. Unlike the towns and cities, in the last five years the rural areas saw no reduction in infant mortality rates which remained 32.6% higher, compared with the urban figures. Rural maternal death rates are also high; they account for 54–57% of all maternal deaths, and in central Asian republics and in Kazakhskaya SSR this figure reaches 60–80%. In depth examination of relevant data shows that, generally speaking, the state of health of women and children is considerably worse in the countryside compared with the towns and cities. One of the underlying reasons is poor medical care, particularly at the specialist level. In various parts of the USSR (Uzbekskaya and Gruzinskaya SSRs, Krasnoyarskii Krai, Kurskaya Oblast of RSFSR and

others) the main hospitals (of the republic, region, or oblast) have no obstetric units and thus the inhabitants of rural districts, with serious obstetric and extragenital pathology, or with complex gynaecological problems are deprived of specialist care.

Nowadays, in the context of economic changes in the countryside involving new approach to health service funding with devolution of administration to lower levels, the first objective must be elimination of discrepancies in staffing. New nurse, midwife, and doctor posts must be established in central regional hospitals to allow formation of mobile mother and child care teams, the creation of day hospitals and domiciliary teams, and the provision of other forms of medical care delivery depending on local requirements.

Mother and child health service in USSR continues to present thus a number of problems. Their solution depends first of all on the quality of our individual and society efforts. Mindful of the need for prompt correction of the situation, the Minister of Health of the USSR prepared and passed on for consideration, by the USSR Council of Ministers and by the Supreme Soviet of USSR, a number of concrete proposals for urgent measures concerning health provisions for mothers and children.

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