USSR Letter

Morbidity among preschool children in Leningrad

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In the Soviet Union state control over the delivery of medical care undoubtedly facilitates mounting epidemiological studies on a truly grand scale. Paradoxically, however, it is extremely difficult to assemble an up-to-date picture of the prevalence of diseases in the USSR as a whole, or in any of the 15 republics that make up the Union.

Very few data are supplied to the World Health Organisation for inclusion in *World Health Statistics Quarterly* and even readers of Russian can obtain only one regularly published time-series. This is available in the statistical yearbook entitled *The People's Economy of the USSR*; the series relates to seven categories of infectious disease including scarlatina, diphtheria, whooping cough, and poliomyelitis. Since 1950 the incidence of all these diseases has declined sharply, a trend which is not surprising.

Given the dearth of national morbidity figures, a rarity value attaches to the findings of local surveys that are published from time to time in Soviet medical journals, and one such survey¹—on Leningrad (population: 4½m)—has provided me with the information for this article. The ages of the children whose illnesses were recorded ranged from birth to 7 (the age when schooling starts in the USSR). Although the author of the brief report in question says nothing about how the sample was chosen, he cannot be accused of generalising from small numbers—the data relate to 10 724 children; unfortunately, however, it is impossible to calculate what percentage of the relevant age group this total represents. All the children were born between 1965 and 1973 and had been continuously resident in Leningrad. Boys made up 52.9% and girls 47.1% of the total. All the data on their illnesses were derived not from special examinations carried out by a research team (a method used in some studies), but from the medical records held in local health-service units. The term morbidity is not defined in the paper, but I have assumed that episodes of illness are denoted rather than consultations with a doctor.

Substance of the report

The level of morbidity was highest between the ages of 1 and 2, the rate being 3827 episodes of illness per 1000 children. After the age of 2, morbidity declined continuously and reached its lowest point in the seventh year. As is shown in Table I, the figures for boys were consistently higher than those for girls.

It may be asked whether the findings for Leningrad are different from those for other cities in the Soviet Union. The paper cited here makes no reference to specific epidemiological studies carried out elsewhere, but it does state that in large towns a

“common trend” has been observed for the morbidity rate among children in the first and second year of life to vary within the limits of 3000–5000 per 1000 population of the given age. In the third year of life, the average rate is substantially lower, coming within a range of 2000–3000 per 1000 children.

While it does not give a monthly breakdown of figures, the paper reports that in Leningrad morbidity up to the age of 1 is uneven, with particularly high levels in the first three months of life. It goes on to recognise the vital importance of medical care in this period: “In recent years paediatricians, midwives and health service organisers have been devoting a great deal of attention to the health of newly-born infants, since a reduction

TABLE I—Morbidity of children per 1000 population of corresponding age in Leningrad.

Years	Morbidity		
	Boys	Girls	Both sexes
1st	3621.7	3314.6	3468.1
2nd	4048.0	3606.0	3827.0
3rd	3169.6	2867.6	3018.5
4th	2481.1	2220.1	2352.1
5th	2076.7	1864.7	1961.7
6th	1478.5	1292.5	1385.5
7th	1347.9	1203.9	1275.9

in illness in the neonatal period constitutes the most significant area for the reduction of infant mortality.” That there should be widespread concern over the number of deaths of infants under 1 is understandable. According to the statistical yearbook, the infant mortality rate for the Union as a whole increased from 22.9 in 1971 to 27.9 per 1000 live births in 1974. (The rate for Great Britain in the latter year was 16.6.)

In respect of the first year of life, the breakdown of data by disease includes a broad category entitled “Various causes of neonatal morbidity and mortality.” As Table II shows, conditions assigned to this heading yield a rate of 44.8 per 1000 children. In the text no comment is made on these diseases of the newborn and this omission can be related to constraints on the conceptual development of social medicine in the USSR.

Interactions between disease and social factors

By British standards, the complex links between disease and social factors have been explored to only a minor extent by Soviet specialists in community medicine and related disciplines. It is true that a recent study of morbidity among children aged 0–3 in the city of Tashkent claims to have proved “a close connection between the levels of morbidity of children and their living conditions (maternal care, housing standards, place of education, structure and composition of the family, and the psychological climate in it).”² Even so, the text shows that the

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analytic tools employed lacked precision and refinement—for example, manual worker, white collar worker, and housewife are the only possible categories for the socio-occupational background of the mother. The use of this crude (but orthodox) classification illustrates the fact that Soviet researchers are liable to run into ideological difficulties if they attempt to differentiate between population groups in anything like the same way as modern Western sociologists. In the Soviet Union—at least according to official doctrine—conflicts of interest among classes have been resolved and such groupings as exist are “non-antagonistic.” Such an intellectual climate is bound to have a severely limiting effect on social research, as on many other activities.

By far the largest single cause of morbidity at all ages covered in the Leningrad study was diseases of the respiratory tract. Table II shows that the incidence of these was at a rate of nearly 2000 in the first year, rising to over 2500 in the second, and then declining continuously to just below the 1000 level in the seventh year. First place among these diseases, according to the

TABLE II—Diseases per 1000 children up to age 7 in Leningrad

Classification of disease	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Infectious and parasitic diseases	193.9	323.4	382.3	325.0	294.4	240.6	205.1
Neoplasms	5.4	1.5	0.6				
Diseases of the endocrinological system, feeding and metabolic disorders	543.2	122.0	20.6	7.0	7.1	6.2	4.4
Diseases of the blood and haemopoietic organs	74.9	41.2	39.8	4.0	4.0	4.7	2.5
Diseases of the nervous system and sense organs	227.0	277.4	355.1	295.0	140.8	62.7	60.6
Diseases of the respiratory organs	1957.9	2687.1	1981.6	1632.7	1427.8	989.1	906.3
Diseases of the digestive organs	91.0	216.4	108.6	4.9	7.7	6.8	0.9
Diseases of the urogenital organs	10.8	5.3	9.5	7.0	6.5	8.7	6.9
Diseases of the skin and subcutaneous tissue	189.9	110.9	78.2	37.6	27.8	24.2	23.4
Diseases of the osteomuscular system and connective tissue	48.4	31.3	31.4	15.7	16.6	14.8	21.9
Congenital abnormalities	68.2	1.5	1.4	1.2	1.8	0.9	0.3
Various causes of neonatal morbidity and mortality	44.8						
Accidents, poisoning, and trauma	3.6	9.0	9.4	12.0	15.2	15.0	20.2
Others	NR	NR	NR	10.0	12.0	11.8	13.4
Totals	3468.0*	3827.0	3018.5	2352.1	1961.7	1385.5	1275.9*

*Columns do not add to total shown.
NR = Not recorded

text, is occupied by pneumonia, at least in respect of children up to the age of 3. The increased incidence of these diseases among children in their second year of life might be explained by the transition from a protected artificial environment to a more “normal” one, in which exposure to infection is greater. Whatever the truth of that hypothesis, the study identifies as a predisposing factor the close contacts which necessarily exist among children attending preschool institutions. These youngsters, incidentally, are called “organised” children, while those who do not attend crèches or kindergartens are termed “unorganised.” (The question of whether these labels are intended to carry moral overtones is one best left to the reader.) Among children in the second year of life who attend institutions the rate for diseases of the respiratory tract was 2815—within which pneumonia accounted for 508.2 per 1000 of the age group. The corresponding figures for those who did not attend institutions were 2559.1 and 471.1. The gap between the two categories of children becomes wider with age and in the sixth year of life the rate for the “organised” is 1107.2, whereas for the “unorganised” it stands at 705.3 per 1000.

The second main cause of morbidity in children over 1 was infectious and parasitic diseases. As can be seen from Table II, the rate rises sharply from 193.9 in the first year of life to 382.3 in the third, and declines thereafter to 205.1 in the seventh year. The text provides no detailed classification of these diseases and says nothing about their duration and severity.

Here and There

How do the levels of illness among children in Leningrad compare with those in a British city of roughly the same size? This question is easily asked but apparently no precise and authoritative answer can be given. The most appropriate comparative data is provided by the second national study of morbidity statistics (1970-1) from general practice in England and Wales. These show that for children up to 5 years old episodes of illness occurred at a rate of 2872.5 per 1000 population. Diseases of the respiratory system, of course, accounted for a large part of the total, with a rate of 1008.9. The rate for infectious and parasitic diseases was 209.0 per 1000 population.³

Limits on paediatricians

Rather than attempt to make detailed comparisons with recalcitrant data, I prefer to examine the balance between inpatient and domiciliary care of children in Britain and the Soviet Union. Does the doctor of first contact in both countries have roughly the same remit for the management of an identical illness? In fact, it is a well-recognised feature of Soviet medical practice that clinical responsibility is relinquished at an early stage by the doctors who serve the geographical subdivisions (sectors) of the districts in which their polyclinics are located. This appears to be even more evident with sector paediatricians than with sector *terapevty* or general physicians for adults. Among the visitors to Soviet health-service units who have commented on the restricted remit of sector paediatricians is W J Stephen, a British general practitioner; he formed the view that “Any child under two years of age who is seen with a fever is admitted to hospital if it does not respond to treatment within 24 hours.”⁴ The procedure followed in the case of suspected infections also applies more widely so that, as Stephen notes, children who present with clinical problems that do not resolve themselves rapidly go to hospital at an early stage. Nevertheless, this is explained only partly by the limited scope permitted to sector paediatricians—there are also quite separate considerations which militate against treatment at home. In the first place, as is widely known, married women with young children in the USSR normally work full time; hence admission to hospital of a child who is only mildly ill is probably regarded by the State as preferable to the loss of production entailed by mothers taking days off work. In the second place, although urban housing conditions have improved substantially within the last few decades, overcrowding and poor-quality accommodation are still prevalent and serve to confirm the policy of early transfer from community to hospital.

That such a policy does exist might be inferred from the wards of a Soviet children's hospital where—to me at least—most of the patients look fairly well. It might also be inferred from the figures published in the statistical yearbook. Records show that in 1975 (the last year for which these figures were published) there were 109 400 beds for children with infectious diseases, and 375 100 for non-infectious cases. When these figures are related to a population base, they yield the high ratio of 1.9 per 1000 total population.

Although there are some difficulties in comparing the Soviet and British ratios, they should not obscure the fact that in Britain health care for children is far less hospital-orientated than in Russia. This is confirmed by a circular issued in 1971 by the Department of Health and Social Security in which they suggested that 0.5 children's beds per 1000 population would be

sufficient to provide for acute medical, surgical, and psychiatric conditions; for assessing children with mental and or physical handicaps; and for the long-stay care of all handicapped children who required it. This figure was subsequently endorsed by the Committee on Child Health Services, in the sense that they did not find sufficient reason for recommending an alternative.⁵

As it happens, the Court Committee also encapsulated a whole strategy when they affirmed the principle that, whenever the illness and the circumstances permit, a child should be cared for at home.⁶ This contrasts sharply with the priority implicit in the decision of Soviet health planners to continue with the large-scale construction of additional inpatient accommodation for children—as for other age groups and disease categories.

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Medical Education

Postgraduate education and the doctor

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Training a doctor is expensive and time-consuming. Substantial public funds (about £100 000 000 a year in the UK) are invested in this process and yet little has been done to ensure that the community obtains the maximum return on its investment. The medical schools accept only the most gifted students and then expose them to an educational process so rigid in its structure and limited in its horizons that at graduation the medical student is the best informed but most poorly educated of all graduates. This system, which is designed to eliminate the incompetent, also often succeeds in stifling the inventiveness and imagination of the most competent and signally fails to develop those intellectual attitudes necessary for continuing self-education. These errors are subsequently compounded by the creation of systems of continuing medical education that have rarely been subjected to objective evaluation and often seem inappropriate to the needs of the medical graduate.

The object of this paper is to review the systems of continuing medical education described in publications, with an emphasis on those papers purporting to contain objective data.

Methods

Publications have been reviewed using *Index Medicus* as a source—and all papers published in English from 1960 up to and including March 1979 under the heading "Continuing medical education" have been examined if the titles suggested some methodological evaluation. This review, therefore, extends the earlier one by Bertram and Brooks-Bertram.¹

Results

POSTGRADUATE COURSES AND LECTURES

Of twenty-nine publications examined, five contained some limited data for assessment.²⁻⁶

(a) Two consecutive courses on occupational health, the first using lectures (11 students) and the second seminars (17), were studied using pre- and post-tests—there were no significant objective differences but there was subjective preference for the formal lecture.²

(b) A course on recognition of heart sounds showed improvement in the study group compared with controls, which was not maintained when testing was carried out six months later.³

(c) Doctors in ten hospitals were allocated to three groups (control, lecture course, and consecutive case conferences). Pre- and post-testing showed no appreciable change in performance of any group.⁴

(d) Six "workshops" for anaesthetists were evaluated by MCQ test. Improvements were seen in test subjects and in controls.⁵

(e) Seven courses (92 subjects) were evaluated by pre- and two post-tests. Testing immediately after the course showed improvement with poor retention on retesting three to five months later.⁶

Most papers (that is, the other 24) either merely reported approval by participants or had only the results of a test after the lectures without an earlier test or a control group.

TELEVISION PROGRAMMES (OPEN CIRCUIT)

Of thirteen papers examined, only two^{7,8} contained data on performance. Both were studies on diabetes mellitus and showed minor improvements in the performance of the study groups (although the discriminant level of the questions in one was low on account of their simplicity—for instance, in which newly diagnosed diabetics would you test the urine for ketones?).

Five publications from New York City⁹⁻¹³ have reported average audience sizes increasing from 3.6% to 5.3% of the study population (over 7000 doctors). This increase was attributed to increasing awareness of the series. The audience for these programmes has subsequently declined. These audience figures are similar to those reported in other studies.^{14,15}

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