USSR Letter

A profile of medical education

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Whatever the quality of higher education available in the Soviet Union, there can be no question about the massive expansion in the number of places that has occurred over the years. By the start of the academic year 1979-80, students following advanced courses totalled 5 186 000, which represented an all-time record. In the same year the various establishments of higher education which catered for those students with day, evening, or correspondence courses had increased to a new high level of 870.

Although it appears that courses are available in more than 400 specialist fields, the regularly published statistical series gives the number of students for only 22 broad occupational groupings. One of these is "health service and physical culture." Like higher education in general, this category had reached a peak in 1979-80, with a total of 372 800 students undergoing training and an output of 57 500. Although medicine will account for a very substantial proportion of these aggregates, unfortunately the exact figures are not available and a reliable estimate cannot be calculated at all easily.

Medical institutes

A comparable statistical convention creates a difficulty regarding the number of "higher medical schools" or, as they are also known, "state medical institutes." The problem here resides in the practice of applying those terms broadly, so as to cover medical, dental, and pharmaceutical institutes. The combined figure for these categories currently stands at 83. Probably no more than three or so are devoted solely to stomatology (the Russian term for dentistry) and the same number to pharmacy, but the point stands in need of confirmation. Training for dentistry and pharmacy also occurs in certain institutes devoted largely to medicine.

As is implied by the nomenclature, medical education and training occurs mainly in single-purpose units and not in universities. So far as I can ascertain, this arrangement dates back to the early 1930s and reflects, in part, a policy of downgrading doctors to the level of technicians, whose functions were restricted by the requirements of Stalin's increasingly autocratic rule. Whether at that time any university retained its medical faculty is not clear, but today nine Soviet universities contain what are described as medical faculties.

The cautious phrasing used above was intended to cover the possibility that a few of the university faculties provide training not in medicine but in dentistry or in pharmacy. Such a concern with definitional questions appears unavoidable, given that in the Soviet Union concepts like "doctor,"

"medicine," and "medical school" do not have the same particularity and sharpness of connotation that they possess in Britain. (In saying that, I am not making a value judgment which betrays cognitive dissonance: I am simply attempting to reduce the possibility of confusion in the reader's mind.)

As it happens, the extension of the term doctor to cover stomatologists (dental surgeons) is hardly surprising in the Soviet context. While some have trained in separate establishments—for instance, the Moscow Stomatological Institute—most have qualified in the stomatological faculties that exist in several institutes where mainly medicine is taught.

Basic specialties

That process of semantic extension may have occurred all the more easily because, in place of the single, generalist form of medical education common to many countries, the Soviet Union trains all doctors as specialists—albeit at a fairly basic level. Thus there are separate tracks for environmental health, paediatrics, and what the Russians term curative practice. The separation of the first two from the third—the central area of medicine—dates back to the early 1930s, when a crash programme was initiated with the object of achieving rapid improvements in the major priority areas of the health service. The continued endorsement of this arrangement some 40 years later in substantially changed conditions seems to present a puzzle, for which one explanation may lie in the conservatism and conformism that characterise so much policy making in the Soviet Union.

Recently, however, in response to what were perceived as emerging requirements, a new six-year programme has been developed for training non-clinical medical scientists. The students who obtain a qualification in this specialty—they include biochemists, biophysicists, and medical cyberneticists—find employment in scientific research institutes, major laboratories of medical establishments, and in medical institutes. As might be expected, annual intakes are small by comparison with those for older established faculties. The size of the contingents currently following the various types of basic course cannot be obtained, but some impression of relativities is conveyed by the following breakdown of faculties in the Russian Republic, which almost certainly relates to mid-1979.¹ Out of the total of 108 faculties, two were for medicobiology, 11 for pharmacy, 11 for environmental health, 17 for stomatology, 29 for paediatrics, and 38 for curative medicine. Incidentally, the number of separate units stood at 40, of which two were pharmaceutical institutes.

Course content

If it is difficult to assemble a statistical picture of medical students and medical institutes, there are similar problems about identifying the content of their training programmes. So

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the following section of this article can offer what is no more than an outline description of course content. Some compensation for its brevity is afforded by the contemporaneity of the source from which it derives.² There is the further point that it holds true for the whole of the Soviet Union since only limited opportunities exist for local variations in teaching programmes; as in other forms of higher education, strong central control makes for a high degree of uniformity.

The broad intention of the curriculum for the first two "courses" (a term that seems to be synonymous with academic years) is defined as the provision of a "general educational and medicobiological training." The subjects studied number more than 15 and include: organic, inorganic, and biological chemistry; normal anatomy; biology; normal physiology; histology; medical electronics and cybernetics; and physics with the fundamentals of higher mathematics. At this stage, the curriculum is described as roughly the same for curative, paediatric, environmental health, and stomatological faculties. During these first two years, intending pharmacists study the "theoretical, biological, and chemical disciplines" that form the basis of their subsequent professional activity.

Throughout the third, fourth, and fifth courses, training in the curative and paediatric faculties entails further work in "several medicobiological disciplines," but the main emphasis rests on those "medical and clinical disciplines" that provide a future doctor with the basic methods of observing and investigating a sick patient and which "reveal the causes of the onset and course of diseases." In addition to pathological physiology, pathological anatomy, and hygiene, the subjects taught in these years include the propaedeutics of internal diseases, general surgery, "faculty and hospital surgery" (the source does not reveal what is entailed by that distinction), general medicine, and ophthalmic, nervous, and other diseases.

For students of those two faculties, apparently, practical work starts after the second course, when they are assigned placements as nurses in health service units. After the fourth course, they work as "doctors' assistants" in local hospitals, to acquire experience of internal medicine, surgery, and midwifery. (In 1979 it was reported that only 10 medical institutes had their own separate units, known as clinics, for the treatment of patients.) On completing their fifth course, students have placements which entail carrying out the duties of a sector (*uchastok*) doctor who provides primary care.

Having completed their first two years, students in the environmental health faculty spend less time on basic clinical disciplines than their peers in the curative faculty; their curriculum now includes hygiene as it relates to food, occupation, communal living, children, teenagers, and radiation. Other subjects specified are epidemiology, industrial diseases, social hygiene, and the organisation of the health service. Their placements entail working as laboratory staff in sanitary-epidemiological stations after the third course and as doctors' assistants after the fourth, when they practise general medicine, surgery, and midwifery in hospitals. After the fifth course, they perform the functions of assistants to hygienists and epidemiologists in sanitary-epidemiological stations, which is where many of them will subsequently hold appointments.

For stomatology students the arrangements are broadly comparable: after the second year they begin to study those subjects essential to their specialty, and they undertake appropriate placements in health service units. The stomatological training is shorter, however, lasting only for four and a half years, or nine semesters. The tenth semester is taken up with the *subordinatura*, a form of initial specialist practice that requires the students to work in one of three subjects: therapeutic, surgical, or orthopaedic stomatology. So at the end of five years students in this faculty will sit the state examinations and, given success, receive their diplomas. (The initial qualification is a diploma even for students who have attended university.)

In the environmental health faculty training is completed in five and a half years, to be followed by a *subordinatura* that lasts for one semester and requires the student to practise in

epidemiology or one of the following subdivisions of hygiene: work, food, communal living, children, or teenagers. In the curative and paediatric faculties the *subordinatura* occupies the entire sixth course, after which students sit their final examinations and receive their diplomas. Students on the curative medicine track must specialise in general medicine or surgery or obstetrics and gynaecology, while the future paediatricians work in paediatrics (including infectious diseases among children) or in paediatric surgery (with orthopaedics). The general objectives of this stage of training are stated to be "the deepening of all knowledge received earlier, widening of the diapason of clinical thought-processes, creation of practical understanding, and the acquisition of skills." It is followed by a final postdiploma year for those qualifying in curative medicine, paediatrics, and stomatology, which is known as the *internatura*.

Medicine and ideology

In the foregoing account nothing has been said about an issue of cardinal importance—the quality of Soviet medical education. Self-evidently, this constitutes such a sizeable and difficult topic that no assessment should be attempted here. Nevertheless, it seems appropriate to conclude by posing one inescapable question: are Soviet students better or worse equipped to practise medicine by virtue of the fact that throughout their training they have to study not only the subjects mentioned above but also Marxist-Leninist philosophy, the bases of scientific atheism, political economics, scientific communism, and the history of the Communist Party of the Soviet Union? Predictably enough, these subjects constitute the allegedly scientific disciplines that shape the specifically Communist world-view. According to the source, they enable students "to orientate themselves correctly" when evaluating not only social phenomena but also—and the phrase has sinister implications—"the ideological struggle that goes on within science and, more especially, within biology and medicine."

References

- 1 Nekhoroshev VS. O roli dekanatov meditsinskikh i farmatsevticheskikh institutov RSFSR ... *Zdravookhranenie Rossiskoi Federatsii* 1980;1:42.
- 2 Sichenikov IA (redaktor). *Vvedenie v spetsialnost*. Moskva: Meditsina, 1980:24-7.

A 3-year-old Arab child will not drink milk and has not eaten dairy products or eggs for two years. His height and weight are a little below average. What advice would you give the parents?

His refusal to drink milk may be a mere behaviour problem, in the form of an attention-seeking device, or a result of food-forcing methods, and that seems likely in view of the refusal of eggs as well. It could have been due to allergy to milk and egg, or, in the case of milk, to a carbohydrate intolerance. But if he has had no milk for two years the odds are that he will now have secondary lactose intolerance,¹⁻⁴ and if he took milk he might well have diarrhoea and other symptoms. The fact that his height and weight are a little below average means nothing without a lot more information. Perhaps one or both parents are small in build. As for advice, this cannot be given without knowing the social and other circumstances. In any case no attempt should be made to force him to take milk or eggs: but he does need the necessary protein from other sources—for instance, fish and meat if these are available.

- 1 Bayless TM, Rothfeld B, Massa C, Wise L, Paige D, Bedine MS. Lactose and milk intolerance. *N Engl J Med* 1975;292:1156-9.
- 2 Gracey M, Burke V. Sugar-induced diarrhoea in children. *Arch Dis Child* 1973;48:331-6.
- 3 Kretschmer N, Ransome-Kuti O, Hurwitz R, Dungy C, Alakija W. Intestinal absorption of lactose in Nigerian ethnic groups: failure to absorb lactose. *Lancet* 1971;ii:392-5.
- 4 Bolin TD, Crane GC, Davies AE. Lactose intolerance in various ethnic groups in SE Asia. *Australian Annals of Medicine* 1968;17:300-6.