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ETHICAL PROBLEMS WHEN CONDUCTING HYGIENE STUDIES IN MODERN RUSSIA

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Ethical problems arising from hygiene research in modern Russia are considered in the article. Changes in socio-economic conditions in the country (emergence of enterprises of various forms of ownership, employer's disinterest in assessing working conditions and, in fact, development of measures for prevention of diseases, primacy of the concepts of «human rights» and «voluntary consent» in organization of hygienic research; sometimes the lack of interest of administrative structures in obtaining real indicators of the health status of those surveyed, which often entails the need to develop in accordance with the laws of the country and the introduction of activities that require organizational and additional material costs) was the reason for the formation of new approaches and new conditions for solving scientific problems in the system hygienist (researcher) - the tested (healthy person). The authors determine ethical problems that arise from conduct of sanitary-hygienic, physiological, sociological and mathematical methods in the real conditions of production and human activity. It is the lack of interest of the subject in the research and the possibility of effective belief in the necessity of the research because of insufficient level of education and motivation. And it is the reluctance of the employer to show the real situation due to the negative results of hygienic studies in the dynamics of health status and the identification of risk factors for health at work, educational establishment etc. The solution to these problems is based on informal communication with the subjects, its encouragement in the form of various bonuses and in the absence of official permissive document. The relevance of the discussion about the ethical principles of research in preventive medicine is argued in the article.

Key words: Hygienic research, modern socio-economic conditions in Russia, ethical problem in the hygienist (researcher) - the tested (healthy person0 system, ethical problems arising from the conduct in the real conditions of production and human activity, various bonuses in preventive medicine.

ЭТИЧЕСКИЕ ПРОБЛЕМЫ ПРИ ПРОВЕДЕНИИ ГИГИЕНИЧЕСКИХ ИССЛЕДОВАНИЙ В СОВРЕМЕННОЙ РОССИИ

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В статье рассматриваются этические проблемы, возникающие при проведении научных гигиенических исследований в современной России. Изменение социально-экономических условий в стране (появление предприятий различных форм собственности, незаинтересованность работодателя в оценке условий труда и, соответственно, разработке мероприятий по профилактике заболеваний; главенство понятий «права человека» и «добровольное согласие» при организации гигиенических исследований; иногда отсутствие заинтересованности административных структур в получении реальных показателей состояния здоровья исследуемых, что зачастую влечет необходимость разработки в соответствии с законодательством страны и внедрения мероприятий, требующих организационных и дополнительных материальных затрат) явилось причиной формирования новых подходов и новых условий для решения научных задач в системе гигиенист (исследователь) – испытуемый (здоровый человек). Авторы определяют этические проблемы, возникающие при проведении? (применении?) санитарно-гигиенических, физиологических, социологических и математических методов в реальных условиях производства и жизнедеятельности человека. К ним относятся, например, отсутствие заинтересованности испытуемого в проведении того или иного исследования и, часто, возможности эффективного убеждения в необходимости проведения той или иной исследовательской процедуры в связи с недостаточным уровнем образованности и мотивированности. Часто это нежелание работодателя «выносить сор из избы» при получении по результатам гигиенических исследований негативных результатов в динамике состоянии я здоровья или при выявлении факторов риска здоровью работающих на производстве, в учреждениях образования и т.п. Решение этих проблем зачастую базируются на неформальном общении с испытуемым, его поощрением в виде бонусов различного характера и при отсутствии официальных разрешительных документов. В статье аргументируется актуальность дискуссии об этических принципах проведения научных исследований в профилактической медицине.

Ключевые слова: Гигиенические исследования, современные социально-экономические условия России, этические проблемы в системе «гигиенист (исследователь) – испытуемый (здоровый человек)», реальные условия производства и жизнедеятельности человека, поощрительные бонусы при выполнении гигиенических исследований.

Hygiene is the most important branch of preventive medicine, which focuses not on diseases or a

sick person, but health and a practically healthy person. In theory, paradigms of health studies suppose researches how environmental and social conditions affect people's health, analysis and assessment of health risks. [3, 4]. The aim of hygiene research is to obtain a probative database how environmental conditions (chemical, physical, social, etc.) affect people's health and on the ground of the data obtained to develop standards and measures either to eliminate or to decrease hazardous factors , as well as improvement of working conditions, life and health. Solution of specific problems of hygiene is associated with certain ethical problems due to some specific features of hygiene research.

1. The end result in hygiene is to prevent a disease, not to treat a patient. Accordingly, to solve specific tasks in clinical medicine, a model of interrelationship in the "physician – patient" system is built. In various cultures and various societies relations between a medical doctor and a patient are formed and understood in a different way. Robert Veatch, an American expert in bioethics, singles out four models of physician-patient relations typical of modern culture: engineer, paternalistic, collective and contract /citation after B.G.Yudin. P.D. Tishenko/ [9]. There are authors' models of concepts of 'physician-patient' interrelations. For example, monological (subject – object) and dialogical (subject-subject), where activity of the participants is a criterion. [1]. V.I.Petrov and N.N.Sedova [6], who devote their work to the problem of application of principles and standards of bioethics in medical institutions in Russia, suggest a model of ethical teams, which is adequate to needs of domestic medicine taking into consideration peculiar ethic regulations of medical activities. Though, for all various approaches to the character of interrelationship in the 'physician-patient' system, its obligatory component is a mutual responsibility and interest in results of 'co-work' (health improvement, recovery, etc.)

On doing hygiene researches, the 'researcher (hygienist) – observable (a health person) system is formed. This system lacks any interest on the side of the observable and quite often there was no possibility of effective belief that this or that research procedure is necessary due to a low level of the observable's education and motivation. In such situation trust relationship with the observable or some bonuses, raising interest (increased break by agreement with the employer, free meal, souvenirs, such as pens, stickers, etc.) are important The staff of our department participated in the joint project with the Royal College of London and a non-profit organization Mary and studied prevalence of risk behavior associated with drug use and sexual practice. After questioning of women engaged in commercial sex service 11], they were given a present (a can of condensed milk and condoms). A similar survey in London among drug addicts using injection drugs ended in a bonus of condoms and amphetamine [10].

2. In clinical medicine a physician works with an individual (patient). In hygiene, in order to develop measures to decrease hazardous effect of the environment, health improvement in people having common work or life conditions, it is necessary to conduct group, cohort and population studies. Therefore, another difference between clinical medicine and hygiene is not assessment of an individual but of a group of depersonalized observables (personal data, as name and address are not considered but age, work experience and life in a certain territory, etc. are of importance). To obtain representative data, a large array is necessary, such as professional groups, children's population of a certain age, etc. .

3. Complex approach on choosing the method of study. At the modern stage a hygiene study includes:

a) the method of **sanitary-hygienic examination** means examination and description of various objects using specially developed programs: industrial enterprises, living spaces, public catering establishments, etc. On the ground of conducted examination, quantitative factors of the environment are established, their comparative assessment with hygiene standards is done and measures to eliminate the revealed shortcomings. In today's socio-economic conditions sanitary examination for research purposes has become too difficult because managers of industrial enterprises (employers), heads of educational institutions (public officers). etc, do not permit a researcher to conduct any examinations. Quite often the problem is solved only due to personal trust contacts not with top management but with employees, for example with a school nurse who allows copying depersonalized data of school students' physical development. An informative example of approach to this problem is the Department of General Hygiene and Ecology of VolSMU in 2017 that developed new standards of school students' physical development in Volgograd. The standards are used for preventive medical check-ups and filling children's case histories (Order N 241

of 3.07.2000). Previous standards were issued in the year 2000. Most authors hold the opinion that regional standards of children's physical development should be specified once every 10-15 years, as indices of physical development change due to constant changes in the material and cultural life of people as well as unfavorable environment [2]. Then a dilemma arises: health workers must have new standards for preventive examinations and evaluation of physical development, hygienists must have access to educational institutions for anthropometric measurements to develop new standards. However, educational bodies are not competent enough to allow such examination in educational institutions which gave rise to numerous administrative barriers and sometimes unwillingness to help conduct such researches. The way out of this situation is to establish trust contacts between the university and school staff to solve personal health problems of the latter that presents in our opinion a certain ethical problem.

b) **experimental methods** – to determine the intensity factor degree of industry or environment and the character of their influence on the human body. Most often hygienists use the method of **physiological observance** to evaluate a functional state of the person (working in specific industrial conditions, going to educational institutions of different type and with different teaching load, people living in different anthropogenic conditions, etc.) In this case, as we mentioned above, the researcher works with a presumably healthy person and it requires some efforts to convince them to be voluntarily examined (e/g. urine test, collecting hair and nails to determine accumulation of toxic substances in biologic fluids and derivatives, measuring rectal temperature during a work shift to assess the worker's heat condition, etc.). It takes a lot of emotional efforts and communicative skills to convince the observable how important this work is.

c) method of **clinical observance** – this method supposes in-depth clinical examinations in accordance with goals set, as well as results of preventive medical check-ups and follow-up which makes it possible to compare dynamics of people's health in a certain territory or group. Unfortunately, official data and results of in-depth medical examinations quite often differ significantly, which presents certain ethical difficulties dealing with health care officials and researcher hygienists. So, data for children's health groups obtained by follow-up during many years differ: according to the official statistics about 20% of children refer to the first health group healthy children) and in-depth research shows that only 5-7% of children refer to this group.

d**) method of sociological research (questioneering in the first turn) (involving a sufficient number of respondents and interviewers to obtain reliable results) and sanitary-statistical** methods (while researching into morbidity, complaints of poor health, etc.) make it possible to analyze changes taking place in groups and society. A large amount of work necessary for obtaining representative data, as well the character of questions (private questions, questions concerning bad habits, etc., often confused the respondents or caused a negative emotional response) shows necessity of a specially positive style of the interviewers' work and thorough validation of the results obtained, usually up to 20% of the data. One of directions of the Department of General Hygiene and Ecology of VolSMU is the research into men's reproductive health among those who either work in harmful conditions or live in territories with expressed anthropogenic load [4]. To reveal risk factors in lifestyle of "healthy" men (not patients who require a specialized medical aid) referring to their private life, caused significant ethical problems.

e) method of **mathematical modeling and forecasting including methodology of risk assessment.** In this case difficulties arise to involve mathematicians who have experience in physiology and hygiene to adequately interpret the data obtained. The latter fact proves the appropriateness of assessment of expected models realization and calculated risks, as well as verification of the data obtained. The author of this article acted as opponent to the person who was defending a PhD dissertation on hygienic assessment of risk criteria for consumers' health of modern construction and finishing materials [5]. The mathematical model created made it possible to forecast an additional cancerogenic risk of the respiratory system impairments in people living in skeleton-section houses built on the basis of some types of polymer-containing construction and finishing materials which discharge formaldehyde into the air. This fact supported the necessity of thorough verification of the forecast and assessment of risk realization calculated by mathematicians which is complicated by laborious medical-biological researches done by hygienists and

clinicians and the author of the dissertation accomplished using clinical, immune-biological, biochemical and physiological methods. .

Thus, hygienic researches in today's social-economic conditions is associated with a number of ethical hardships and problems which are difficult to resolve at the administrative-official level (unwillingness of public officers, managers (owners) of enterprises, managers of companies to provide access to the information and doing surveys).

In common medical practice decision is taken by two people – a physician and a patient. In this dialogue the third person is "an odd man out", if only he is not invited. This third party is ethical committees or/and ethical counseling [7]. In hygiene researches ethical counseling can answer the question of appropriateness and correspondence to ethical principles of the methods used but, unfortunately, it cannot overcome organizational and administrative-legal barriers. In connection with the above peculiarities of doing hygiene researches moral obligations put a question to researchers: what should be done so that their actions do not contradict morality, ethics and law. These questions arise in connection with the tasks which the science of prevention tries to solve and philosophical-ethical challenges of social and cultural character which politicians and the society face. [8]. This argument proves the topicality of the discussion about ethical principles of researches in preventive medicine.

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