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**THE CURRENT STATE OF DEVELOPMENT OF WORLD  
SCIENCE: CHARACTERISTICS AND FEATURES**  
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**VOLUME 2**

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## **TYOPOLOGICAL ASPECTS AND IMMUNITY UNDER PHYSIOLOGICAL AND PATHOLOGICAL CONDITIONS**

Skin and venereologic diseases are studied in many countries and represent rather big medical and psychological problems all over the world. These diseases are difficult to speak about that harden termed addressing the doctors and diagnostics. Modern technologies are created in various countries. In part telemedicine, providing a tele-communication between physician and patient in remote areas for transferring the patients' information for diagnostic and therapeutic services found wide distribution in Iran while creating a new science – Teledermatology as well as agreement between such a remote examination with the direct one [1]. Malaysian scientists and doctors put the question about positive and negative effects of masks wearing during COVID-19 pandemy and think that they must not but used by children or people with autism, that they can cause asthma and other obstructive respiratory disturbances [2]. Separate studies were and are performed separately in countries various parts, urban and rural areas, in men and women, in different-aged groups thus while taking the typological aspects into consideration. For instance, 20-80% of citizens in London suffer from skin diseases; 47-53% of the members of two rural Ethiopian communities claimed to have a skin disease [3], but when they were examined, 67% of those who denied having skin problems were found to have treatable skin conditions and most of them were infectious. It should be mentioned that many skin diseases have connection with socio-economic factors in part in developing countries. For example, significant skin diseases were determined in 300 individuals (26,9%) in North-West Tanzanian two rural areas [4] and it was found out that 73,9% of all skin diseases comprised transmissible diseases and that younger age groups were affected mostly. Not only children but old people were in the risk group.

Skin and venereological diseases have often immunity deficiency or immunity enforcement with autoimmune disturbances appearance as their pathogenetic factor which can be alone or in a complex with others. That is why immunity state as a whole and during these diseases is also in the scientists' focus in Science different branches. Like dermatological and venereological problems, immunity condition is determined by the factors variety and typologies belonging (for the patients) as well as immune answer peculiarities accordingly to typological aspects are among them that are essential to be taken into account.

Sexual hormones' non-sexual effects attract bigger and bigger attention of the scientists from various countries, Medicine theoretical and applied branches representatives. Gender Physiology and Medicine are thought to be separate sciences.

There is a scientific work on gender's taking into account importance in Virology [5]. Transplant immunity at kidneys transplanting was found to be with gender influence on H-Y antigen expression [6; 7].

Ethno-gender-age typological aspect is described in the researches about pregnant women (pregnancy takes 9 months and it represents separate age period). Countries are characterized by bigger or less distribution of infectious diseases, these diseases percentage and local peculiarities are studied in them. The works big block is dedicated to infections in the pregnant. Iranian pregnant women possess high anti-rubella immunity but doctors recommend performing the anti-rubella antibody screening for all women of childbearing age [8]. 50% of 15-40-year-old Iranian women were tended to get sick in parvovirus B9 dangerous for fetus and 3,3% of the women examined had positive Ig M antibody against this virus testifying to the virus active transmission in the population and there is a recommendation to determine B19 immunity especially in young women ready for marriage and pregnancy [9]. Toxoplasmosis prevalence, diagnostics methods and immunity to it are in the doctors' attention focus in various countries, in Iran in part [10].

Sexual hormones role is assessed at heart autoimmune disease [11].

Estrogens, progesterone, epidermal growth factor's receptors role was studied at breast cancer in men and women, in part in Italian women [12], Indian [13], Chinese [14], while describing ethno-gender typological aspect. These receptors varieties became the Chinese and Hon Kong's researchers work subject [15]. Some data testify to the fact that breast cancer appears at normal estrogen receptor transformation into its alpha-form [16]. Regular aquatic aerobic training reduced C-reactive protein and C4 after 8 weeks of their regular performance (but not C3) and thus inflammation level in Iranian women with rheumatoid arthritis that as a result prevented cardiovascular disease occurrence in them [17]. Thyroid autoimmune state was predicted in Syrian women on the base of thyroid antibodies in euthyroid patients with polycystic ovary syndrome [18]. Indian researches are devoted to IL-6 contribution into polycystic ovary syndrome development [19].

IL-33 enhances the antifertility effect of zona pellucida by the Chinese and Hon Kong scientists' data [20]. Immunoglobulin was proposed to be applied and was used as infertility treatment method, in part in China [21]. Cytokines participate in polycystic ovarian syndrome pathogenesis contributed in female infertility [22].

Antisperm antibodies action represents male infertility important developmental mechanism [23].

Local glucocorticoids, estrogens and androgens production by skin cells has rather significant role in local immune answer [24].

Women and men are tended to have various diseases that in dependence on immunity peculiarities at least partially. Here are the examples. Fibromyalgia is met less often in men while sleep disorders (particularly problems with respiration) are met more often in men [25], by Spanish scientists' data, with lower pain threshold for women [26]. Male Kalmann syndrome is characterized by gonadotropin insufficiency, gonads bad functioning as well as olfaction losing or weakening as Chinese scientists report [27]. Disseminated sclerosis characterized by big nerves myelin sheath autoimmune disorders, ephaptic transmission and causalgias as a result, also have such hormonal shifts as estrogens enforced synthesis and signal transduction in men and progesterone in women [28].

Scientists try to realize who have speedier recovery: men or women. Valuable differences between genders are absent or females are the first because estrogens and progesterone influence result in faster females' recovery after the diseases, in part the spine traumas [29]. Androgens and estrogens receptors are involved in bones health condition and determine tendency to diseases [30].

Ethno-age typological aspect: there are some speculations that children from under 10 years old are generally less vulnerable to COVID-19 than the adults and elderly due to some immunity peculiarities which are discussed; children autism is studied in relation to memory immunity and serum antibody level to hepatitis B and was found to be able to manage the hepatitis B vaccine challenge in Iranian children despite previous research determined these immune mechanisms' impairment at autism [31]. Some regions have immunity peculiarities of immune answer at hepatitis A in children, in Kerman (Iranian southern-western province) they were absent [32].

Reproductive Immunology represents Immunology, Obstetrics-Gynecology and Gender Medicine, Reproductive Medicine (Biomedicine) important theoretical and applied branch which is paid attention in different countries. Gender and ethno-gender aspects are contributive in these sciences. There are some speculations about immune answer and autoimmune answer dominance in women comparatively to men. There exists some data concerning to less female morbidity on COVID-19, probably due to some locuses found on X-chromosome absent in men. But on the other hand, there are researchers who consider stronger immune answer as disadvantage at COVID-19 disease. Ethno-age and ethno-gender-age typological aspects taking into account are important in Pediatrics, Neonatology and Gerontology.

Any dermatologist and veneorologist should remember about typological aspects obligatory taking into account in his daily work for proper and termed diagnostics, treatment and prevention.

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