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PS-023. Nanotechnology And Human Health

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Nanotechnology gets its meaning from nano which is 1/1.000.000.000 of meter. It can be defined as manufacture of man-made structures functionally designed in size from 1 to 100 nanometers by use of man-made atoms or molecules. Today meaning of Nanotechnology includes area of installation, using and manufacturing nanoscaled material. At health, agriculture and the food industry, automobile manufacturing, aerospace technology, field of environment and energy, and production of materials and tools and in many different areas can be used. Development of nanotechnology products can be divided into four generations. First generation products came into use around year 2000. The second generation product after about 2005, nanotechnology have been used in medical and pharmaceutical industries. Third generation were introduced in 2010. Fourth-generation products are expected to be available in conjunction with the years 2015-2020. In medical science,studies nanotechnology is called as "nanomedicine".The intended use of nanotechnology in medicine involves prevention of disease by controlling cell functions, early diagnosis, treatment of wound healing, ability to use body's molecular information and production of molecular tools in order to promote and protect health. Exactly,we don’t yet know effects of Nano materials on human health, environment.It’s essential to examine this condition in detail. Nanoparticles can taken in circulation on body with respiratory, skin and digestive tract. In 3 ways,these particles may cause certain diseases by affecting several organs in the body and this condition must not be forgotten.Also, tnanoparticles, that intended to take effect in certain parts of body, are thought to be unintended inflammatory and toxic effects occur depending on dissolution of body. Therefore, controlling possible side effects of genetic toxicology testing prior to application of nanoparticles is extremely important. Nanoparticles to be genotoxic also shows it’s carcinogenic. Because, it’s extremely important to ensure biosecurity of nanomaterials for human health.

Keywords: nanotechnology, health, nanomedicine