First Responder Cancer and Occupational Illnesses

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The topic of term paper is about occupational illnesses and cancers in the first responders. A first responder is a person who has received specialized training and reaches the site of the emergency to rescue. The emergency situation can be a terrorist attack, an accident or a natural disaster. They are at a high risk of exposure to the illness as reported from a number of sources especially for firefighters and 9/11 first responders. From the example of 9/11 attacks, hundreds of people presented themselves as a volunteer to assist government bodies in the rescue and rehabilitation process. But it has been noted that quite a lot of first responders are found to have thyroid and prostate cancer. The ratio of people suffering from these types of cancers is higher among the first responders in the past 2 decades as compared to the general population. Firefighters among them are noticeable as according to one report, the scattered dust particles as a result of the attack were responsible for the development of multiple myeloma along with its precursor disease. The disease was observed to show some of the peculiar sticky patterns. It is difficult to pinpoint the exact cause or types of cancer in firefighters because they are exposed to multiple agents that can cause cancer. It is very unlikely that a firefighter gets exposed to only one kind of cancer.

The number of first responders suffering from the cancers of various types has increased over the past two decades. Statistically, there have been 450 total deaths from different types of cancers. There are still some cases from that incidence where people are losing their lives. Apart from 9/11, talking about general cases of cancer patients from the first responders especially firefighters, the number of individuals affected by different kinds of cancers id increasing. There are many explanations of the increased number of first responders affected by cancer. One of the reasons is the level of cholesterol in the patient’s body which is a precursor to androgens. Androgens are considered as one of the driving factors in the development of prostate cancer. We know that prostate cancer is shown in a number of first responders from the incident of 9/11. So a person diagnosed with this type of cancer must avoid excessive intake of cholesterol in the diet, otherwise, it would result in fatal outcomes. One of the main reasons for this increase in the number is due to the dust, which is considered responsible for the expression of genes. This causes an additional method in cholesterol biosynthesis, resulting in progression in the development of prostate cancer whenever those genes interact with the environment. So it is not possible to stop the formation of extra cholesterol in the body by just controlling diet. Special treatment methods are needed to adopt in order to bring the concentration lower. Further, the emission of particles from the vehicles, industrial processes, and from combustion processes of domestic setups is also a catalyst in causing chronic inflammation which may lead to cancer. Apart from cancer, there are other illnesses that are diagnosed in first responders. According to a study, a considerable number of Americans faced substantial stress and anxiety symptoms.

Among several types of cancers that are observed particularly in the first responders, the thyroid is seen as more prevalent than others. Not only the general responders like firefighters but particularly in the case of the World trade center incident. The number of victims of thyroid cancer is greater than any other kind of cancer. A possible explanation of this increment is the over-diagnosis of the thyroid cancers in the responders. Also, the dust particles spread in all the directions raising chest infection-related concerns. Hence, it resulted in chest analysis and imaging at a greater rate compared to other parts of the body. This trend of the diagnosis thus increased the possibility of detection and discovery of thyroid nodules. The result of a study shows that there was a slight increase in the number of victims of WTC when compared to another group as an example. The group was from the Mount Sinai Cancer Registry. According to the results, when 73 cases of the first responders were correlated with 949 cases of thyroid from Mount Sinai, the majority was white,71.9 % from first responders and 70,2 % from Mount Sinai. There was not much difference in the size of tumors and also the number of men was greater than that of women (Tuminello et al., 2019). The results show that the number of patients diagnosed with thyroid is greater in the first responders as compared to that of other people.

The toxins in the environment are one the major cause of the propagation of cancer-causing substances. So the first step in dealing with cancer is to eliminate the sources of these toxins. Again comparing this with the world trade center, the dust the originated from the collapsed building was highly toxic. Most of the debris as a result of the collapse is reported to contain more than 1500 contaminants. To prevent the harms of these toxins, it is very necessary to eliminate them. Apart from toxins from the environment, there are toxins inside the body too which are sometimes more harmful. These toxins are often referred to as metabolic toxins. They are produced inside the body in such a way that each cell of the body can produce toxins while undergoing normal metabolism. They are produced inside the body due to microorganisms or anomalies in the digestion. So proper detoxification is necessary as our body naturally performs it by defusing toxic cells through kidneys, lungs, skin and also by breathing. However, for a person in a chronic state, detoxification must be performed clinically.

Step by step process of detoxification starts from cleansing the body from parasites. Hospitals perform 10 days plan of parasite cleansing where parasites are destroyed from the digestive tract making it parasite-fee. A parasite-free digestive tract is a natural defense against the toxins. This step is followed by kidney cleansing, which is normally done by the excess intake of liquids and a healthy diet. This part is very necessary as the kidneys process 20 % of the overall blood of the body. Colon cleansing is one of the important steps in removing toxins from the body in order to prevent the body from cancer. The potential breeding of the disease in the colon is characterized by the decrease of bowl movement. Colon cleansing refers to the removal of food residue called “mucoid plaque”(“Removing Cancer-Causing Toxins – Holistic Health Center,” n.d.). So a proper bowel cleansing plan is used to remove this material to ensure the optimal health of the body.

Removal of toxins from the environment is also very important and this is done by removing heavy metals from the environment which are officially recognized as Carcinogenic. These include cadmium, arsenic, and Mercury. The compounds of cadmium are directly related to lung cancer because this is part of the tobacco smoke. Tobacco smoking is the biggest source of including cadmium in blood concentration. So the smokers, are of 4-5 times higher risk of increased cadmium concentration in the blood as compared to the non-smokers. Also, the risk of lung cancer is significantly higher in smokers than in nonsmokers. So the removal of this toxin is more of an awareness-based task where masses must be aware of the harmful consequences of smoking. Mercury is also considered as a carcinogen do its consumption in vaccines and fillings for teeth is dangerous. Almost all the cancer patients have found to have mercury fillings inside their mouths. The reason may be its excessive use in the dental field for the filling purpose. The last one is Arsenic which is mainly used in industrial vicinities. The use of Arsenic in a lot of industrial processes has made its inclusion highly susceptible in water reservoirs, ground or in short many ecological and biological systems. It must be removed from the body by the use of clinical processes as recommended by the medical specialist.

In the United States, the importance of the issue was highlighted after the famous incident of 9/1i where after the collapse of the towers, the toxic dust was spread all around and affected hundreds of people and especially first responders who volunteered for service. After the incident, the responsibility of handling the cleanup processes was given to the Department of Design and Construction. Previously, it was headed by Mr. Giuliani who was blamed for not taking enough measures to prevent people from the dangers of toxic air. There was another allegation on Mr. Guilini that he had not implemented the federal requirements of wearing respirators. Workers would work without proper respirators wearing painters or no mask. Elizabeth Wilson, a city bus driver narrates the situation in his own words as ,“You couldn’t see your hand in front of you, it was so bad, We were supposed to have been fitted for respirators at the time (“9/11 first responders join death toll from attack,” n.d.)”. There was a clear warning from the federal departments that any officer will be dismissed if he does not ensure quick cleanup while ensuring the proper precautionary measures for the workers and first responders (especially firefighters). After almost 10 years, in 2010, a Health Bill was passed by the United States Senate against the opposition about the negligences during rescue and rehabilitation works. The increased number of first responders suffering from different types of cancer especially Thyroid raised big concerns and moved the government and researchers to study it. There are many extensive related types of research that provide the deep know-how about the matter.

Statistical analysis of the number of people who have lost their lives while fighting cancer among the first responders is very high in the past few decades. According to the research, firefighters have approximately 9% higher risk of cancer as compared to others. In the United States, after twin tower attacks, the number of people who became the victim of post-attack illness or occupational illness is almost going to out-number the actual victims. According to careful analysis, more than 2,000 deaths have been recorded and the number is increasing day by day. As discussed above, the risk of cancer in firefighters is 9% greater, the related percentage of cancer-related deaths in them is 14%. From the year 2000 to 2017, 61 % of firefighters died as a result of cancer of different types while only 18 % of them died due to heart diseases. This shows that Cancer is the biggest killer in the United States among diseases. Talking about the example of 9/11, where 33,000 first responders suffered some kind of injuries and hundreds died as a result of the consequences of those injuries (Cutler, n.d.).

The role of firefighters as a first responder is understood as they put their life in the line of fire. The probability of causality or injury as a result of offering such a difficult job is very high. The possible threats as a result of any mishap can be the death or severe injury. If by some means he is saved from both the possibilities, chances of occupational illness are there as discussed above. So it suggests that the first responder as a firefighter has a big responsibility.

To make sure that the firefighters fulfill their responsibility efficiently, the Government proposed standard underlying particular procedures that should be adopted while training of the firefighters. The standard is called consensus standard proposed by NFPA.It works to help the first responders and fire departments to work as safely as possible by developing pieces of training, resources, standards, and several initiatives (“NFPA - Firefighters are first responders,” n.d.). Examples of some of the initiative are discussed below.

Firefighters may have to work in hostile places and may have to experience active shooting events. According to the above standard, the firefighting staff will be provided comprehensive training for coping up with such situations. The standard will provide a coordinated, cohesive approach with many other organizations to facilitate the firefighters. NFPA proposed another reform for the first responders by making rules about alternative fuel vehicles. Along with this, comprehensive training for the responders to educate them about fueling, tactics of the types of equipment and about vehicle maintenance. One very important development proposed by NPFA was the issuance of small, unmanned Air vehicles. The purpose of allocating drones to the fire departments is to enable them performing surveillance of the targeted area. This surveillance can result in timely response and accurate information about the incident. The fire brigade is directly linked with emergency medical services which require the availability of state of the art ambulances fully equipped by modern facilities of health care and emergency. NFPA has allowed ambulances for the firefighting department to provide transportation and medical treatment of injured or sick people to adequate medical facilities.

There are few recommendations that can be adapted to address the exposure to the toxins. It is very necessary to understand that children are very much susceptible to the damage from environmental toxins. So it is advisable that childcare providers should select garden products, toys, play spaces, and tests with minimized exposure of children to the toxins. Chemical exposures can be reduced or eliminated by washing work clothes and family laundry separately and removing shoes before entering the rooms. The use of water filtration plants to decrease the concentration of carcinogens. Water should be stored in the stainless steel, phthalate-free items and in glass so that the exposure of endocrine chemicals is reduced. Home radon level must be checked frequently and also make sure to perform this test while shifting to a new residence. Radio waves are also a cause of developing cancers and we are very much exposed to such radiations in the form of cell phones. One must try to use headsets instead of direct mobile phone if the call is way too long. If required to take on radioactive dose for any medical purpose, one must consult to specialist health advisor and ensure minimum expose of radioactivity. These are some of the recommendations about the precautions at the domestic level.

For industry level or related to the first responders (firefighters), respirators must be provided to the workers and staff to minimize the effects of carcinogens to reduce the risk of thyroid and other kinds of cancer. A thorough checkup of the workers after every month to make sure the safety and health of the workers. All the propositions made by the consensus standards must be fully applied in order to provide a safe and secure environment to the first responders, who are putting their lives on the line for our safety.

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