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Title	:	*Impact of Solid Waste Dumping on Ground Water Quality and Health – A Study of Perungudi Dumpsite*
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Background:

Water is indispensable for the existence and survival of life on earth. Groundwater is a resource of immense magnitude and was once considered as a pure source for water supply. Due to increase in population and rapid urbanization the groundwater is getting degraded in cities and townships. Among the wide range of contamination sources, the solid waste disposal is one of the factors contributing to the complexity of groundwater quality problems.

The solid waste of south Chennai are collected and disposed off in Perungudi. This solid waste disposal may cause impacts on the groundwater quality; hence the present study was conducted.

The main objectives of the study are to assess the groundwater quality and to find the health impacts due to the solid waste dump site in Perungudi.

The secondary data was collected from various sources about the maps, water levels, leachate characteristics, about the villages surrounding the Dumpsite. Water samples were collected around the dumpsite from 20 wells within a radius of 2 km and analyzed for the levels of pH, EC, TDS, Chloride, sodium, Potassium, BOD, and COD. The influence of dumpsite is visible in the increased concentration of Electrical Conductivity, Chlorides, Sodium, BOD and COD. The concentrations of these parameters were low near the dumpsite, but gradually increased with distance on the southeast direction of the study area. The average levels are well beyond the permissible limits and showed further increase during April and May 2009. The water quality study indicated the possible movement and leaching of waste into the groundwater and affects the quality of groundwater. This is evident from the maximum levels of BOD (49 ppm) and COD (78 ppm) recorded during May 2009.

The questionnaire survey revealed that the major health problems are the frequent fever and skin allergies and their prevalence are fever, cold and itching (43%), skin allergy (24%), skin rashes (26%) and other minor problems (7%). The major health hazards appear to be the skin related problems of itching, allergy and rashes, which accounted for 93% may be related to the contact with the groundwater. The regular incineration at the waste dump site is also causing air pollution and may have also contributed to the health problems recorded in the study area.