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Physio chemical properties of water samples collected from urban and rural areas of district Peshawar

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The purpose of this study was to investigate different water samples from rural and urban areas and to find either the quality of water lies within the allowed range or not. Drinking water of different areas like urban, rural, industrial areas and home drinking water of Warsak road are analyzed through different techniques. We checked different parameters in drinking water such as pH, conductance, temperature and hardness of water, chlorides, silica concentration and heavy metals. The average pH of water of urban area is 8.2, water of rural area has average pH of 8.01, for water of industrial area is 9.3 and that for drinking water of Warsak homes is 9.2. The pH is analyzed through pH meter of Model No. PH 2602. The average conductance of urban water is -061 mv, for rural area is -083 mv, for industrial area is -066 mv and that for drinking water of Warsak road is -060mv. The other parameter is hardness of water which is analyzed through simple titration. The average value of hardness of urban water is 0.59 mg of CaCO3/5 ml, for rural sample is 0.65 mg of CaCO3/5 ml, for industrial sample is 0.77 mg of CaCO3/5 ml and that of drinking water of Warsak road is 0.39 mg of CaCO3/5 ml. The concentration of chlorides in most of the urban drinking water is 29.99 mg/l, and of rural samples have average value of 49.99 mg/l. The industrial sample possess the concentration of chloride 14.39 mg/l and of drinking water of Warsak road is 20.98 mg/l. Silica are found in trace quantity in which urban water sample have average value of 1.7*10-18 ppm. The average mean for rural sample is 2.4*10-18 ppm. Effluent sample of industrial area have the average mean of 1.6*10-18 ppm. We have checked two heavy metals (e.g. Nickel and Lead) in drinking water of different areas. Nickel concentration in urban sample like Su2 and Su42 has values of 0.01 and 0.004 mg/L. Industrial and drinking water of Warsak road have absence of Nickel concentration. The lead concentration is found in four samples namely Es4, Sr41, Sr61 and Sr2 which have the values of 0.03 mg/L for Es4, 0.02 mg/L for Sr41, 0.02 mg/L for Sr61 and 0.04 mg/L for Sr2. These heavy metals are detected through Atomic Absorption Technique.

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