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# Health impact of Radon in water to Schools for City of Hilla - Iraq

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**Abstract:** In thisresearch the concentration of radon $^{222}Rn$ in the drink water wasmeasured in differentschools in Hilla city. The studyincluded 7 schools in the city center and 7 schools in Abi – Gharaq and 7 schools in Kifel. The samples of water werecollectedfromreservoirs of the drink water in thoseschools.

The concentration of radon $^{222}Rn$ wasmeasured by the RAD7 detector withannex RAD $H_2O$. The importance of thisstudycomesfrom the large numbers of the pupilswho attend the schools. The locations of the samples have been identified on a mapusing the GIS system.

The studyfoundthat the rate of radon $^{222}Rn$ concentration in the drink water of the schools in the city center was about 0.094887Bq.$L^{-1}$ .While, inAbi –Gharaqregion the rate of the radon concentration was about 0.173Bq.$L^{-1.}$ In the Kifelregion,the rate reaches about 0.2997Bq.$L^{-1.}$

Theaveragevalueof the effective dose of radon concentration in the drink water of the city center schoolswas about 0.40437 mSv.$y^{-1}$whileAbi – Gharaqregionwas about 0.586 mSv.$y^{-1}$ and the Kifelwas 0.711 mSv.$y^{-1}$.

**Key-word :** Radioactive, Drinking water, RAD7, Radon,Schools, Human life, effective dose.



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