



Risk perceptions towards drinking water quality among private well owners in Ireland: the illusion of control

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Groundwater is important in Ireland, comprising 20-25% of all drinking water supplies. In rural areas where no public or group water schemes exist, groundwater is often the only source of drinking water, usually extracted by drilling private wells. Although the overall quality of groundwater that feeds into public supplies in Ireland is gradually improving, there are major concerns about the water quality of private wells. Locally, groundwater quality can be impacted by bacterial and, even less well known by well owners, geogenic contamination, which can pose significant health risks if undetected. Water quality in private wells is not currently monitored by authorities, rather private well owners are responsible for their own water quality and although water testing is not mandatory, it is highly recommended. Previous studies reveal that well owners tend to underestimate contamination risks of their drinking water, yet, little is known about why this is the case. To understand which factors explain well owners' perceived contamination risks and how this influences their inclination to monitor their water quality by engaging in regular water testing, we interviewed 18 private well owners in three different areas that vary in the extent to which there were issues with groundwater contamination in the past. Based on our findings we developed a theoretical model in which we propose that perceived control is the key factor which underpins well owners risk perceptions. In fact, we argue that private well owners have the illusion of being in control, as contamination risks are often underestimated, resulting in very little intentions among well owners to test their water. Finally, we propose some practical implications as to how private well owners could be engaged in regular water testing behaviour in order to reduce any health risks associated with drinking water contamination.