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Perception of Water Quality and Health Risks in the Rural Area of Medellín (Colombia)

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Abstract

In Latin America and the Caribbean, approximately 50 million people lack even basic access to drinking water, most of them living in rural areas. This uneven spatial distribution of the drinking water supply poses a continuous public health risk, results in low economic productivity, low prosperity and thus contributes to the enforcement of regional disparities. As to the successful implementation of drinking water systems, the focus is still on technical factors and on measures to improve the knowledge of the target groups. Using the example of three rural quarters of Medellín (Colombia), this study shows how the perception of water quality and health risks by different social target groups may influence the implementation process of drinking water systems. A social area analysis was carried out to determine the socio-economic framework of the study, followed by 125 face-to-face interviews with drinking water consumers, complemented by additional expert interviews.

Within the study area, 36 % of the households use exclusively drinking water from the provided drinking water infrastructure. 10 % of the respondents still consume only raw water and 54 % are connected to both the raw water and drinking water supply system. The main factors influencing peoples' water quality perception are its colour and appearance, which form a sort of “quality standard” used to evaluate the water quality, even of raw water. The use of raw water for hygiene practices and irrigation is not perceived as a potential risk. This even applies to the group of people who only partially consume raw water. Although clearly increasing the hazard of disease transmissions, about 50 % of these households use the same single pipe circuit for both the selective transport of drinking and raw water. A relatively small group of consumers of drinking water seem to have a suitable risk perception with a link between the river pollution and waterborne health risks and diseases.

The study showed that the implementation process of drinking water systems must consider the target groups' socio-economic and cultural context forming their perceptions. A realistic risk perception should be prevalent among the target group prior to the introduction of drinking water supply systems.

Keywords: Health risks, Latin America, Medellín, quality perception, risk perception, rural areas of large cities, South America, water quality