Sensory perception of humidity in the built environment for wellness: a scoping review

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Water vapour in the air is an essential element that directly affects all animate and inanimate constituents of the planet. It is a fundamental constituent in all interactions that characterize life and planetary systems. Water vapour in the air is distinctly associated with the functioning of the human sense organs. All five senses, i.e. smell, touch, sight, sound and taste respond to water vapour in the air. The sensory mechanisms determine a human being's physiological and psychological balance, which is the foundation of wellness, relevant on a planetary scale. However, the sensory mechanisms associated with water vapour in the built environment have not been discerned holistically, particularly its role in human wellness. The present article reviews sensory perceptions and responses attributed to humidity/water vapour in the built environment and examines its role in promoting human wellness, drawing insights from diverse interdisciplinary disciplines.

Keywords: Comfort, health, humidity, indoor environmental quality, sensory perceptions, wellness.

The five senses, i.e. sight, touch, smell, taste and sound, allow humans to build a relationship with their surroundings to facilitate the co-existence and evolution of both on earth through various physiological mechanisms. Though the organs associated with the senses, i.e. eyes, skin, nose, tongue and ears, are distinct, the sensory perceptions may be intricately connected depending on varying neuromotor coordination in different individuals[3,4]. For example, the aroma (smell) and texture (sight) could stimulate taste perception while brewing a coffee. The sound of coffee grinding or brewing could also stimulate the sense of smell and taste. However, water vapour in the air can influence distinct physiological mechanisms related to each of the senses and can still be understood concerning the distinct senses.

Human eyes are always moist; dryness can cause discomfort and illness and affect normal vision[5]. The hydration level of the skin influences the sense of touch. It facilitates heat loss/gain, ensuring thermoregulation and comfort. Water vapour in the air is a carrier of smell itself;