

## Knowledge, Attitude and Practice on Swimming Pool Hygiene and Assessment of Microbial Contamination in Educational Institution in Selangor

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**Abstract :** The transmission of infectious diseases can occur anywhere, including in the swimming pools. A large number of swimmers turnover and poor hygienic behaviours will increase the occurrence of direct and indirect water contamination. A wide variety of infections such as the gastrointestinal illnesses, skin rash, eye infections, ear infections and respiratory illnesses had been reported following the exposure to the contaminated water. Understanding the importance of pool hygiene with a healthy practice will reduce the risk of infection. The aims of the study are to investigate the knowledge, attitude and practices on pool hygiene among swimming pool users and to determine the microbial contaminants in swimming pools. A cross-sectional study was conducted using self-administered questionnaires to 600 swimming pool users from four swimming pools belong to the three educational institutions in Selangor. Data was analyzed using SPSS Statistics version 22.0 for Windows. The knowledge, attitude and practice of the study participants were analyzed using the sum score based on Bloom's cut-off point (80%). Having a score above the cut-off point was classified as having high levels of knowledge, positive attitude and good practice. The association between socio-demographic characteristics, knowledge and attitude with practice on pool hygiene was determined by Chi-Square test. The physicochemical parameters and the microbial contamination were determined using a standard method for examination of waste and wastewater. Of the 600 respondents, 465 (77.5%) were females with the mean age of 21 years old. Most of the respondents are the students (98.8%) which belong to the three educational institutions in Selangor. Overall, the majority of the respondents (89.2%) had low knowledge on pool hygiene, but had positive attitudes (91.3%). Whereas only half of the respondents (50%) practice good hygiene while using the swimming pools. There was a significant association between practice level on pool hygiene with knowledge ( $p < 0.001$ ) and also the attitude ( $p < 0.001$ ). The measurements of the physicochemical parameters showed that all 4 swimming pools had low levels of pH and two had low levels of free chlorine. However, all the water samples tested were negative for *Escherichia coli*. The findings of this study suggested that high knowledge and positive attitude towards pool hygiene ensure a good practice among swimming pool users. Thus, it is recommended that educational interventions should be given to the swimming pool users to increase their knowledge regarding the pool hygiene and this will prevent the unnecessary outbreak of infectious diseases related to swimming pool.

**Keywords :** attitude, knowledge, pool hygiene, practice

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