

**HEALTH RISKS ASSOCIATED WITH BACTERIOLOGICAL QUALITY OF
BATHING WATERS IN VILLA BEACH,
BRGY. STO. NIÑO SUR, AREVALO, ILOILO CITY**

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SUE ELLEN T. ABAD
MARY JOY A. CATINAN
THERESE ANGELIE T. HAUTEA
MOCTAR M. MABANG
LEAH JOY S. NARIDA
KEVIN MATTHEW B. PANGGAT
MAISIE MAE L. TURIJA

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ABSTRACT

Abad, Sue Ellen T., Catinan, Mary Joy A., Hautea, Therese Angelie T., Mabang, Moctar M., Narida, Leah Joy S., Panggat, Kevin Matthew B. and Turija Maisie Mae L. (April 2004). HEALTH RISKS ASSOCIATED WITH BACTERIOLOGICAL QUALITY OF BATHING WATERS IN VILLA BEACH, BRGY. STO. NIÑO SUR, AREVALO, ILOILO CITY. A special problem submitted to Division of Biological Sciences, College of Arts and Sciences, University of the Philippines in the Visayas, Miagao, Iloilo. The study investigated the bacteriological quality, using *E. coli*, *Salmonella* spp., and culturable Vibrios as bacterial indicators, of four selected bathing waters in Villa Beach, Brgy. Sto. Niño Sur, Arevalo, Iloilo City, as well as the incidence of symptom occurrence associated with these microbes among 33 respondents. This was to determine health risks associated with bacteriological quality of bathing waters in Villa Beach. Conventional and modified laboratory procedures were used in the detection of *E. coli*, *Salmonella* spp., and culturable Vibrios, while pre-structured interview schedule was utilized in the epidemiological survey. p-value was used as statistical tool to measure association. All four water samples tested positive for *E. coli* and culturable Vibrios. *Salmonella* spp. was negative in all of the water samples. The MPN for *E. coli* in water sample C was 460 per 100 ml water sample, while in water samples A, B and D it was 240. Obtained MPN were above the DENR MPN standard for fecal coliform for Class SB, which is only 200. There were 52 individual participated in the study but only 33 (63 %) were able to complete the follow up interview done seven days after the actual date of survey. 18 (55 %) of the respondents were females. The mean (SD) age was 19.3 (14.5) years with an age range of 3-56 years. 11 (34 %) respondents came from sampling site C and 32 (97 %) were visitor-swimmers. Only 13 (39 %) of the respondents reported to have experienced symptoms during the follow up, and the most common symptoms reported by 10 (77 %) of the symptomatic respondents were upper respiratory tract symptoms such as colds, cough and sore throat. Among the symptomatic respondents, only four (31 %) were classified as cases. Significant differences were observed only in the case of symptom occurrence relative to MPN and sampling site as indicated by p-values (0.0004 and 0.003, respectively) less than 0.05. The presence of *E. coli* in significant concentration and culturable Vibrios in all of the four water samples indicated poor bathing water quality of Villa Beach which may pose health risks among swimmers. The incidence of symptom occurrence or health risks was positive as reported by some of the respondents in the follow up survey. Positive relationship was observed only in the case of symptom occurrence with variables sampling site and MPN for *E. coli*. Symptom occurrence was found out to be more likely relative to the sampling site, and that it increases with *E. coli* concentration present in water samples.