

## **An Application of Self-Health Risk Assessment among Populations Living in The Vicinity of a Fiber-Cement Roofing Factory**

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**Abstract :** The objective of this study was to assess whether living in proximity to a roofing fiber cement factory in southern Thailand was associated with physical, mental, social, and spiritual health domains measured in a self-reported health risk assessment (HRA) questionnaire. A cross-sectional study was conducted among community members divided into two groups: near population (living within 0-2 km of factory) and far population (living within 2-5 km of factory)(N=198). A greater proportion of those living far from the factory (65.34%) reported physical health problems than the near group (51.04 %)(p=0.032). This study has demonstrated that the near population group had higher proportion of participants with positive ratings on mental assessment (30.34%) and social health impacts (28.42%) than far population group (10.59% and 16.67 %, respectively) (p<0.001). The near population group (29.79%) had similar proportion of participants with positive ratings in spiritual health impacts compared with far population group (27.08%). Among females, but not males, this study demonstrated that a higher proportion of the near population had a positive summative score for the self-HRA, which included all four health domain, compared to the far population (p <0.001 for females; p=0.154 for males). In conclusion, this self-HRA of physical, mental, social, and spiritual health domains reflected the risk perceptions of populations living in the vicinity of the roofing fiber cement factory. This type of tool can bring attention to population concerns and complaints in the factory's surrounding community. Our findings may contribute to future development of self-HRA for HIA development procedure in Thailand.

**Keywords :** cement dust, health impact assessment, risk assessment, walk-through survey

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