

**ENVIRONMENTAL THREATS AND
OCCURRENCE OF ACUTE DIARRHEA AND ARI
AMONG UNDER-FIVE CHILDREN IN
PERIURBAN HOUSEHOLDS, YANGON REGION**

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ABSTRACT

Multiple exposures to environmental threats are hazardous for under-five children attributable to acute diarrhea and ARI according to the 'Multiple Exposures-Multiple Effects' Framework from WHO. A cross-sectional analytical study conducted in North Dagon Township during September, 2012 identified the relationship between environmental conditions and the occurrence of acute diarrhea and ARI. Six trained interviewers conducted structured interviews of mothers/caretakers of 620 under-five children. Six health care providers and local authorities participated in key informant interviews to underscore their knowledge, perceptions, and experiences related to risk factors of acute diarrhea and ARI in under-five children and their action responses towards prevention. Some 48 percent of respondents were over 35 years of age. Around 49 percent had high school level and above education. They reported 3.9 percent (24/620) of acute diarrhea and 48.4 percent (300/620) of ARI in index children within past two weeks. The combined attack rate of acute diarrhea and ARI was 3.1 percent (19/620). There was a higher chance of occurrence of ARI among children, if they suffered from acute diarrhea within two weeks, which was especially true for older children (1-4 years) compared to infants. Children from poor households in the lowest quintile of per capita monthly income group had higher chance to suffer from ARI if they had acute diarrhea within the same period. The multiple outcomes were significantly associated contextual factors such as those children looked after by caretakers (14/407, 3.4%, $p=0.003$) and mothers younger than 24 years of age (8/95, 8.4%, $p=0.003$). Shared environmental risk factors for dual burden of multiple health outcomes confirmed in this study by multivariate analysis included presence of smokes around the house (crude OR=2.8, 95%CI= 0.9-9.2, $p=0.07$; AOR=3.5, 95% CI= 0.9-13.9, $p=0.072$, marginal significance), lack of purified drinking water for children (crude OR=13.7, 95% CI= 3.9-48.4, $p=0.0005$; AOR=11.7, 95%CI= 3.0-46.5, $p=0.0005$), and unsafe waste disposal (crude OR=7.2, 95%CI=2.6-19.4, $p=0.0005$; AOR=4.0, 95%CI= 1.0-15.2, $p=0.04$). Action responses of key stakeholders revealed more of preventive measures for acute diarrhea rather than preventive measures for ARI such as controlling in-door and out-door air pollution. Knowledge translation and innovative risk communication approaches by community engagement may be the solution for vulnerable sites.