

and sexual IPV, respectively. The majority (72%) reported not using any modern spacing method of contraceptive in the past 3 months; 14% reported condom use and other modern spacing contraception, respectively. Physical IPV was significantly associated with condom use (AOR: 1.89, 95% CI: 1.04, 3.28) but not other contraception use. Sexual violence was associated with other modern contraceptive use (AOR: 2.78, 95% CI: 1.11, 7.00), but not condom use.

Interpretation: Women contending with sexual violence were more likely to engage in other modern contraceptive use but not condom use. This finding may indicate that women contending with sexual violence may depend on forms of contraception more within their control. To our knowledge, this study is the first of its kind to examine such associations between IPV and contraception use by type of method. These findings are limited due to the cross-sectional nature of the data, and are not generalizable to the larger population of women in India. Further research is needed to explain the association between recent physical IPV and condom use, a finding inconsistent with prior research.

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Abstract #: 02SEDH007

Increase in metabolic diseases following the Fukushima triple disaster: A retrospective study of Kawauchi Village with long-term follow-up

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Background: The March 2011 earthquake, tsunami, and nuclear accident in northeastern Japan caused unprecedented destruction and worry of contamination, with the Fukushima Daiichi nuclear accident 20 km exclusion zone requiring the evacuation of over 200,000 people alone. Residents of Kawauchi Village in Fukushima Prefecture escaped significant damage from the earthquake and tsunami, but were forced to evacuate due to threat of nuclear contamination to government-erected shelters and temporary housing in Koriyama City. In April 2012 residents were allowed to return, and by April 2014 approximately 50% of villagers had returned. We aim to retrospectively examine the members of the village for changes to their health status secondary to the evacuation, focusing primarily on metabolic disease. **Methods:** Residents of Japan undergo comprehensive health screenings yearly under the National Health Insurance system. We were granted access to the records from 2008 to 2013. Data for 777, 797, 779, 431, and 477 residents were available in 2008, 2009, 2010, 2012, and 2013, respectively; 2011 was not collected due to the disaster. In 2012, 233 residents remained evacuated, while 99 remained evacuated in 2013. Data were analyzed by ANOVA using Statistica, with $p < 0.05$ considered significant.

Findings: Population changes between 2008 and 2010 were compared to 2010 vs. 2012. Significant increases in change rate were seen in weight, BMI, blood glucose, HDL, LDL, AST, ALT, γ -GT, and uric acid. Significant decrease was seen for systolic blood pressure. Evacuees in 2012 had significantly increased systolic and diastolic blood pressure, triglyceride count, and blood creatinine, and significantly decreased eGFR and HDL, compared to village returnees. In 2013, there was significantly increased LDL and significantly decreased ALT in evacuees, but other differences had normalized compared to the returnee population.

Interpretation: Significant differences in metabolic health status were seen between the pre-disaster and post-disaster timeframes and between evacuees and returnees. By 2013 the majority of evacuee

differences appear to have normalized, suggesting population adjustment to the evacuation city. This represents the first time recovery from an earthquake and tsunami has been complicated by nuclear accident, and ongoing longitudinal study is needed to inform response to future disasters.

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Water quality and quantity in the Trifinio: A pilot study

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Program/Project Purpose: Fecal contamination of water has been proven to indicate diarrheal illness, which itself is a contributor to child malnutrition and developmental delay. This study attempted to quantify contamination of drinking water as part of a long term goal of improving access to safe water and sanitation in the Trifinio Region of Guatemala. This effort was completed in conjunction with the Center for Human Development, a public-private partnership with a clinic in the region, ensuring sustainability of the project.

Structure/Method/Design: Water samples from randomly selected homes in Colonia Los Dias (21/267) and Los Encuentros (40/621), were tested for *Escherichia coli*, sanitation hazards, and other determinants of contamination using WHO Rapid Assessment for Drinking Water Quality (RADWQ) standards. Current and possible future methods were also piloted including P&G Purifier of Water (n=5), chlorine bleach (n=2), and ONIL filtration systems (n=2).

Outcomes & Evaluation: GIS ArcMap software was utilized to display maps and bacterial distribution, and median contamination levels were found to be 90 E-Coli/100mL and 160 E-Coli/100mL in Los Encuentros and Colonia Los Dias, respectively. Water retrieval method was implicated in contamination (Mean 247 vs 871 for pumped vs. hand-drawn, respectively), as was distance from main roads. Pilot data indicated that methods such as ONIL filtration were not effective against bacterial contamination, but that the P&G "Purifier of water" was more effective in this respect, though our method was above the minimum level of detection.

Going Forward: Local leadership were engaged and presented the initial results of this work, to build local capacity and knowledge around the issue of water quality. Understanding of current contamination levels and contributors to contamination should guide the development of permanent sustainable drinking water delivery, with clear recognition of social, financial, and political constraints. Future efforts will include studying the effects of sanitation and clean water interventions on diarrheal illness to understand determinants of health, and to understand local resistance to large-scale water quality projects.

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Understanding resource deserts and geospatial needs: Working with refugee women's groups

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Program/Project Purpose: Refugee women often arrive in the United States with significant and unique health care needs.