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**OCCUPATIONAL USE OF HIGH LEVEL DISINFECTANTS AND TIME TO PREGNANCY AMONG NURSES.** A. J. Gaskins,<sup>a</sup> C. C. Lawson,<sup>b</sup> J. W. Rich-Edwards,<sup>a</sup> S. A. Missmer,<sup>a</sup> F. Laden,<sup>a</sup> J. E. Chavarro.<sup>a</sup> <sup>a</sup>Harvard School of Public Health, Boston, MA; <sup>b</sup>National Institute of Occupational Safety and Health, Cincinnati, OH.

**OBJECTIVE:** To examine the relationship between occupational use of high level disinfectants among nurses and time to pregnancy (TTP).

**DESIGN:** Prospective cohort study.

**MATERIALS AND METHODS:** Our study included 2,581 women trying to become pregnant or with a recent planned pregnancy in the Nurses' Health Study 3 cohort (2010-present). Every 3 to 6 months women report the duration of their pregnancy attempt. Women were considered at risk of pregnancy for the duration of their pregnancy attempt until they became pregnant, stopped trying to become pregnant, or were lost to follow-up. Occupational exposure to agents used to disinfect medical instruments, devices, or supplies was self-reported on the baseline questionnaire. Multivariable Cox proportional hazards models for discrete survival time were used to estimate the fecundability odds ratios (FOR) and 95% confidence intervals (CI) adjusting for age, race, BMI, smoking, and marital status.

**RESULTS:** Nurses who reported current exposure to high level disinfectants had a 22% reduction in fecundity (longer TTP) compared to nurses who were never exposed (FOR=0.78 [95% CI 0.67, 0.90]). A longer TTP was associated with current use of glutaraldehyde (FOR=0.77 [95% CI 0.62, 0.96]) but not with ortho-phthalaldehyde (FOR=1.02 [95% CI 0.66, 1.56]), peracetic acid (FOR=1.27 [95% CI 0.82, 1.97]), or hydrogen peroxide (FOR=0.74 [95% CI 0.54, 1.02]). Consistent use of  $\geq 3$  types of protective equipment was rare (6.7%) but significantly protected exposed women against longer TTPs. When specific types of equipment were examined, only consistent use of a water resistant gown or respiratory protection (not including surgical mask) significantly protected exposed women against longer TTPs. Use of a disinfection system with dedicated ventilation, eye protection, or protective gloves appeared to be beneficial however they did not reach statistical significance.

**CONCLUSION:** Occupational use of high level disinfectants, particularly glutaraldehyde, is associated with reduced fertility among women. Nurses using high level disinfectants should be advised to use the recommended protective equipment as these might mitigate the fertility impairments associated with high level disinfectant use.

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**GNRH-AGONIST SHORT PROTOCOL VERSUS GNRH-ANTAGONIST FOR OVARIAN STIMULATION IN IVF.** J. J. Taylor. City Fertility Centre, Brisbane, Queensland, Australia.

**OBJECTIVE:** The objective of this study was to compare clinical outcomes of short agonist cycles and antagonist cycles in IVF.

**DESIGN:** This retrospective analysis compares the clinical outcomes of 5967 cycles between January 2009 and December 2013 across an Australian multi centre clinic. The agonist group contained 1344 patients compared to 4623 patients in the Antagonist group. Statistical analysis used Chi squared test.

**MATERIALS AND METHODS:** The agonist group contained 1344 patients compared to 4623 patients in the Antagonist group. Statistical analysis used Chi squared test.

**RESULTS:** The mean maternal age was not statistically significant between the two groups, 37.5 for the agonist group and 36.4 for the antagonist. Retrospective analysis failed to detect a difference in the duration of ovarian stimulation between the cycles. We found an average of 10 days of stimulation for both cycle types. There was no significant statistical difference ( $p < 0.5$ ) in the number of eggs collected for each group, 7.8 in the agonist group and 9.5 in the antagonist group. The literature does suggest that fewer eggs are collected with antagonist cycles however this has not been our experience(6). For both stimulation groups, clinical pregnancy rates were not statistically different however there was a trend towards higher pregnancy rates across all ages in the antagonist group. Hospital admissions for moderate OHSS during the study period were not statistically different between the

two groups however there was a lower number of admissions for moderate OHSS in the antagonist group. There were no hospital admissions for severe OHSS in either group.

**CONCLUSION:** This retrospective analysis Supported the current body of evidence indicating that GnRH- antagonist cycles reduce the risk of OHSS without negatively affecting pregnancy rates. In fact, although not statistically significant, our study indicated a trend towards increased pregnancy rates with GnRH-antagonist cycles. Slightly lower rates of hospital admission in the antagonist group is consistent with current research.

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**THE EFFECT OF LIFESTYLE FACTORS ON ANTI-MULLERIAN HORMONE (AMH) LEVELS IN INFERTILE JAPANESE WOMEN.** M. Nakayama,<sup>a</sup> E. Kamisawa,<sup>b</sup> H. Kawauchi,<sup>c</sup> Y. Asada.<sup>d</sup> <sup>a</sup>School of Nursing, Osaka Prefecture University, Habikino, Osaka, Japan; <sup>b</sup>School of Nursing, University of Fukui, Yoshida, Fukui, Japan; <sup>c</sup>Kitasato University Hospital, Sagami-hara, Kanagawa, Japan; <sup>d</sup>Asada Ladies Clinic, Nagoya, Aichi, Japan.

**OBJECTIVE:** Anti-Müllerian hormone (AMH) is commonly used in clinical settings to measure fertility as it can provide an indication of ovarian reserve. Only a few studies however have explored how lifestyle factors affect AMH levels. The purpose of this study was to investigate whether lifestyle factors correlate with AMH levels in infertile Japanese women.

**DESIGN:** Cross-sectional study.

**MATERIALS AND METHODS:** All 2319 participants were infertile Japanese women undergoing infertility treatment across 6 ART clinics in Japan. AMH levels were measured using the AMH Gen II EUSA kit and lifestyle factors (BMI, smoking habits, alcohol consumption, coffee intake, physical activity, and sleeping patterns) were measured via a questionnaire. We analyzed the association between lifestyle factors and AMH levels by using Student's t-tests and examined how lifestyle factors affect AMH levels by using multiple linear regression analysis.

**RESULTS:** The average age of participants was  $36.15 \pm 4.64$  years (range: 20–48) with a mean duration of known infertility of 38.78 months. AMH levels ranged from 0.01 ng/ml to 58.60 ng/ml, with a mean of 3.57 ng/ml. Mean BMI was 20.92 (range: 15.24–38.57) and between-groups analysis showed that those with BMI below 25 had higher AMH levels than those with BMI of 25 and above ( $p = .08$ ). Drinking coffee daily was significantly associated with AMH levels ( $p < .001$ ) and multiple regression analysis indicated that total  $R^2$  was .007 ( $p = .002$ ).

The multiple regression analysis

lifestyle factors(daily)	Beta	P-value	R <sup>2</sup>
			.007
smoking habits	.013	.539	
alcohol consumption	.024	.265	
coffee intake	-.080	.000***	
physical activity	-.029	.186	
regular sleeping	-.013	.552	
BMI	-.034	.113	

\*\*\* $p < .001$

**CONCLUSION:** Our results suggest that AMH levels are associated with lifestyle factors among infertile Japanese women and that there is a need to educate infertile women on the impact of their lifestyle choices.

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**PREVIOUS INFERTILITY TREATMENT ASSOCIATED WITH DIFFERENT LEVELS OF PREGNANCY RELATED ANXIETY DURING IN-VITRO FERTILIZATION PREGNANCIES.** E. Stevenson,<sup>a</sup> R. Sloane,<sup>a</sup> C. Bergh.<sup>b</sup> <sup>a</sup>Duke Univ, Durham, NC; <sup>b</sup>RMANJ, Basking Ridge, NJ.

**OBJECTIVE:** In-vitro fertilization (IVF) is stressful; however, little is known if that stress carries into resulting pregnancies. This study examined