



THE POOR QUALITY OF WOMEN'S SLEEP NEGATIVELY INFLUENCES FERTILIZATION RATES IN ASSISTED REPRODUCTIVE TECHNOLOGY

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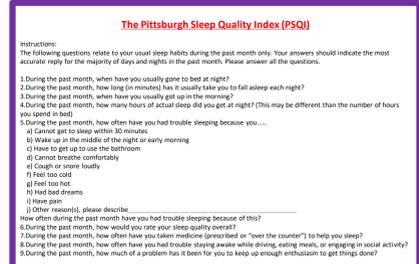
Objective

The purpose of this study was to explore the association between the quality of women's sleep and outcomes in assisted reproductive technology.

Design: A questionnaire survey study

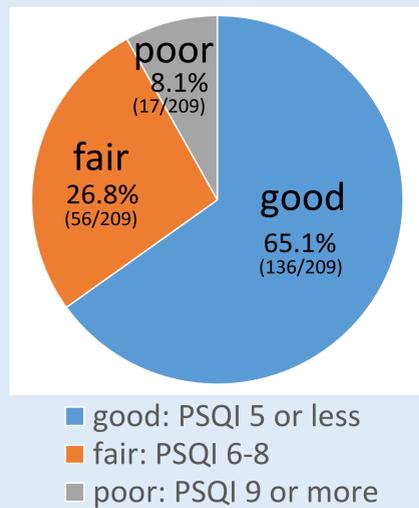
Materials and Methods: A survey questionnaire was conducted during June and July 2016, involving 209 patients, who agreed to fill out a questionnaire.

The Pittsburgh Sleep Quality Index (PSQI) ranging from level 0 to 21 was used to evaluate quality of sleep, by measuring subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and any related daytime dysfunction during the previous month. The questionnaire also included duration of infertility, presence of cold feet, job status, and occasional alcohol consumption. The PSQI was divided into three categories: a total score of "5" or less indicated good sleep quality (good); "6-8" indicated mild difficulties (fair); "9" or more indicated severe difficulties (poor).



Results

Figure 1. Distribution of sleep quality



- Women with good sleep quality occupied 65.1% of responders, and that of poor sleep quality was 8.1% (Figure 1).
- Good sleep quality positively affects fertilization rates with significant difference (p=0.001) (Figure 2).
- Regarding blastocyst and high grade blastocyst (\geq G3BB) development rates among the fertilized oocytes in "good", "fair" and "poor", the statistical difference of p=0.19, p=0.22 missed a technical classification of statistically significant (Figure 3).
- Multivariate logistic regression analysis of several parameters identified that a lifestyle "good" and occasional and/or moderate alcohol consumption were significant predictors of successful fertilization (Table 1).

Figure 2. Fertilization rates among the retrieved oocytes

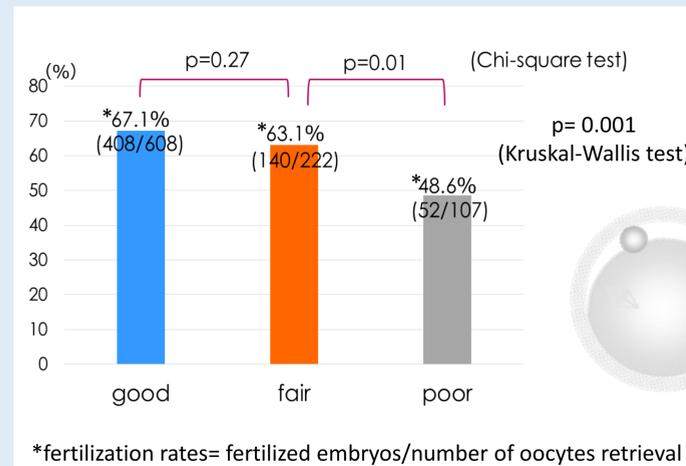


Figure 3. Blastocyst and high grade blastocyst development rates

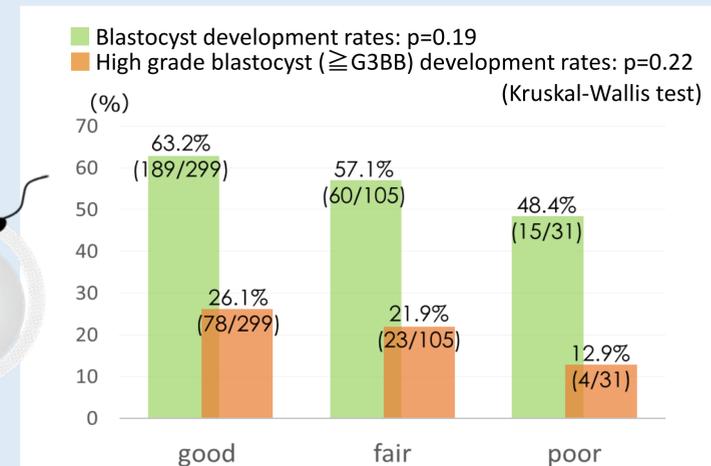


Table 1. Predictors of successful fertilization

	odds ratio	95% CI	p-value
daily use of computer	0.52	0.13-2.05	0.35
daily alcohol consumption	2.76	1.04-7.37	<0.05
husband's age	1.01	0.91-1.11	0.88
full-time job	1.27	0.53-3.07	0.58
cold sensation of extremities	2.3	0.82-6.45	0.11
women's age	1.01	0.90-1.13	0.82
duration of infertility	0.93	0.74-1.17	0.55
PSIQ(\leq 5) "good"	1.72	1.08-2.72	<0.05

Conclusions

Our survey questionnaire found that a low quality of sleep has a negative impact on fertilization rates. Good sleep patterns can be one of the important daily habits for patients to improve their response to fertility treatments and increase their chances of pregnancy. Interestingly, occasional and/or moderate alcohol consumption had a positive impact on fertilization. This may be due to the beneficial effects of a moderate amount of alcohol, such as stress-relief and sleep-induction.