**Introduction**

- Infertility is a major health concern as it affects up to 25% of couples in Western Countries (1).
- More couples are seeking fertility treatments causing reproductive technology use to go up, costing the health care system a substantial amount of money (2 & 3).
- There is a need to identify modifiable behaviors that could be linked to fertility.

**Objective**

- The primary purpose of this project was to examine the relationships between time-to-conception, diet, and physical activity levels.
- The secondary purpose was to explore other modifiable variables that could be linked to time-to-conception (e.g. stress, oral contraceptive use, relevant partner history, financial barriers).

**Methods & Materials**

- Participants were selected from an ongoing pregnancy study.
- All participants went on to have healthy pregnancies.
- Participants completed a Qualtrics electronic survey regarding how long it took them conceive, what methods they had to employ, and if they ever had to seek treatment.
- Detailed information regarding their dietary and exercise habits while trying to conceive was also collected (Diet: Dietary History Questionnaire II, physical activity: Actigraph accelerometers).
- Additional questions regarding medication use, stress, financial barriers, male factor fertility, and pertinent health history were also obtained.
- Pearson product moment correlation coefficients were used to examine the relationships between variables.

**Results**

**Table 1. Demographic Characteristics**

<table>
<thead>
<tr>
<th>Variable (N=29)</th>
<th>Mean ±SD or # (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>29.10 ± 3.7</td>
</tr>
<tr>
<td>Pre-Pregnancy BMI (kg/m2)</td>
<td>26.3 ± 6.5</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
</tr>
<tr>
<td>High School Graduate</td>
<td>1 (3.4%)</td>
</tr>
<tr>
<td>Some College</td>
<td>1 (3.4%)</td>
</tr>
<tr>
<td>College Graduate</td>
<td>15 (51.7%)</td>
</tr>
<tr>
<td>Post Graduate Degree</td>
<td>12 (41.4%)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>33 (100%)</td>
</tr>
</tbody>
</table>

**Figure 1. Sedentary Time and Time-to-Conception**

$r=0.57$

$p=0.002$

**Figure 2. Total Dietary Kilocalories and Time-to-Conception**

$r=0.39$

$p=0.04$

**Figure 3. Stress Level and Time-to-Conception**

**Results, Ct.**

- The amount of time it took to conceive (TTC) ranged from 1 month to 6 years.
- TTC and sedentary time were positively correlated ($r=0.57$, $p=0.002$).
- Light, moderate, and vigorous activities were not correlated to TTC.
- Regarding diet, TTC was positively correlated with total carbohydrates consumed ($r=0.39$, $p=0.04$) and total carbohydrates consumed ($r=0.72$, $p=0.001$). Interestingly, total energy from fat was negatively correlated with TTC ($r=-0.57$, $p=0.002$).
- Time to conception was longer for women who had previously used oral contraceptives ($2.65 ± 2.64$ vs. $20.2 ± 26.4$ months, $p=0.005$).
- A one-way ANOVA demonstrated women with higher stress levels had longer TTC ($p=0.044$).

**Discussion**

- Women hoping to conceive should consider decreasing time spent sedentary as well as their total caloric intake and total carbohydrate intake in order to conceive sooner.
- Women should also consider strategies to decrease stress levels while trying to conceive.
- This study supports the idea that diet, activity level (or lack thereof), and fertility status may be closely related.
- These topics should be carefully discussed with a health care provider when trying to conceive.

**Literature Cited**


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