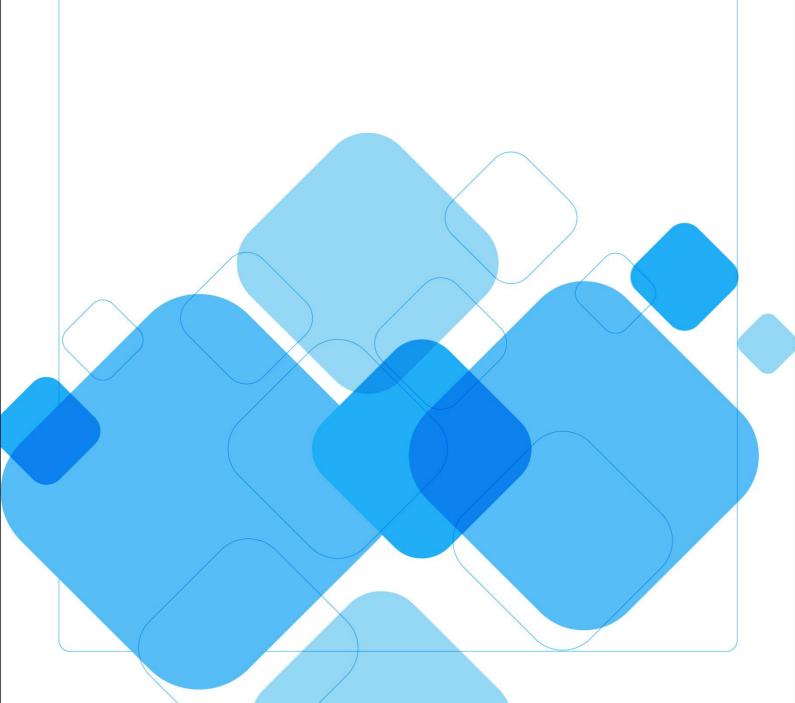# PhD QUANTITATIVE RESULTS SERVICE

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**Order code: HTS-SAM-004-2020**

## PhD Quantitative Results Summary

| Requirement | Dissertation- PhD Dissertation |
|---|---|
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## Background

## Results

### Introduction

In this chapter, the researcher presents the outcomes from the analysis of the quantitative data. A sample size of n=1347 was taken for this study. This sample is broadly segregated into two groups, namely OHSS (n=14) and Non-OHSS (n=1333). The average age of the population was 34. (ranging between 19-45) whereas the average BMI was 25 (ranging between 19-35). The prevalence of HFEA reportable OHSS (i.e. severe and critical) was 14/1347=1.04. The quantitative data were analyzed with the help of SPSS 20.0 software. Variables are expressed as Mean ± SD. The Mann-Whitney U test was utilized for comparing two independent variables. Whereas, logistic regression analysis is used to assess the ability of variables to predict OHSS. $p< 0.05$ was considered to be statistically significant.

### Patient Demographics

**Table 1: Difference in the mean of age and BMI between OHSS and Non-OHSS**

| | OHSS (n=14) | Non-OHSS (n=1333) | P value |
|---|---|---|---|
| Age (years) | 29.6±3.7 (25-38) | 34.3±4.7 (19-45) | **0.01**\*\* |
| BMI (Kg/M$^2$) | 25.9±3.3 (21-31) | 25.0±8.0 (19-35) | 0.26 (N.S) |

*\*\*p<0.01, N.S- Not Significant*

Table 1 revealed the difference in mean age and BMI between OHSS and Non-OHSS groups. Since p-value for age is (p=0.01<0.01); hence, it can be deciphered that there is a significant difference in mean age between OHSS and Non-OHSS groups. Patients in the Non-OHSS group had high mean age (34.3±4.7) as compared to patients from the OHSS group, who were found to have a low mean age (29.6±3.7). Since p value for BMI was (p=0.26>0.05), which was found to be greater than 0.05 level, hence it can be understood that there is no difference in mean BMI between OHSS and Non-OHSS groups.

## Stimulation Characteristics

**Table 2: Difference in the mean of Stimulation Characteristics between OHSS and Non-OHSS**

| | OHSS (n=14) | Non-OHSS (n=1333) | P value |
|---|---|---|---|
| Long Protocol | 9 (64.3%) | 681 (51.1%) | |
| Short cetrotide Protocol | 5 (35.7%) | 645 (48.4) | |
| Natural cycle | 0 | 7 (0.5%) | |
| Starting dose (IU/day) | 265.2±102.4 (150-450) | 261.5±112.6 (150-600) | 0.76 (N.S) |
| Duration of Stimulation (days) | 10.4±1.8 (8-14) | 10.4±2.0 (8-20) | 0.95 (N.S) |
| Total dose used (number of ampoules of 75 IU) | 39.6±17.4 (16-72) | 38.4±20 (20-144) | 0.6 (N.S) |
| Eggs collected | 18.8±9.2 (5-35) | 10.6±6.9 (0-51) | **0.01**\*\* |

Data are given as n (%) and mean+/-SD (range)

***\*\*p<0.01, N.S- Not Significant***

Table 2 revealed the difference in mean Stimulation Characteristics between OHSS and Non-OHSS groups. Majority 64.3% of patients in the OHSS group had a long protocol, whereas only 51.1% of patients in the Non-OHSS group had a long protocol. Majority 48.4% of patients in the Non-OHSS group had a short cetrotide protocol, whereas only 35.7% of patients in the OHSS group had a short cetrotide protocol. Since p-value for Eggs collected was (p=0.01<0.05), which was less than 0.05, hence there is a significant difference in mean Eggs collected between OHSS and Non-OHSS groups. With regards to Eggs collected, it was found that the OHSS group had a critical mean of 18.8±9.2 as compared to patients in the Non-OHSS group who were reported to have a non-critical mean of 10.6±6.9. Since, p values for starting dose (IU/day) (p=0.75>0.05), duration of Stimulation (days) (p=0.95>0.05) and total dose used (p=0.60>0.05), which were greater than 0.05 level, hence there was no difference in mean starting dose (IU/day), duration of Stimulation (days) and total dose used between OHSS and Non-OHSS groups.

**Table 3: Logistic Regression Analysis to predict the development of OHSS**

|  | Odds Ratio | 95% CI | P value |
|---|---|---|---|
| Age | 0.896 | 0.774-1.037 | 0.14 (N.S) |
| BMI | 1.013 | 0.975-1.051 | 0.51 (N.S) |
| Starting Dose | 0.992 | 0.973-1.011 | 0.40 (N.S) |
| Duration of Stimulation | 0.684 | 0.335-1.397 | 0.30 (N.S) |
| Total dose | 1.068 | 0.935-1.221 | 0.33 (N.S) |
| Eggs collected | 1.087 | 1.015-1.163 | **0.05\*** |

*\*p<0.05, N.S- Not Significant*

Logistic regression was performed to ascertain the effect of age, BMI, starting dose, duration of stimulation, total dose and eggs collected within the OHSS group (Table 3). The dependent variable is dichotomous, which is 0 or 1. From these results, it can be observed that the eggs collected ($p=0.05$) added significantly to the model/prediction, but age ($p=0.14$), BMI ($p=0.51$), starting dose ($p=0.40$), duration of stimulation ($p=0.30$) and total dose ($p=0.33$) did not significantly add to the model. The odds ratio of having OHSS is 1.087 times greater for eggs collected. The strongest predictor of OHSS was eggs collected, recording an odds ratio of 1.087.