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A CROSS-SECTIONAL STUDY TO DETERMINE THE OCCURRENCE OF HYPERPROLACTINEMIA AMONG INFERTILE WOMEN

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Abstract:

Objective: *This research aims to determine the occurrence of hyperprolactinemia among infertile women.*

Patients and Methods: *This cross-sectional research was carried out in the timeframe of August 2018 to June 2019 at Mayo Hospital, Lahore. The research sample included 75 patients who fulfilled the inclusion criteria after submission of informed consent. We took detailed patient's history along with blood samples for the prolactin level assessment. After collecting reports, infertile women were recorded for hyperprolactinemia occurrence.*

Results: *In the total of 75 patients 51 patients (68%) were in the age bracket of (20 – 30) years; whereas, 24 patients (32%) were in the age bracket of (31 – 40) years. Mean age of the patients was (28.16 + 4.37) years. Mean level of prolactin was (23.16 + 3.65) ng/ml. A total of 21 patients (28%) were observed for hyperprolactinemia occurrence.*

Conclusion: *It is concluded that hyperprolactinemia occurrences are more among infertile. The detailed evaluation of hyperprolactinemia for such patients will definitely help the obstetricians for better management of women with infertility.*

Keywords: *Infertility, Hyperprolactinemia, Prolactin and Assessment.*

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INTRODUCTION

Hyperprolactinemia refers to a level of prolactin serum above (25 ng/ml) clinically measured among women with infertility. Infertility is a reproductive condition/disease which hinders the conception among women. It is among females (37%) in the total infertile couples mostly because of the ovulatory disorder. It is mostly attributed to hormonal irregularities [1]. Among 41.1% of Pakistani females are facing non-reproductivity issues attributed to infertility [2]. Hormonal disorders account for a number of issues for female reproductivity resulting from an abnormal hypothalamic-pituitary-ovarian axis dysfunction. Infertility caused by such disorders leads to serious psychological constraints among females [3].

One-third of the women facing infertility during reproductive age suffer from the onset of hyperprolactinemia [4]. A distant increase in the level of elevation after orgasm is effective for implantation and decidualization [5]. A transient increase in the level of prolactin attributes to venepuncture stress; whereas, mild increase in the hyperprolactinemia is frequent among PCOS patients because of the increased level of circulating estrogen [6]. Serbian research deduced that hyperprolactinemia is the only factor leading to infertility and anovulation among (55.12%) cases in the total sample of 104 patients [7]. Another research of similar nature reported 13.7% of patients affected with infertility [8]. This research aims to determine the occurrence of hyperprolactinemia among infertile women.

METHODOLOGY:

This cross-sectional research was carried out in the timeframe of August 2018 to June 2019 at Mayo Hospital, Lahore. The research sample included 75 patients who fulfilled the inclusion criteria after submission of informed consent. Infertile cases having unprotected intercourse period of (12 – 18) months without conception in the age bracket of (20 – 40) years were made a part of this research. Whereas, female tubal factor, male infertility, obvious organic pelvis lesion and urogenital tract irregularities, thyroid disease history, thyroid medication & surgery and women seeking hyperprolactinemia treatment were not included in the research. We took detailed patient's history along with blood samples for the prolactin level assessment. After collecting reports, infertile women were recorded for hyperprolactinemia occurrence. A pre-designed form was used to note down all the outcomes. These outcomes were statistically analyzed on SPSS software. Quantitative variables (age, BMI, infertility duration and level of prolactin serum) were presented in Mean and SD. Qualitative variables (primary or secondary infertility type) were presented in frequency and percentage.

RESULTS:

In the total of 75 patients, 51 patients (68%) were in the age bracket of (20 – 30) years; whereas, 24 patients (32%) were in the age bracket of (31 – 40) years. Mean age of the patients was (28.16 + 4.37) years. Mean level of prolactin was (23.16 + 3.65) ng/ml. A total of 21 patients (28%) were observed for hyperprolactinemia occurrence. Mean weight, height and BMI was respectively (66.94 + 8.63) kgs, (57.58 + 6.51) inches and (27.88 + 2.44). Mean infertility duration was (3.85 + 1.26) years. There were 38 patients of primary infertility (50.67%); whereas, 37 patients (49.33%) of secondary infertility. Detailed outcomes about age, BMI, Infertility and Hyperprolactinemia are given in the tabular and graphical data.

Table – I: Stratification of Age

Age	Number	Percentage
20 to 30 Years	51	68
31 to 40 Years	24	32
Total	75	100
Mean ± SD	28.16 ± 4.37	

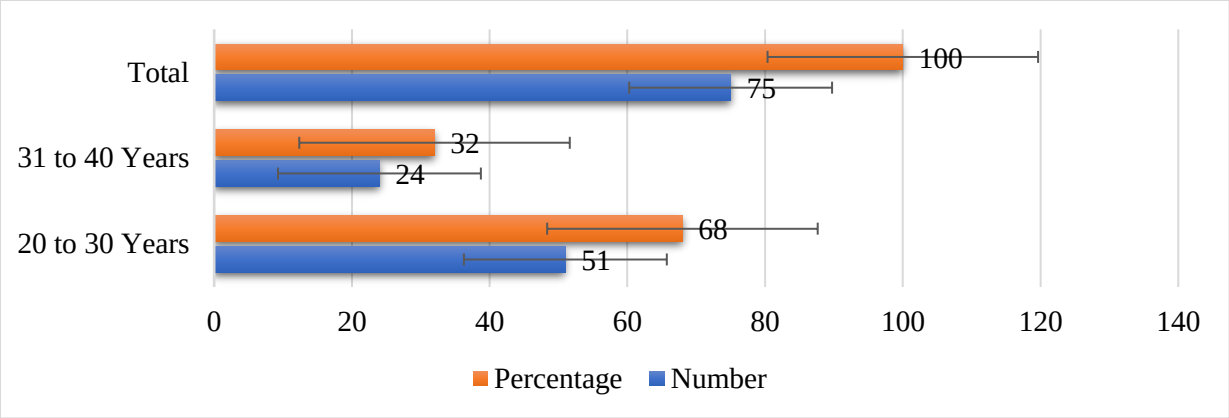


Table – II: Stratification of BMI

BMI	Mean	SD
Weight (Kgs)	66.94	8.63
Height (Inches)	57.58	6.51
BMI	27.88	2.44

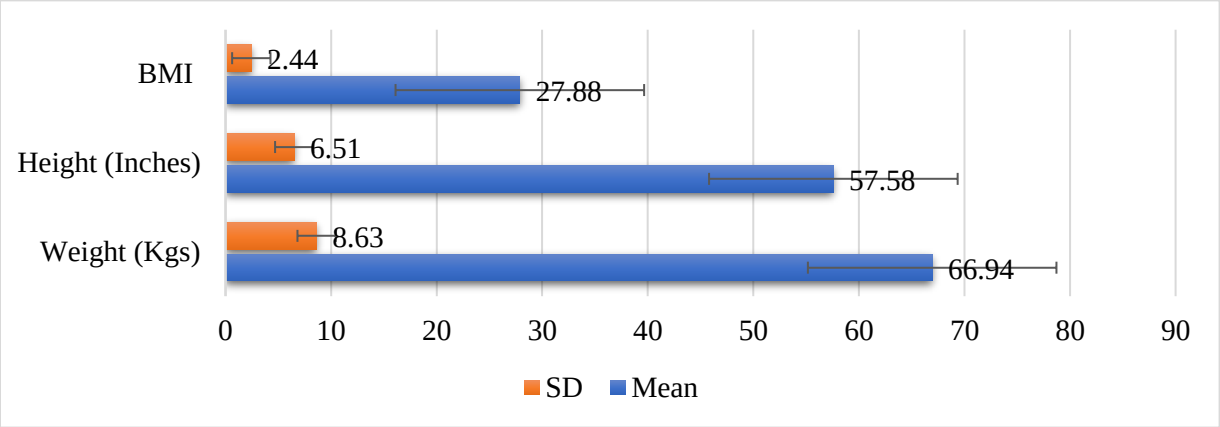
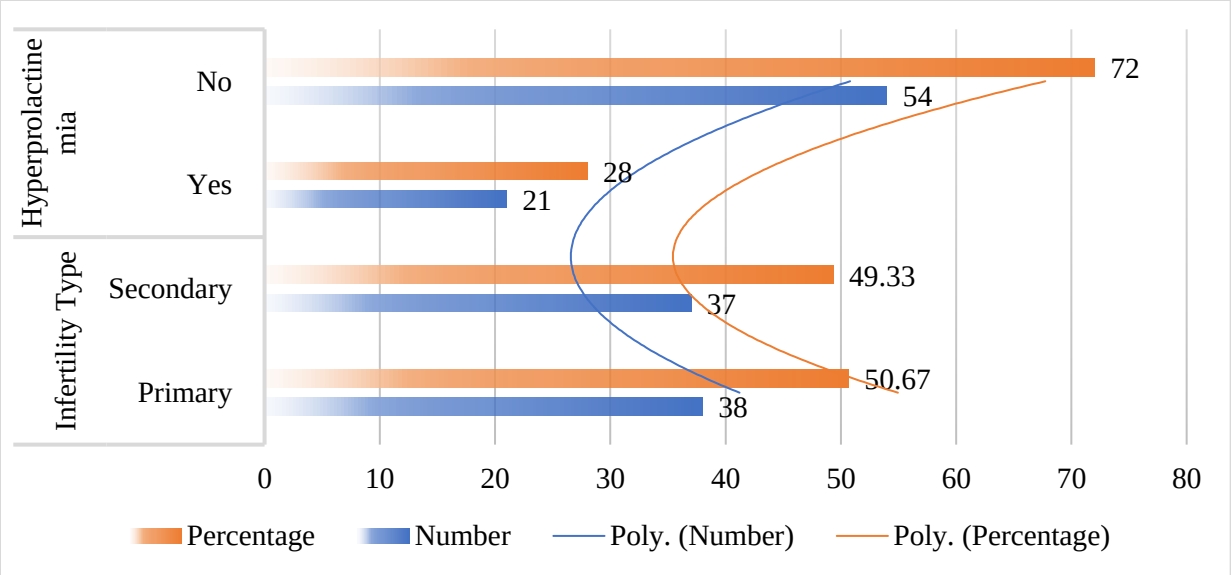


Table – III: Infertile versus Hyperprolactinemia

Variables		Number	Percentage
Infertility Type	Primary	38	50.67
	Secondary	37	49.33
Hyperprolactinemia	Yes	21	28
	No	54	72



DISCUSSION:

Differing outcomes have been reported in two different studies creating ambiguity for the management of infertile women by obstetricians. Our population was different in magnitude from the other studies. The research included the local population to avoid varying outcomes in order to assist obstetricians to manage infertile women. The research sample included 75 patients among which 51 patients (68%) were in the age bracket of (20 – 30) years; whereas, 24 patients (32%) were in the age bracket of (31 – 40) years. Mean age of the patients was (28.16 + 4.37) years. Mean level of prolactin was (23.16 + 3.65) ng/ml. A total of 21 patients (28%) were observed for hyperprolactinemia occurrence. Mean weight, height and BMI was respectively (66.94 + 8.63) kgs, (57.58 + 6.51) inches and (27.88 + 2.44). Mean infertility duration was (3.85 + 1.26) years. The Serbian outcomes (55.12%) were more than out reported outcomes; whereas, the other study reported (13.7%) which is below the outcomes of our research [7, 8].

Another research reported 24.67% of patients with prolactin level of (> 25) µg/L for the hyperprolactinemic females. Mean level of prolactin serum was among hyperprolactinemic females was (84.83) µg/L. Hypothyroidism onset was (25.68%) among hyperprolactinemia cases. About 26% of females were obese (BMI above 25) and 20.27% presented Galactorrhea. Galactorrhea and obesity are strongly correlated to hyperprolactinemia. Primary and secondary infertility cases were 239 and 61 in the total of 300 with a respective percentage of 79.6% and 20.4% [9]. A low onset was reported among 15% anovulatory women by Greer [10]. High relativity level of inactive PRL in tumour absence is because of macromolecules circulation of PRL by anti-PRL [11 – 12].

An overall prevalence of hyperprolactinemia (28%) among women having infertility the major anomalies included disturbed menstrual cycles and galactorrhea. It refers that hyperprolactinemia is possibly infertility attributor as an etiological agent which recommends regular PRL assay. However, as galactorrhea is an effective marker clinically indicating hyperprolactinemia which may help in the initiation of dopamine treatment.

CONCLUSION:

It is concluded that hyperprolactinemia occurrences are more among infertile. The detailed evaluation of hyperprolactinemia for such patients will definitely help the obstetricians for better management of women with infertility.

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