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Research Article

**IMPACTS ON THE OUTCOMES OF ATMOSPHERIC
TEMPERATURE ON INTRAUTERINE INSEMINATION**¹ Dr. Hafiz Muhammad Ali Raza, ² Dr. Shakil Ahmad, ² Dr. Muhammad Munib Ramzan¹DHQ Hospital Faisalabad²Allied Hospital Faisalabad**Abstract:**

Objective: The objective of this study is to conclude the impact of the temperature on the results of IUI (intrauterine insemination) if available.

Methodology: This is a prospective research work. In this research work, two hundred and seventy-four and two hundred and ninety-four cycles of insemination within the womb carried out at two separate durations of the 2017 & 2018, in the seasons of summer & winter. The lowest and highest limits of temperatures in the winter were three to seventeen centigrade & thirteen to seventeen centigrade respectively. The lowest and highest limits of temperatures in the summer were twenty-five to thirty-two centigrade and forty-three to fifty centigrade respectively. The chosen unproductive couples were showing the sterility from male side due to nonstandard traits of semen, disturbance in the functioning of sexual organs and anomalous PCT (post coital test) and traits of ovary and unknown reasons of infertility. Beta HCG was in use for the confirmation of the pregnancy.

Results: In cold weather among two hundred and seventy-four cycles, twenty-four participants got pregnancy and in hot weather among two hundred and ninety-four cycles, eighteen participants got pregnancy. There was not any association available between the results of intrauterine insemination and temperature of the atmosphere.

Conclusion: The outcome of this research work concludes that there is no effect of temperature of atmosphere on the findings of intrauterine insemination.

Key Words: Cervix, Morphology, Nonstandard, Intrauterine Insemination, Unproductively, Pregnancy.

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INTRODUCTION:

Infertility among couples is very frequent issue which is affecting about fifteen percent couples. To decrease this issue, insemination through artificial methods is in practice from last two hundred years [1, 2]. Currently, unaccompanied IUI (intrauterine insemination) or in collaboration with COH (controlled ovarian hyper) stimulation is in practice with the expectations of favourable results. The signs for therapeutic insemination with sperm donor are the male aspects, cervix related factors and infertility issues which are unexplained. The probability for victory with the use of intrauterine insemination (IUI) is dependent on cycles of ovary, age of female, the density of sperm, morphology and the ability of sperms to move spontaneously and independently and morphology. The outcomes of intrauterine insemination with sperm of the partner are three to fifteen percent per cycle [2]. Distinct and constant patterns of the seasons in fertility are assessable in all the communities of human beings [3].

The utilizations of birth data on monthly basis and temperature information for various areas & countries carry out to show the impact of changes in temperature on the rates of fertility. Temperatures in the extreme hot weather decrease these ideas in the south parts of USA, comprehending a considerable part of birth pattern based on the seasons but the very cold weather provides no facts of having influence of those ideas [4]. The organizing the temperature on monthly basis does not give explanation of the constant spring limits in the childbirths in north part of Europe. The outcomes of this case study show that there are some other aspects which are also playing an important role [3]. The interrogation of the impact of latitude & cloud cover atmosphere on the birth rate of human carried out and the outcomes of that sub study are in favour of the ideas that light intensity of the atmosphere and photoperiod may affect the seasonality of human birth [5].

Another case study does not provide any reduction in the fertility of workers of a pot room who were always in contact with extreme heat and stationary magnetic fields, when placed together with the other labourers of another factory of aluminium production [6]. There are various outcomes of the impact of temperature on these ideas. Thus, this research work was an effort to search the impact of temperature on the ideas on the association between the changes in the temperature and the results of intrauterine insemination.

METHODOLOGY:

This research work carried out from November 2017

to September 2018. The patients with sub fertility and with a suggestion for intrauterine insemination visiting the Mayo Hospital Lahore became the participants of this research work. The time was chosen for performing the intrauterine insemination on the basis of hottest & coldest duration of the year in that particular region. The duration of the cold temperature started in 22 November and lasts upto 19 February 2018, the lowest temperature of that period was three centigrade to seventeen centigrade and the maximum temperature of that period was from thirteen to twenty-seven centigrade.

The duration of the hot season started from 15 June and up to September 2018. The lowest temperature of that season was from twenty-five to thirty-two centigrade and the highest temperature of that season was forty-three to fifty centigrade. The couples participated with infertility of men factor because of irregular traits of semen, disturbance in the function of sexual organs, inexplicable infertility with a previous past history of three to six times of ovulatory induction, bad PCT test & unproductiveness of ovulatory aspects. The participants have to face COH (controlled ovarian hyper) stimulation, they have to receive clomiphene citrate & at least seventy-five IU HMG regardless the fact that if they are ovulatory and/or an ovulatory. HCG (five thousand IU IM) was managed when at least on follicle arrived at an average diameter of eighteen millimetres. Checking of the raw portion of semen carried out for was processed for intrauterine insemination utilizing the method of swim up and an alone intrauterine insemination performed after thirty-six hours.

If the participants failed to notice the period, B HCG of the serum had performed. If B HCG of the serum found positive, the outcome of the intrauterine insemination declared as positive. Statistical examination: The expression of the data was as average SEM (standard error of mean). The association between the participants was concluded on the basis of the traits of semen. The traits of the semen included the percentage of the sperm morphology (as greater than five percent, between five to ten percent and less than ten percent) and overall count of motile (5×10^6 , $5-10 \times 10^6$ & $>10 \times 10^6$), age of female & ovulatory cycles. Chi square method of student was in use. P value of statistical significance fixed at 0.05.

RESULTS:

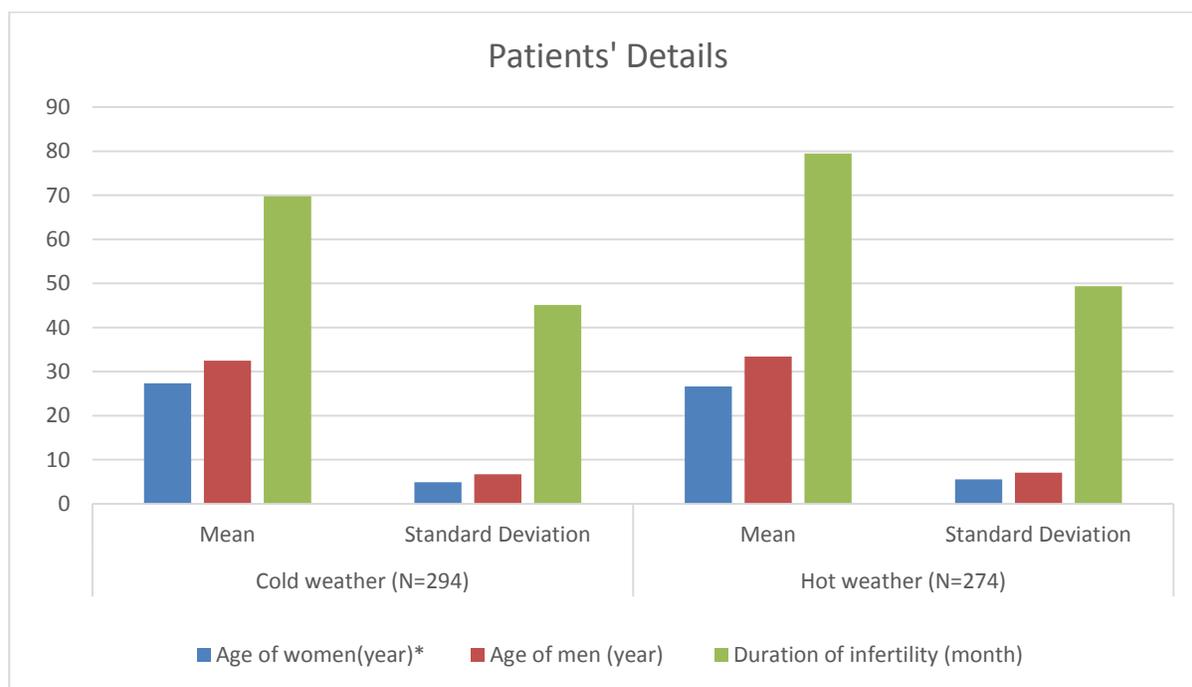
Three hundred and seventy-one were the total couples of this research work who underwent five hundred and sixty-eight intrauterine insemination

treatment cycles. The traits of the couples on the basis of their demographic data in this research work are available in Table-1. The range of age of females and males were sixteen to twenty-four years & nineteen to seventy-three years respectively and the range of infertility period was from seven to two hundred and sixty-four months. The participants presented with primary infertility were more than seventy-seven percent and the patients presented with secondary infertility were more than twenty-two

percent. There were two hundred and seventy-four intrauterine insemination cycles performed in the cold weather and two hundred and ninety-four intrauterine insemination cycles carried out in hot weather. In the winter season, twenty-four participants became pregnant, the total rate of pregnancy was about nine percent per cycle and in the summer season, eighteen participants became pregnant, and the rate of pregnancy was more than six percent per cycle.

Table-I: Details of patients in the study

Details		Age of women(year)*	Age of men (year)	Duration of infertility (month)
Cold weather (N=294)	Mean	27.32	32.45	69.78
	Standard Deviation	± 4.91	± 6.72	± 45.09
	Range	19-42	21-53	9-228
Hot weather (N=274)	Mean	26.6	33.4	79.48
	Standard Deviation	± 5.52	± 7.07	± 49.39
	Range	16-44	19-73	7-264



DISCUSSION:

The frequency of the variations in the temperature of atmosphere does not affect the outcome of the intrauterine insemination. Some research works have concluded the impact of the temperature of atmosphere on the results of intrauterine insemination. Proctor JG conducted a research work

and found that the temperature variations in the seasons changes the factors of sperm motility & morphology, but those alterations are not very important to the rate of occurrence of pregnancy [7]. The analysis of the research work guided us to the spontaneous conception which is autonomous of the temperature variations in various weathers. Mur JM

concluded the same results in his research works but no other research work did this [4, 6]. The research works conclude that the total rate of pregnancy per cycle intrauterine insemination was about 7.3% that is similar to the range of this factor in many other research works which is from three to fifteen percent.

CONCLUSION:

The results of this case study show that the variations in the temperature of the atmosphere have much important impact on the outcomes of the intrauterine insemination (IUI).

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