CODEN [USA]: IAJPBB ISSN : 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES
SJIF Impact Factor: 7.187
http://doi.org/10.5281/zenodo.4375453

Avalable online at: http://www.iajps.com *Research Article*

A STUDY ON THE EFFECTS OF INTRAUTERINE INSEMINATION OF ATMOSPHERIC TEMPRETURE

[1]Dr Sehrish Batool, [2]Dr Maria Zafar, [2]Dr Maham Khalid
[1]University of Lahore
[2]Jinnah Hospital Lahore

Article Received: October 2020 **Accepted:** November 2020 **Published:** December 2020

Abstract:
Objective: *To find out the effects of temperature on the outcome of intrauterine insemination (IUI).*
Methodology: *This study was conducted at Jinnah Hospital Lahore and the duration of this study was from November 2019 to September 2020. The base and the scope of temperature wide open to the harsh element's climate were 3°C to 17°C and 13°C to 27°C and in the sweltering, climate was 25°C to 32°Cand 43°C to 50°C separately. The chose fruitless couples were male factor fruitlessness with anomalous parameters of semen, sexual brokenness and strange post coital test and ovulatory factor and unexplained barrenness. Pregnancy was affirmed by serum Beta HCG.*
Results: *Among 200 cycles exposed to the harsh elements climate, 22 patients got pregnant, (PR/cycle =6.53%) and among 194 cycles in the sweltering climate 16 patients were pregnant, (PR/cycle =4.10%) (P=0.23) There was no noteworthy connection amongst temperature and the result of IUI.*
Conclusion: *The finding of examination demonstrates that the result of IUI is not affected by temperature and climate is if no significance for IUI.*
Keywords: *Sweltering, Fruitlessness, Anomalous, Infertility, Insemination, Cervical.*

Corresponding author:
Dr. Sehrish Batool,
University of Lahore

QR code

Please cite this article in press Sehrish Batool et al., ***A Study On The Effects Of Intrauterine Insemination Of Atmospheric Temperature.,*** *Indo Am. J. P. Sci, 2020; 07(12).*

INTRODUCTION:

These days up to 15% families are facing infertility. In order to get rid of this problem and to improve the rate of conception, several techniques are being practiced for example artificial insemination techniques are in practice from 200 years in different forms. In recent times, intrauterine insemination (IUI) either alone or with combination of controlled ovarian hyper stimulation (COH) have been under consideration and are hoped that they may bring positive yields [1]. The sign used for donor sperm/ husband is known as cervical factor, male factor and unexplained infertility. There are key indicators which are included in the success with IUI from female side such as; the age of women, sperm density, motility, ovulatory cycles and morphology. The outcomes from husband's / donor sperm are 3% to 5% per cycle. Recurrent patterns have been observed for fertility in several times periods by whole population of humans [2].

Different studies have been continued in several countries in order to observe and measure the changes or fluctuation in fertility by temperature data and estimation for monthly birth. As results have demonstrated that in southern US, the conception rate is reduced in extremes of summer, indicating the considerable part of seasonal birth pattern while in extreme cold whether have no impact on conception rate. While in northern Europe the controls of temperature are kept in estimation, but they do not discuss the births peak of springs. Considering these findings, it is concluded that environmental whether plays an influential role [3]. Other studies and sub study hypothesized that environment light intensity and photoperiod has great influence on conception, these studies are categorized as latitude and cloud cover impact. Difference of work place has also affected as a study illustrated that the workers who are exposed to heath and static magnetic show no change in fertility as compared to the people working in aluminium producing industry. As by above arguments it is said that temperature is an influential factor for conception. Therefore, this study attempts to find out the effect of temperature while considering the relationship among the IUI outcome and variation of temperature on conception.

METHODOLOGY:

This study was conducted at Jinnah Hospital Lahore and the duration of this study was from November 2019 to September 2020. The priority slot select for experimentation of IUI is based on extreme coldest and hottest times of the year. The time range of cold weather for study was November 22 to February, 2019 the range of minimum temperature was 3˚C to 17˚C and the maximum range 13˚C to 27˚C. The time slot for summer study session was from June 15 to September, 2020, the minimum temperature for summer was 25˚C to 32˚C and the maximum was from 43˚C to 50˚C [4].

Couples were incorporated with male factor infertility because of strange parameters of semen, sexual dysfunction, unexplained infertility with history of 3 to 6 times of ovulatory acceptance, poor post coital test and ovulatory factor barrenness with history of 3 to 6 times of ovulation enlistment. Patients under went controlled ovarian hyper incitement they got clomiphene citrate and no less than 75 IU HMG regardless of whether they were ovulatory or an ovulatory. In all of cycles, HCG (5000IU IM) was directed when no less than a follicle achieved a mean breadth of 18mm. Crude semen was handled for IUI utilizing swim up method and a solitary IUI was performed 36 hours after the fact. In the event that patient missed the period, serum B-HCG was performed. In the event that serum B-HCG was sure, the consequence of IUI was sure [5].

Factual Analysis: Data was communicated as the mean standard mistake of mean (SEM). Patients were coordinated based on parameters of semen incorporated the percent of the ordinary sperm morphology (<5%, 5-10% and >10%) and add up to motile check (5 x106, 5-10x106 and >10x106), period of ladies and ovulatory cycles. Understudy's chi-square test was utilized. Measurable noteworthiness was set at $P<0.05$.

RESULTS:

The sample size of study was 371 couples which, then faced 568 IUI cycles of treatment. Table I shows the demographics of the couples. The age range selected for women were from 16 to 22 while for men it was 19 to 73 however 7-264 months, the range of duration of infertility. The percentage of patients with primary infertility was 77.7% while for secondary infertility patients were 22.3%. The number of cycles performed in cold weather was 200 while in hot weather were 194. The number of patients who got pregnant in winters was 22 patients illustrating the pregnancy rate per cycle were 6.53% (22/200). While 16 patients got pregnant in summers showing pregnancy rate per cycle of 4.10% (16/194).

Table -1: Detail of patients in the study

	Cold weather (N=200)		Hot weather (N=194)	
	Mean	**Range**	**Mean**	**Range**
Age of women (year)	25.30+2.89	19-42	24.4+3.30	16-44
Age of men (year)	30.23+4.50	21-53	31.2+5.05	19-73
Duration of infertility (month)	47.56+23.07	9-200	57.26+27.17	7-194

DISCUSSION:

Results have showed that the temperature does not significantly affect IUI outcomes [6]. The study published by Proctor JG et al identified that sperm is usually changed by weather in terms of motility and morphology, but there are very less chances that these factors have influence on pregnancy rates [7,8]. Empirical analysis of the study brought the whole subject to the point that prompt conception is independent of seasons, it is also confirmed by Mur JM et al. in contrast, this is not evident in other studies [9,10,11]. The overall pregnancy rate per IUI cycle was 7.3%, the same is related to other 3% to 15% in similar studies.

CONCLUSION:

The finding of the examination demonstrates that the result of IUI isn't impacted by temperature and climate is if no significance for IUI.

REFERENCES:

1. Llamas-Luceño, N., Hostens, M., Mullaart, E., Broekhuijse, M., Lonergan, P., & Van Soom, A. (2020). High temperature-humidity index compromises sperm quality and fertility of Holstein bulls in temperate climates. Journal of Dairy Science, 103(10), 9502-9514.
2. Kumari, T., Pan, S., & Choudhary, R. K. (2018). Effect of Genetic Group, Season, Their Interaction, Temperature, Humidity and Temperature-Humidity Index on Maintenance Behavior of Stud Bulls. Iranian Journal of Applied Animal Science, 8(2), 207-213.3.
3. Schroer, S., Häffner, E., & Hölker, F. (2019). Impact of artificial illumination on the development of a leafmining moth in urban trees. International Journal of Sustainable Lighting, 21(1), 1-10.4.
4. Das, R., et al., Impact of heat stress on health and performance of dairy animals: A review. Veterinary world, 2016. 9(3): p. 260.
5. Van Eetvelde, M., et al., The Importance of the Periconception Period: Immediate Effects in Cattle Breeding and in Assisted Reproduction Such as Artificial Insemination and Embryo Transfer, in Periconception in Physiology and Medicine. 2017, Springer. p. 41-68.
6. Arrébola, F., et al., Effects of weather and management factors on fertility after artificial insemination in Florida goats: A ten-year study. Small Ruminant Research, 2016. 137: p. 47-52.
7. Arrébola, F., et al., Management and meteorological factors affect fertility after artificial insemination in Murciano-Granadina goats. Animal Production Science, 2016. 56(11): p. 1906-1912.
8 Đuričić, D., Benić, M., Žaja, I. Ž., Valpotić, H., & Samardžija, M. (2019). Influence of season, rainfall and air temperature on the reproductive efficiency in Romanov sheep in Croatia. International journal of biometeorology, 63(6), 817-824.
9. Kabukçu, C., Çil, N., Çabuş, Ü., & Alataş, E. (2020). Effect of ejaculatory abstinence period on sperm DNA fragmentation and pregnancy outcome of intrauterine insemination cycles: A prospective randomized study. Archives of Gynecology and Obstetrics, 1-10.
10. Pan, Y., Li, Y., Fan, W., Zhang, D., Qiang, Y., Jiang, Z. P., & Chen, Y. (2019). A sea trial of air-lift concept artificial upwelling in the East China Sea. Journal of Atmospheric and Oceanic Technology, 36(11), 2191-2204.
11. Gangwar, C., Kharche, S. D., Mishra, A. K., Saraswat, S., Kumar, N., & Sikarwar, A. K. (2020). Effect of diluent sugars on capacitation status and acrosome reaction of spermatozoa in buck semen at refrigerated temperature. *Tropical Animal Health and Production*, *52*(6), 3409-3415.