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Research Article

**A COMPARATIVE STUDY ON THE DELIVERY PAIN AND
DURATION BETWEEN WATER AND NORMAL DELIVERY**¹Dr. Waqas Haider, ²Dr. Zahra Fayyaz, ³Dr. Muhammed Hassan Arif¹Rashid Latif Medical College Lahore²Central Park Medical College Lahore³Rashid Latif Medical College Lahore**Abstract:**

Objective: The objective of this research work is to evaluate the impacts of delivery in water, as delivery having no interference from normal path, for the reduction of the time & pain for women.

Methodology: This research work is a medical trial on the females having baby in their body with pregnancy period of thirty-eight to forty-two weeks in the Mayo Hospital Lahore. The volume of the samples was one hundred patients. Samples were divided into two groups, one for normal delivery & other for delivery in the water. The analysis of the time & pain of the delivery process carried out with the help of Kruskal wallis & Mann whitney with P value less than 0.05 declared as significant.

Results: The outcome displayed that mean time of the delivery in the water group was 3.1 ± 0.8 hours, which was much lower than the group of normal delivery, which was 4.7 ± 0.8 hour. Mean duration of 2nd phase of delivery in the group of water delivery was 0.53 ± 0.22 hours, which is much less than the normal delivery group with 0.88 ± 0.43 hours. Visual analogue score was in use for the measurement of pain in the both groups. The measurement of the pain was 3.53 ± 0.79 in the group of water delivery & 6.9 ± 1.7 was in the group of normal delivery. It shows a clear reduction in the amount of pain in the group of water delivery.

Conclusion: This research work shows that water delivery is a suitable, nonclinical & non invasive substitute, decreases the amount of pain and period of delivery process.

Key Words: Nonclinical, Reduction, Caesarean, Average, Pain, Measurement, Method, Process.

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INTRODUCTION:

Use of the pain killers reduces the pain in the patients. The procedures of the medicine field for the reduction of the pain are less acceptable in the case of delivery which is a unique nature pain. Panic of pain in delivery is very vital reason, due to this reason, many females are hesitant to face the process of normal delivery and choose caesarean section as a substitute. The AAG (American association of gynaecologists) has decided the aim of decreasing the caesarean section rate from more than twenty five percent to less than sixteen percent during the first decade of 21st century [1]. In Pakistan, caesarean is very common way of delivery which is three times greater than the other areas of the world. Epidural or spinal anaesthesia, N2O & sedatives are the most frequent procedures for the decrease in the pain during delivery process [2].

A nine years futuristic research work on nine thousand five hundred and eighteen deliveries, constituting three thousand six hundred and seventeen deliveries in water & five thousand nine hundred and one normal deliveries, concluded that water deliveries has better results for the baby as well as mother [3]. Other research work on two hundred and twenty deliveries revealed that water delivery helpful for complicated & long pregnancies and decreases the requirement of clinical interference [4]. A research work in Lahore on 100 without pregnancy females separated into two equal groups of healthy controls and patient group showed that clinical interference was less in the patient group [5].

METHODOLOGY:

This research conducted in Mayo Hospital Lahore. This study completed in the duration one year from February 19 of 2016 to February 19 of 2017. Total 100 pregnant women were the participants of this case study. They were separated into 2 groups with equal numbers for the both methods. There was no dissimilarity in age of the females, number of the child and pregnancy period in both groups. The

inclusion standards were pregnant females from sixteen to twenty eight year of age, one to two gravid, and pregnancy period from thirty eight to forty two weeks. Ethic committee approved the proposal of this research. The research work carried out according to Helsinki declaration. A special organized questionnaire was completed about the information of age of the pregnant female, pregnancy period in weeks, gravidity, duration between deliveries, pain scores and the information about the medicines used. Females were entered into the pool of warm water after their willing for this process.

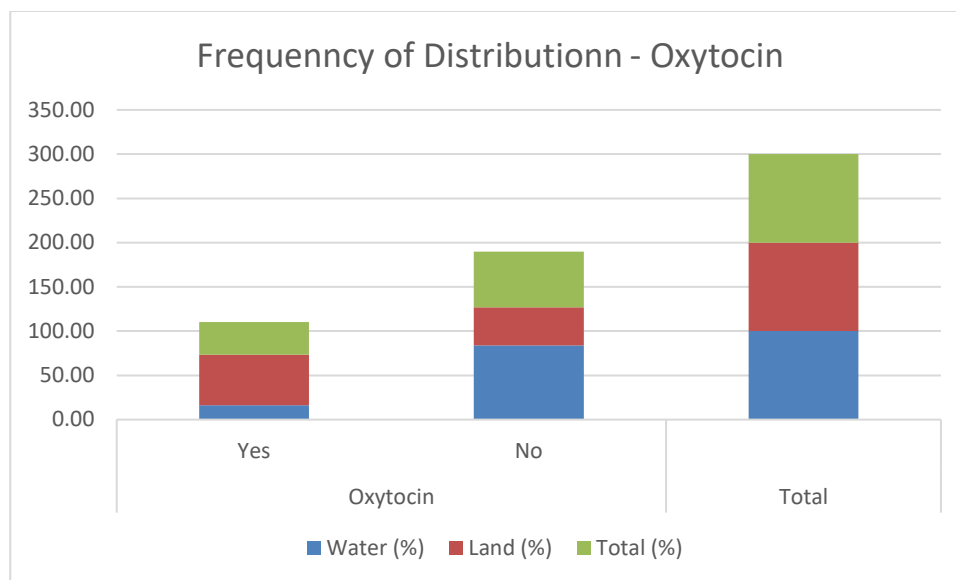
If there was a requirement of caesarean section then the patients was excluded from this research work. If pregnant female required analgesics, then she would be managed promethazine & the amount of utilization would be in record accurately. Visual analogue score was used for the measurement of the pain from zero to ten. The data was analyzed with the help of SPSS software & Chi-square, Kruskal Wallis, and Mann Whitney tests were in use for the analysis of variables.

RESULTS:

Hundred patients were separated into two groups for delivery in water and normal delivery. The groups were subdivided into subgroups of nulliparous & gravid females. The average age for every subgroup was different. The division of the period of pregnancy in the population of this research work displayed that thirty six percent patients were at thirty eight to thirty nine week of pregnancy, thirty three percent were at thirty nine to forty weeks, twenty six percent were forty to forty one week & five percent were forty one to forty two weeks of the pregnancy period as provided in Table-1. The average period of active phase was 3.6 ± 0.82 hrs & 2.8 ± 0.8 hrs in nulliparous & gravid subgroups of delivery in warm water group respectively. The mean duration of active phase was 5.2 ± 0.5 & 4.3 ± 0.8 hours in nulliparous & gravid subgroups of the group of normal delivery.

Groups	Oxytocin		Total
	Yes	No	
Water (%)	16.30	83.70	100.00
Land (%)	56.90	43.10	100.00
Total (%)	37.00	63.00	100.00

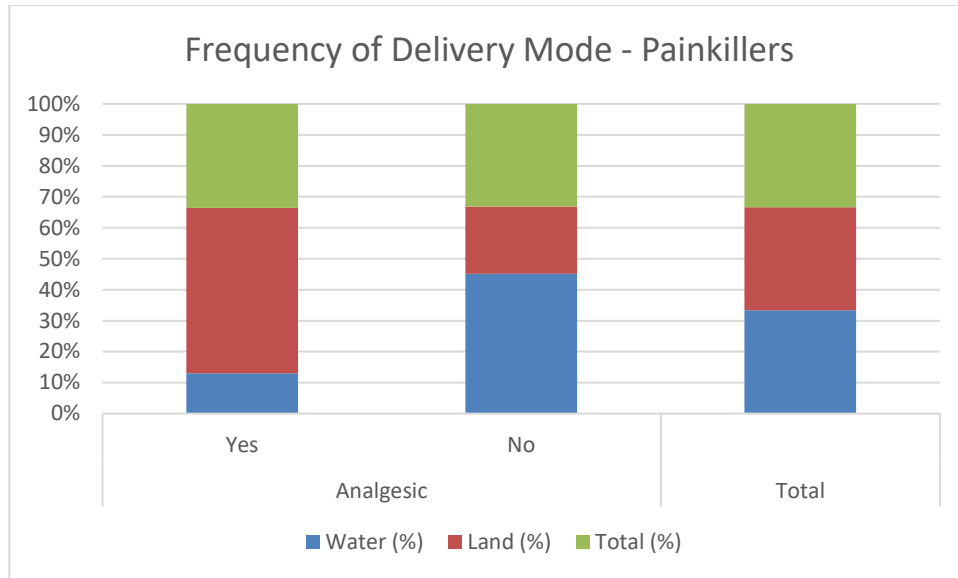
P<0.001



The findings displayed that mean time of the delivery in the water group was 3.1 ± 0.8 hours, which was much lower than the group of normal delivery, which was a 4.7 ± 0.8 hour. Mean duration of 2nd phase of delivery in the group of water delivery was 0.53 ± 0.22 hours, which is much less than the normal delivery group with 0.88 ± 0.43 hours. Visual analogue score was in use for the measurement of pain in the both groups. The measurement of the pain was 3.53 ± 0.79 in the group of water delivery & 6.9 ± 1.7 was in the group of normal delivery. It shows a clear reduction in the amount of pain in the group of water delivery. The decrease in the requirement of the oxytocin with delivery in warm water is important with respect to normal process of delivery as mentioned in Table-1. The decrease in the need of the analgesics in water delivery is also very important than the normal delivery patients as described in Table-2.

Table-II: Distribution of relative frequency on the basis of need for painkillers			
Groups	Analgesic		Total
	Yes	No	
Water (%)	14.30	85.70	100.00
Land (%)	58.80	41.20	100.00
Total (%)	37.00	63.00	100.00

P<0.001

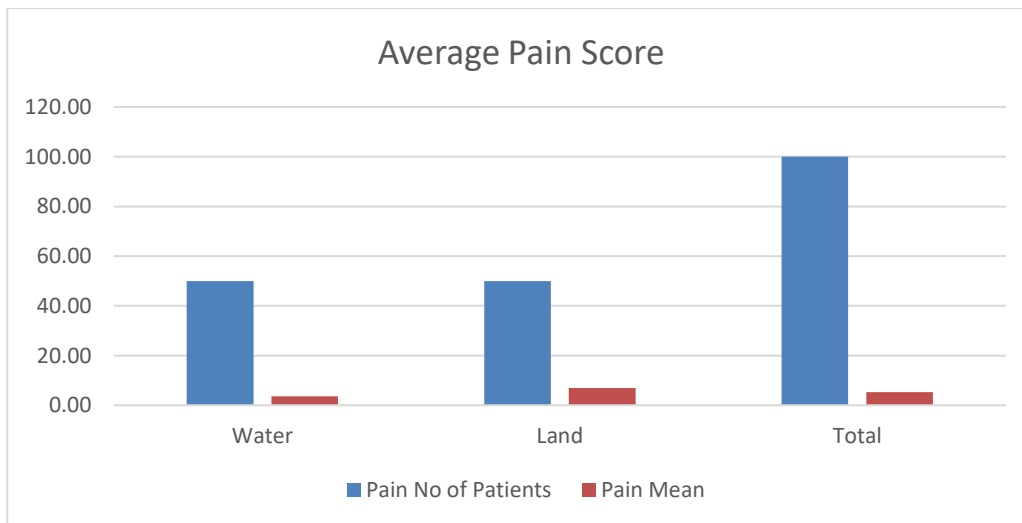


The amount of the pain was also very less in the water group as compared to the next group as displayed in Table-3. The decrease of the requirement of episiotomy in the warm water group is also mentioned in Table-4. About 4 patients from water group and 9 patients from normal delivery group required caesarean, so they were excluded from the research work.

Table-III: Average pain score in pregnant women considering delivery mode

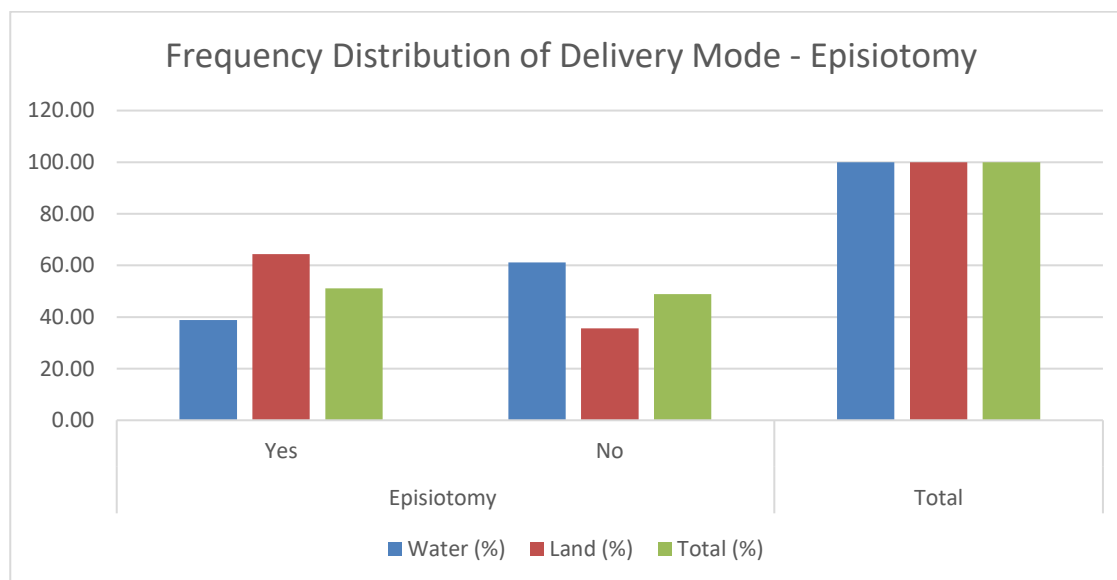
Groups	Pain		SD
	No of Patients	Mean	
Water	50.00	3.530	0.790
Land	50.00	6.960	1.700
Total	100.00	5.280	2.170

P<0.0010



Groups	Episiotomy		Total
	Yes	No	
Water (%)	38.80	61.20	100.00
Land (%)	64.40	35.60	100.00
Total (%)	51.10	48.90	100.00

P=0.0100



DISCUSSION:

The outcome shows that the time duration for first and second phases of delivery are lesser in the process of delivery in water group than the group of normal delivery due to the hot water. Contraction of the pelvis increases due to position of sitting & water hydrostatic impact. Cluette concluded water delivery as a substitute for other type of deliveries to reduce the clinical interference [6]. One research work on seventy females experiencing water deliveries & seventy females experiences normal deliveries in the period of active delivery phase. The delivery in the 2nd phase concluded 9 minutes greater in the water than the process of normal delivery. The score of pain was much low in water deliveries. The condition of the new born was same in both kinds of deliveries [7]. One research work two hundred and twenty water deliveries in 2005 finalized that water deliveries are beneficial in this process [4]. Geissbuehler in 2004 concluded that about seventy percent deliveries in warm water & fifty-eight percent deliveries with normal procedure were not in requirement of analgesics [8]. This research work in Asalian hospital shows that more than eighty three percent deliveries in warm water and about forty three percent usual deliveries required no oxytocin.

Bourke concluded oxytocin management is not the requirement of delivery in water & ninety eight percent multifarious females stated that the delivery in the warm water is much easier than the normal process of delivery [9]. One research work on two thousand deliveries states that a decrease in episiotomy, loss of blood & pain with the delivery in warm water. The satisfaction of the mothers was much higher in this method of delivery [10].

Grunebaum concluded that 6.49% new babies born in warm water & 0.5% of new born from normal delivery were in need of NICU [11]. Joanne stated that acidosis of the neonate reduces in the water deliveries & umbilical artery PCO₂ is much lower than the delivery through normal process [12]. Kwee concluded the benefits of the hydrostatic effect [13]. Johnson was also in favour of the deliveries in water with some particular conditions [14]. BMG report shows that delivery in water is ninety five percent secure & advantageous [15].

CONCLUSION:

Delivery in liquid is a good substitute for normal delivery because of time of the delivery process, pain, medical interference and less unhealthy impacts

on the new born babies. Delivery in water is a safe method for both mother and neonate.

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