

# Frequency of Lower Extremity Edema during Third Trimester of Pregnancy

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## ABSTRACT

**Objective:** To determine the frequency of lower extremity edema during third trimester of pregnancy. **Methodology:** One Hundred (100) female Patients were inspected randomly according to the pre-tested self-administered questionnaire. **Results:** Out of 100 female patients, the majority were with Multigravida (65%) whereas (60%) were in their 9th month of pregnancy. Two third 67% had edema at present and 33% were without edema. Almost one half of 49% female patients were having edema around feet, 4% around sacral region, and 14% around both regions. **Conclusion:** It is concluded from this research that most of the females suffer from lower extremity edema during pregnancy especially in 3rd trimester.

**Keywords:** Edema, 3rd Trimester, Lahore.

## INTRODUCTION

During pregnancy, numerous progressions happen in the female life form with the adjustment for the baby bringing on numerable grumbings, for instance, edema of the lower appendages. Fringe edema is the most widely recognized and versatile appearance in pregnant ladies. Edema, normally alluded to as swelling, is a far reaching finding with various potential etiologies. Weight pick up for the most part happens preceding edema development as the body's aggregate stores increment. As a rule, edema first happens symmetrically in the lower limits because of gravity (ward edema). Be that as it may, edema can be summed up (and sacral).

It can be limited to lungs (aspiratory edema), peritoneal hole (ascites), or pleural cavity (hydrothorax)<sup>(1)</sup> unending swelling, especially if lopsided, is an indication of incessant edema emerging from venous or lymphatic ailment, though symmetric lower appendage swelling proposes systemic or more essential diver of edema, for example, heart failure or nephrotic syndrome.<sup>(2)</sup> Venous edema comprises of overabundance low-thickness, protein-poor interstitial liquid coming about because of expanded slim filtration that can't be suited by an ordinary lymphatic framework. Lymph edema comprises of abundance protein-rich interstitial liquid inside the skin and subcutaneous tissue coming about because of lymphatic dysfunction.<sup>(3)</sup> Human pregnancy is connected with changes in the greater part of the physiological frameworks of the body. Leg edema is one of the cutaneous appearances of the pregnancy. Pregnancy impelled leg edema is connected with great pregnancy results and is practically viewed as typical. Edema of lower leg locale is exceptionally basic in ordinary pregnancy and it is extremely hard to say when this has passed as far as possible, the hydration of pregnancy may in some cases, get to be shown as edema without being physiological<sup>(4)</sup>. During normal pregnancy complete body water increments by 6-8 liters, 4-6 liters of which are extracellular, of which no less than 2-3 liters are interstitial. At some phase in pregnancy 8 out of 10 ladies have self-evident clinical edema. Amid pregnancy there is moderate fall in interstitial liquid colloid osmotic

pressure and ascend in capillary hydrostatic pressure.<sup>(5)</sup> Most basic reason for edema in pregnancy is "physiological edema". It results from the hormone actuated maintenance of sodium and water and changes available for use. Hormonal changes including expanded levels of progesterone, estrogen, and prolactin actuated changes in vascular permeability prompting edema. It can likewise happen when gravid uterus packs the inferior vena cava<sup>(6)</sup> Water immersion for 20 minutes is a successful method for diminishing fringe edema during pregnancy<sup>(7)</sup> External pneumatic pressure decreases lower leg swelling and pressure stocking additionally diminishes leg indications.<sup>(8)</sup>

The objective of this present study is to determine the frequency of lower extremity edema during third trimester of pregnancy.

## METHODOLOGY

This survey was conducted in two hospitals (Lahore general hospital and Lady Willington hospital) Jan. 2015 in Lahore. A self-administered questionnaire was used to check to the lower extremity edema during third trimester of pregnancy in both the hospitals. After getting ethical clearance from Medical Superintendents and ethical review committee of both the hospitals and participating patients were explained the purpose and method of data collection. One hundred and ten female patients were taken in the beginning of which ten (10) patients refused to participate whereas one hundred (100) patients willingly opted the inspection. After collection, data was entered in computers, using SPSS Software, version 20. Data were cleaned, organized and variables of interest were cross-matched. Chi Square test was applied to find any statistical significance.

## RESULTS

The majority of female patients were with the mean age of 26 Years and a standard deviation of 4.00. Out of 100 women, maximum were Multigravida (65%) and maximum (60%) were in their 9th month of pregnancy. 67% were those in which edema was present and 33% were without edema. 49% women were having edema around feet, 4% around sacral region, 14% around both regions. 60% women presented with pitting edema, 7% with non-pitting edema. 89% women were having pain in their lower extremities, 76% were having feeling of heaviness in their lower extremities

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and 84% were found to have difficulty in performing functional activities. 58% women were not having prolonged sitting/standing posture. Chi-square was applied to find out association of edema with different factors. Maximum women with presence of edema were Multigravida (36%) and parity status significantly influenced the presence or absence of edema (p-value 0.001).

**Table 1**

Variable	Construct	Edema		p-value
		Present	Absent	
Parity status	Primagravida	31	4	0.001
	Multigravida	36	29	
Month of 3rd trimester	7th month	7	5	0.68
	8th month	18	10	
	9th month	42	18	
Prolonged sitting or standing	Yes	34	8	0.10
	No	33	25	

**Table 2**

Variable	Mean±SD
Age	25.93±4.00
Age at Marriage	21.25±2.45

**Table 3**

Variable	Construct	Frequency	Percentage
Weight before pregnancy	40-50 kg	43	43%
	51-60 kg	46	46%
	61-70 kg	11	11%
Weight during pregnancy	50-60 kg	44	44%
	61-70 kg	42	42%
	71-80 kg	14	14%
Socio-economic status	UPPER	11	11%
	MIDDLE	52	52%
	LOWER	37	37%
Parity status	Primagravida	35	35%
	Multigravida	65	65%
Month of 3rd trimester	7th Month	12	12
	8th month	28	28
	9th month	60	60
Edema	Present	67	67%
	Absent	33	33%
Location of Edema	Around sacral region	4	4%
	Around feet	49	49%
	Both	14	14%
	None	33	33%
Type of edema	Pitting	60	60%
	Non pitting	7	7%
	None	33	33%
Pain in lower extremity	Yes	89	89%
	No	11	11%
Feeling of heaviness in lower extremity	Yes	76	6%
	No	24	24%

Difficulty in performing functional activities	Yes	84	84%
	No	16	16%
Prolonged Sitting or Standing	Yes	42	42%
	No	58	58%

Maximum frequency of edema (42%) was shown by women of 9th month (p-value 0.68). Out of 67 women with edema, 34 were having prolonged sitting/standing posture (p-value 0.10)

## DISCUSSION

Edema is one of the cutaneous appearances of pregnancy and is more normal in late pregnancy particularly bring down furthest point edema. For the most part pregnancy actuated edema is considered as should be expected and physiological yet it can bring about torment and sentiment largeness in lower limits and may bring about trouble in performing useful exercises. In this examination, 100 pregnant ladies were considered amid their third trimester and a survey was produced and conveyed among patients to assess the recurrence of lower extremity edema. In this study, a large portion of the ladies were multigravida. This study uncovers that the greater part of the ladies were having edema (67%) and lower leg was the most incessant site (49%). This concentrate additionally uncovers that most extreme recurrence of edema was appeared by ladies of ninth month (42%). In agreement to this exploration equality status was additionally observed to be noteworthy danger component. A large portion of the ladies with edema were having drawn out sitting/standing stance. Robertson did an exploration on 83 sound pregnant ladies and 83.1% of them were having clinical edema. This examination recommended that expanded hydration of tissues is liable to be all inclusive in ordinary pregnancy. Then again, another researcher led an examination on Nigerian ladies. In this examination predominance rate of edema was 8.5% which was much lower than the Caucasian rate of 75-80% (Davey, 1990). He clarified two explanations behind this low predominance rate. To start with, it could be genuine commonness rate of Nigerian ladies and furthermore, contemplate plan caught just those ladies who had edema around then. This exploration proposed that Iron deficiency, hunger, over the top body water, kidney ailments, liver illnesses and hypertension/preeclampsia were the assumed reasons for leg edema amid pregnancy. Toward the end of this examination it can be inferred that the distinction in the outcomes might be because of the racial contrast.

## CONCLUSION

It is concluded from this research that most of the females suffer from lower extremity edema during pregnancy especially in 3rd trimester. Pregnancy induces many changes in the female body including hormone induced sodium and water retention, increased levels of hormones and changes in the vascular permeability. All these changes lead to edema formation. Other factors can aggravate edema like prolonged static posture, excess salt intake, warm atmosphere etc.

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