

# LETHAL CONGENITAL MALFORMATION IN PRE-EXISTING DIABETES AND GESTATIONAL DIABETES MELLITUS

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## INTRODUCTION

The global incidence of Diabetes Mellitus (DM) is on the rise and estimated to be 6.4% as of 2010. Diabetes in pregnancy is a recognised risk factor for congenital malformations. Good glycaemic control before and thru organogenesis reduces the incidence.

## OBJECTIVES

To study the distribution and demographic characteristics of pre-existing DM and Gestational Diabetes Mellitus (GDM) with Lethal Congenital Malformation(LCM) in Malaysian tertiary hospitals.

## METHODOLOGY

This is a retrospective cohort study of stillbirth with LCM in women with Pre-existing DM and GDM from 1st January 2010 to 31st December 2012 from the National Obstetrics Registry. A total of 397,521 deliveries were analysed in this period of which there were a total of 2713 (0.68%) cases of pre-existing DM and 32188 (8.09%) cases of GDM.

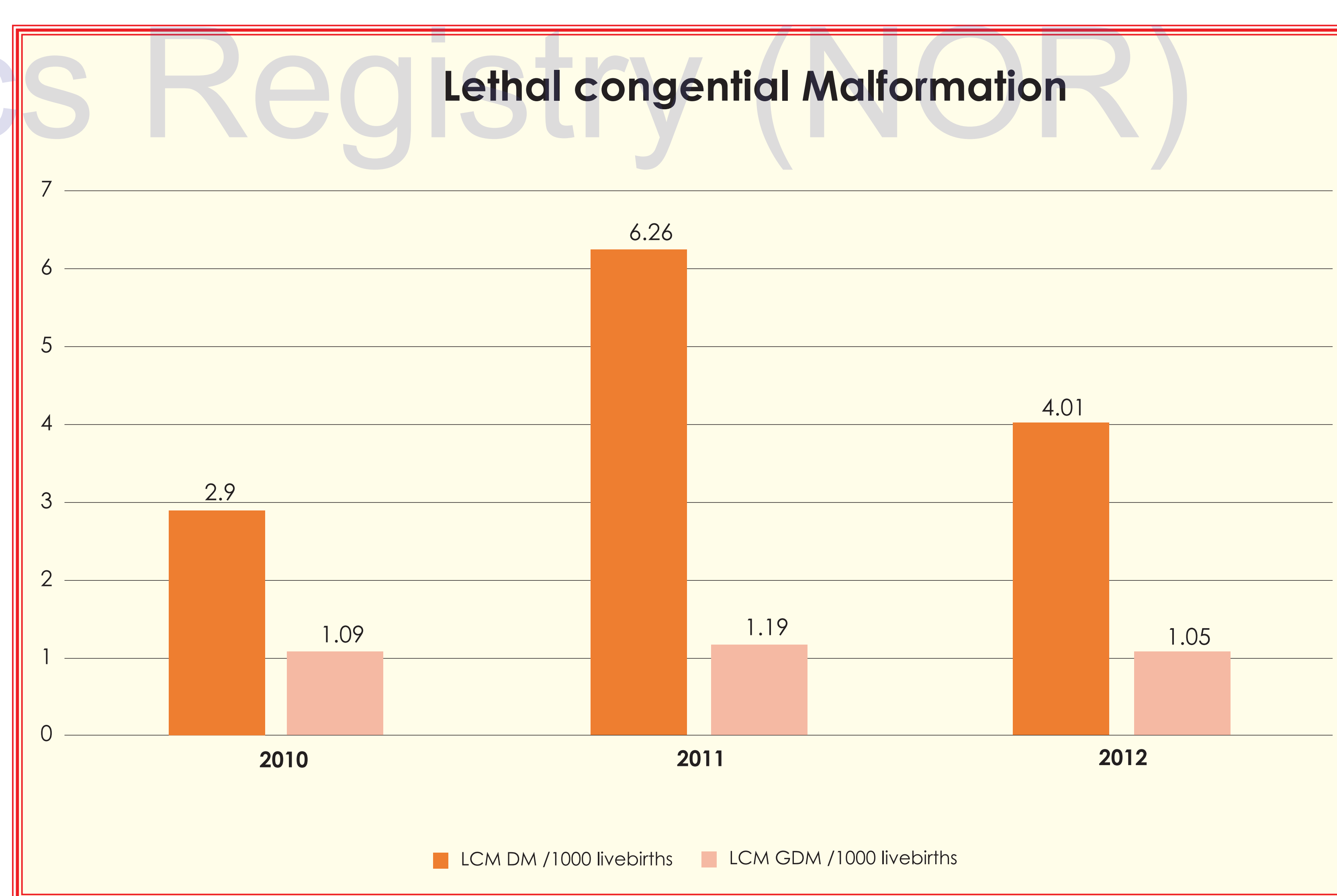
## RESULTS

The LCM rate in 2010 in pre-existing DM and GDM was 3 and 1 per 1000 live births respectively. The rate was higher in pre-existing DM compared to GDM in all 3 years as seen in graph 1. LCM rate was higher with pre-existing DM as compared to GDM in age 30-39 years but the rates were high in age 50-54 years with GDM and this could be an age related risk. (Table 1) In pre-existing DM, LCM was more among the Malays where else Indians had a higher prevalence of LCM with GDM.(Graph 2) Para 2-5 with pre-existing DM had a higher rate of LCM where else the LCM rate was higher in para 1 with GDM. (Graph 3)

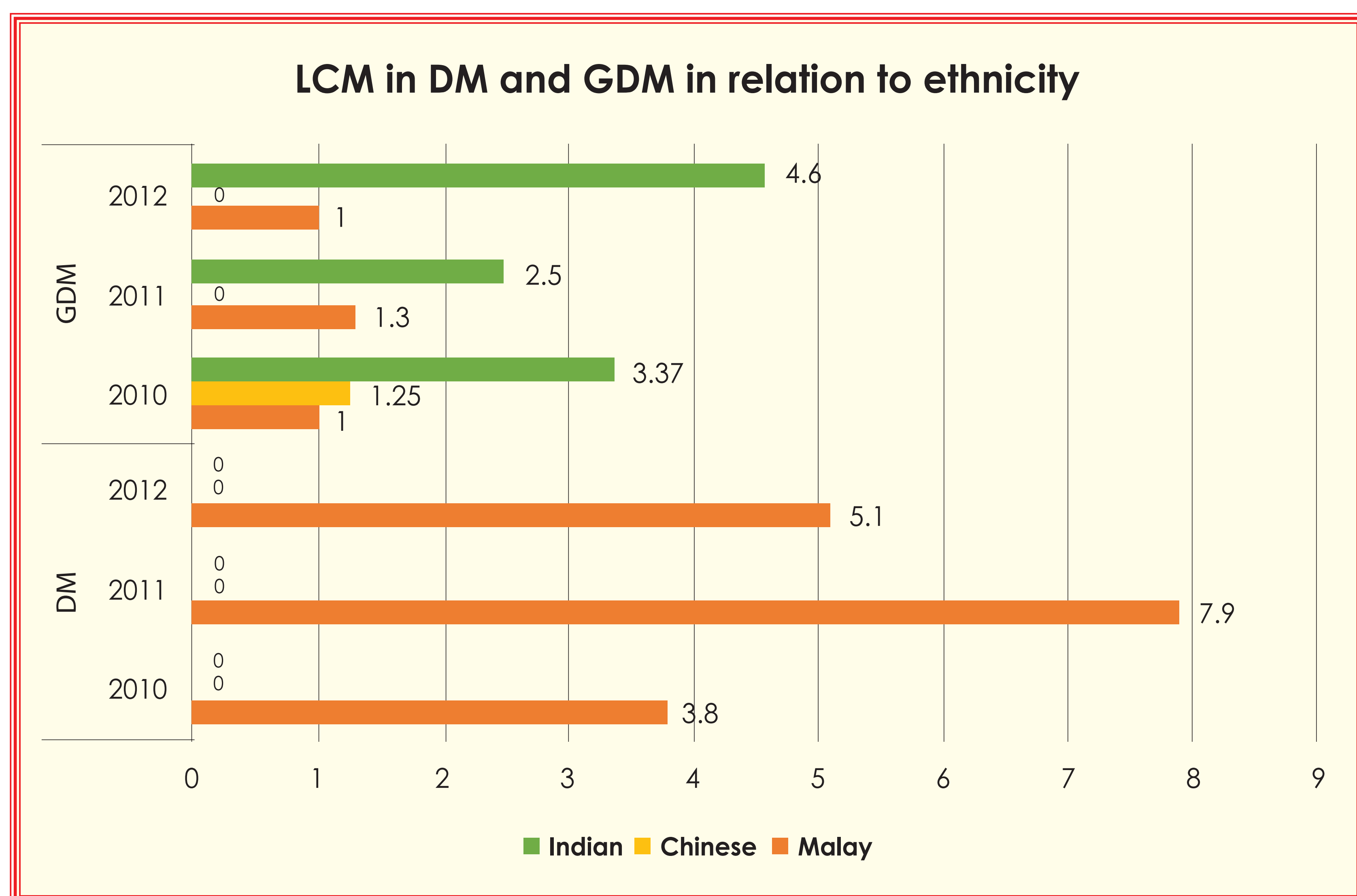
Table 1: LCM in DM and GDM in relation to age

Age (years)	2010		2011		2012	
	DM	GDM	DM	GDM	DM	GDM
10-14						
15-19						
20-24						
25-29		1.77				1.4
30-34		0.5	0.02	0.6		0.73
35-39	3.3	1.2	0.08	1.5	9.5	1.3a
40-44	4.08	1.03	5.78	0.2	4.6	8.9
45-49	11.9	0.1	0.2	2.15		1.29
50-54				25.6		
55-59				250		

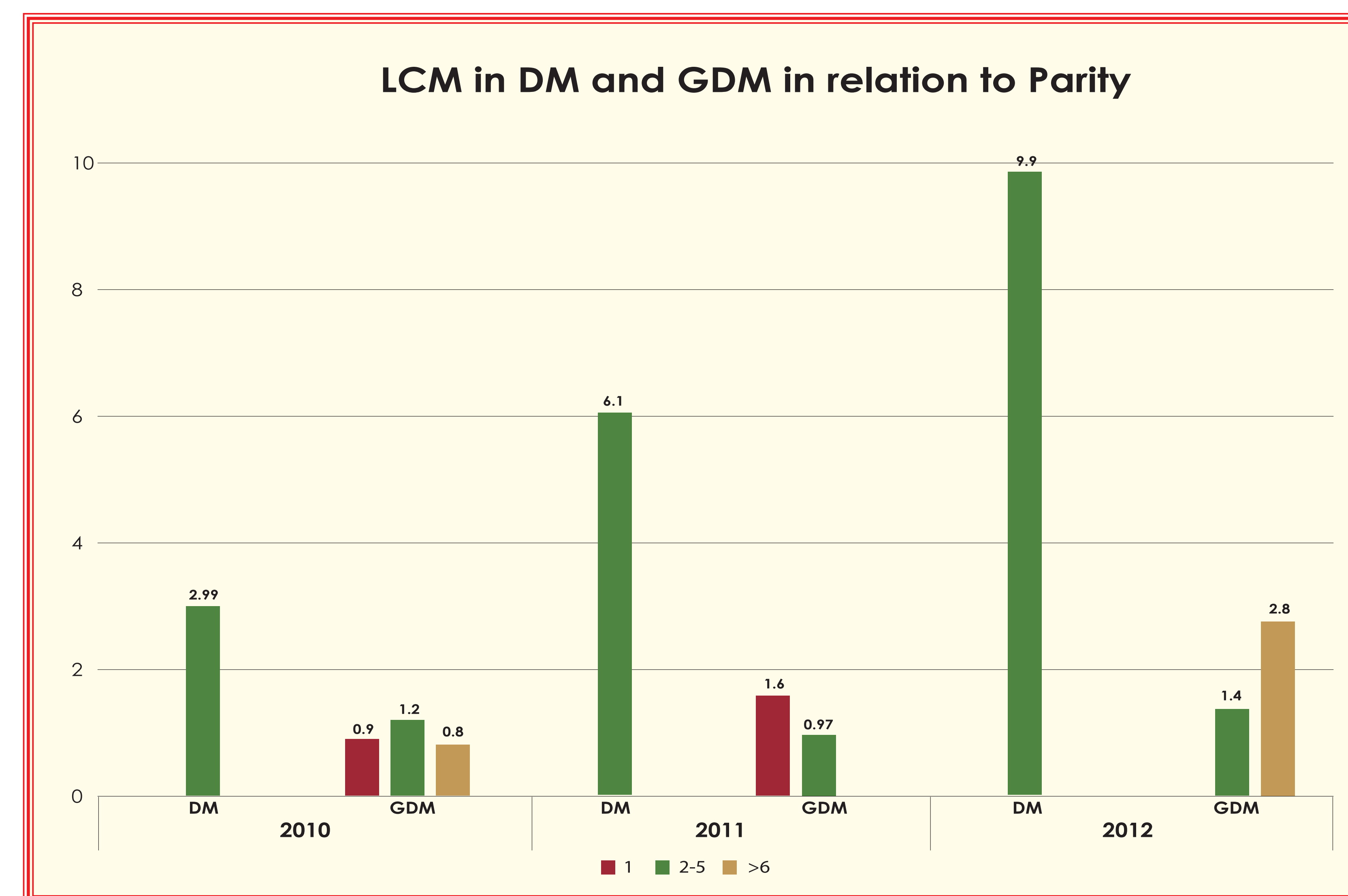
Graph 1: LCM in relation to DM and GDM per 1000 live births



Graph 2: LCM in DM and GDM in relation to ethnicity



Graph 3: LCM with DM and GDM in relation to parity



## CONCLUSION

This three year review shows the still birth rate due to LCM was higher among pre-existing DM than GDM. Amongst all the communities the Indians had the highest rate of GDM as well as the LCM with GDM. Hence in light of these findings we recommend targeted screening for GDM in the Indian population. LCM rate was higher with pregestational DM and we highly advocate preconception counselling for this group of patients. We were not able to measure the true incidence of LCM as there may have been cases of spontaneous loss that had not been captured.

## REFERENCES

- Global estimates of the prevalence of Diabetes for 2010 and 2030. Diabetes Res Clin Pract 2010; 87:4-14 Shaw JE, Sicree RA, Zimmet PZ
- National Obstetrics Registry 2nd report 2010.