P-1147–Assessing The Effectiveness Of Educational Program For Patients With Gestational Diabetes In Assiut university

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Background :Women with gestational diabetes mellitus (GDM) are at increased risk of both fetal and maternal adverse outcome and future type 2 diabetes . So early diagnosis, good education and proper management is crucial to reduce its risks¹

Objective : To evaluate the effectiveness of individualized educational program in improving patients awareness, knowledge and attitude and to assess its role in reducing the GDM burden .

Method : This study was conducted at the pregnancy diabetes clinic , Assiut university as a part of GDM care project in upper Egypt under WDF supervision (WDF 13-797) . All pregnant women diagnosed to have GDM at 24-28 weeks of gestation according to DIPSI criteria ² (2 hours blood glucose ≥140 mg/dl after 75 gm glucose) between the period from December 2015 to December 2016 were included . Those women were enrolled in GDM educational program . Topics covered during the education session were pertinent to identifying GDM and its risks , managing GDM during pregnancy and postpartum follow up .The educational sitting was individualized for every patient (one by one) . A modified and shortened version of a validated questionnaire developed by Carolan et al ³ were tested before and after education to evaluate the feedback of education . Questions addressed medical risks, management, outcomes of GDM and postpartum follow up as well as nutritional and exercise benefits. The studied women were categorized into 3 groups : poorly , moderately and well educated according to their GDM posttest knowledge score . Follow up was every two weeks till labor to assess awareness together with maternal and fetal outcome.

Results. Sixty pregnant women diagnosed to have GDM were included (from 600 pregnant women screened for GDM , with an incidence rate of 10%), with mean age 28 ± 5years , mean age of marriage 24 ± 8 years and parity of 4 ± 2 times.

Fig (1) : Risk factors for GDM

References

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2-Seshiah V, AK Das, Balaji V, Shashank R Joshi, MN Parikh, Sunil Gupta For Diabetes In Pregnancy Study Group (DIPSI). Gestational Diabetes Mellitus – Guidelines. JAPI • VOL. 54 • 2006
3-Carolan M, Steele C, Margetts H Attitudes towards gestational diabetes among a multiethnic cohort in Australia. J Clinical Nurs19: (2010) 2446–5

Table (1) :Results of GDM questionnaire before and after education

	Before education				After education				P. value
	Correct		Incorrect		Correct		Incorrect		
	No .	%	No .	%	No .	%	No .	%	
Definition of Gestational diabetes	40	66.7	20	33.3	60	100.0	0	0.0	<0.001* *
Risk factors for gestational diabetes	15	25.0	45	75.0	45	75.0	15	25.0	<0.001* *
Diagnosis of gestational diabetes	15	25.0	45	75.0	50	83.3	10	16.7	<0.001* *
Consequences to woman	16	26.7	44	73.3	41	68.3	19	31.7	<0.001* *
Foods not allowed to eat	4	6.7	56	93.3	47	78.3	13	21.7	<0.001* *
Impact of unhealthy diet	35	58.3	25	41.7	38	63.3	22	36.7	0.575
Hazards of large carbohydrate meal	45	75.0	15	25.0	55	91.7	5	8.3	0.014*
What to do if blood sugar constantly high	7	11.7	53	88.3	44	73.3	16	26.7	<0.001* *
Causes of hypoglycemia	45	75.0	15	25.0	55	91.7	5	8.3	0.014*
Treatment of hypoglycemia	32	53.3	28	46.7	39	65.0	21	35.0	0.193
Effect of walking on GDM	23	38.3	37	61.7	46	76.7	14	23.3	<0.001* *
Management of gestational diabetes	0	0.0	60	100	43	71.7	17	28.3	<0.001* *
Complication of gestational diabetes	17	28.3	43	71.7	35	58.3	25	41.7	0.001**
Consequences to baby	4	6.7	56	93.3	47	78.3	13	21.7	<0.001* *
Follow-up glucose test after delivery	12	20.0	48	80.0	34	56.7	26	43.3	<0.001* *

Table (2): Fetal and maternal outcomes for all GDM women

Variables	Poorly educated (n = 15)	Moderately educated (n = 20)	Well educated (n = 25)	Total (n=60)	P value
Fetal outcome					
No abnormality	13 (86.67%)	17 (85%)	20 (80%)	50 (83.33%)	0.09
Macrosomia	4(26.7%)	2(10%)	0	6(10%)	0.03
Hypoglycaemia	2(13.3%)	1 (5%)	0	3 (5%)	0.21
Malformation	0	0	0	0	
Still birth	0	0	0	0	
Respiratory stress	3(20%)	4 (10%)	2 (8%)	9 (15%)	0.06
Time of delivery					
Full term	9 (60%)	11 (55%)	14 (56%)	34 (56.67%)	0.06
Preterm	6 (40%)	9 (45%)	11 (44%)	26 (43.33%)	
Type of delivery					
Vaginal	7 (46.67%)	10 (50%)	15 (60%)	32 (53.3%)	0.21
C.S	8 (53.33%)	10 (50%)	10 (40%)	28(46.7%)	
Maternal outcome					
Pre-eclampsia	2 (13.33%)	2(10%)	0	4 (6.67%)	0.09
Weight gain	3 (20%)	1 (5%)	1 (4%)	5 (8.33%)	0.02
Shoulder dystocia	0	2 (10%)	0	2 (3.33%)	0.11
Hydramnios	4 (26.67%)	2(10%)	1 (4%)	7 (11.67%)	0.02
Mean blood glucose	184.6±22.3	167.3±18.4	124.6± 13.9	146.3±29.7	0.01
No abnormality	6 (40%)	15 (75%)	19 (76%)	40 (66.67%)	0.78

Conclusion

Health education plays an important role in increasing pregnant women awareness regarding GDM risk and its proper management in order to reduce its burden both for the mother and fetus . Individualization of education is very essential as it increased patients ability to understand each topic and to easy communicate with educator especially that most of the included patients were rural and fairly educated Also to counsel each woman with GDM about her own risk and the need for preventive measures . previous studies have demonstrated the link between education and percent of macrosomic baby only but we extend these findings by demonstrating the association between education and both fetal and maternal outcomes.