Prevalence and patterns of Cardiovascular Diseases among Pregnant Mothers Attending Antenatal care at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia

Disclosure

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OUTLINE

- BACK GROUND OF THE STUDY
- OBJECTIVE OF THE STUDY
- METHODS AND MATERIALS
- RESULT
- CONCLUSION AND RECOMMENDATIONS
- REFERENNCES

Back ground

- Pregnancy induces changes in the cardiovascular system to meet the increased demands
- Acts as physiological stress test as cop increases by 30–50% close to term
- CVD can be existing ,unmasked by the stress or even caused by the pregnancy
- Complicates 1- 3% of all pregnancies and is responsible for 10 - 15% of maternal mortality
- It is one of the leading causes of non-obstetric maternal death during pregnancy.
- There are limited number of studies

Objectives

- To describe the prevalence and patterns of cardiovascular diseases among pregnant women attending ANC follow up at St Paul's hospital

Materials and Methods

- This is a hospital based cross-sectional study design
- The 2nd largest hospital in the country(1961)
- It has medical school
- 5 million catchment area
- Sample size determined by single population proportion,50% for the UK variable, margin of error of 0.05

$$n = \frac{(Z\alpha_{/2})^2 \text{ X } P\ (1-P)}{w^2}$$

- 5% of nonrespondant making the sample size 403

Cont.

- Systematic random sampling based on daily visits of both regular(50-60) and high risk(10-15)
- We decided to do 6 echo's every day and 4 times a week
- During the 3rd trimester of pregnancy

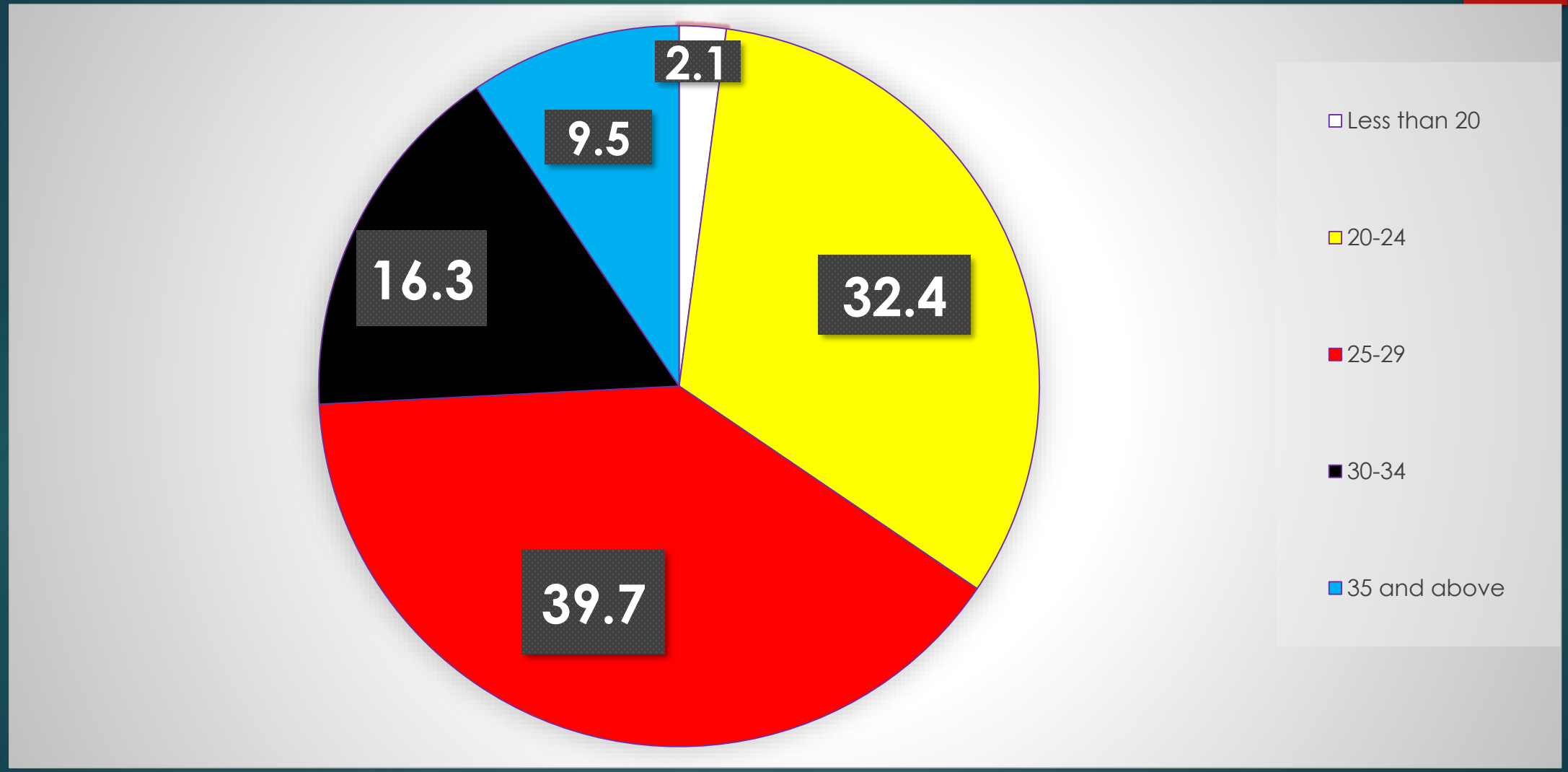
cont..

- A total of 398 pregnant mothers were randomly selected
- Sociodemographic, some medical and obstetric backgrounds were taken by standardized questioner
- Standard echocardiography was done by using GE heath care ultra sound systems VIVID E9
- We followed the 2015 ASE guideline for standard quantification
- WHF RHD guideline 2012 was used for RHD
- Review was done by independent cardiologist
- Duration October 2016-june 2017
- Data entered into SPSS version 20 and cleaned for analysis

Results

- Sociodemographic characteristics

Age distribution (percentages)



Sociodemographic parameters

Educational Status	No formal Education	57	14.3
	Grade 1- 8	176	44.2
	Grade 9- 12	116	29.1
	College/University	49	12.3
Address	Addis Ababa	273	68.6
	Out of Addis Ababa	125	31.4
Religion	Orthodox Christian	211	53.0
	Protestant Christian	43	10.8
	Muslim	144	36.2
	Total	398	100.0

Obstetrics back ground

	Number of pregnancies		%
Gravidity	1-3	114	28.6
	4-5	188	47.2
	above 5	96	24.1
	Total	398	100.0
Spontaneous Abortion	1	45	11.3
	2	7	1.8
	3	4	1.0

Comorbidities

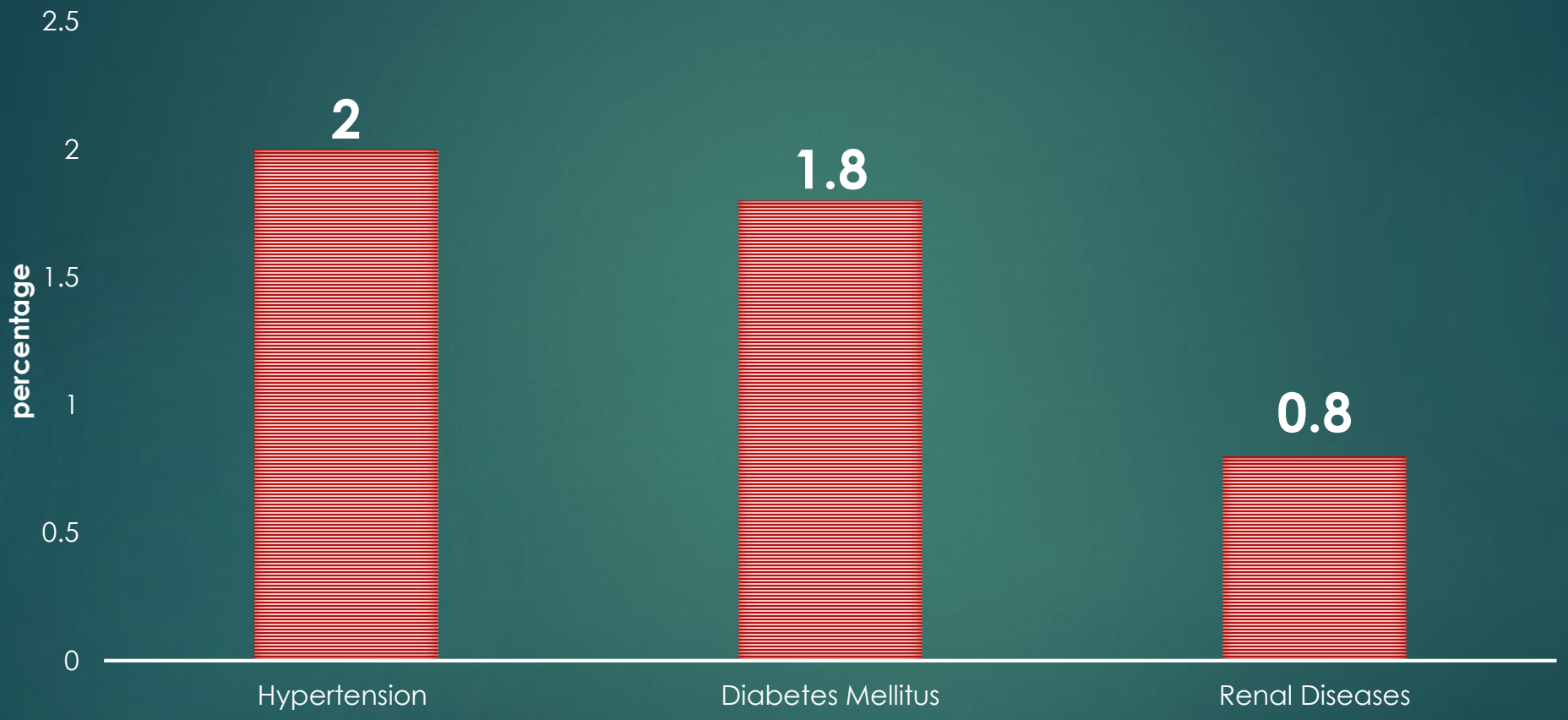


FIG1: PATTERN OF COMORBIDITIES AMONG WITH STUDY PARTICIPANTS

Result cont

- mean Systolic BP is 112.58 mm Hg (SD 13.04, range 80-160)
- mean diastolic BP is 68.6 mmHg (SD 9.20, range 50-110)
- making 18 participants (4.5 %) to have raised blood pressure.
- Mean heart rate during the time of echocardiography is 90.79 (SD 6.88, range 68-125/min

Clinical condition	response	number	percentages
hypertension	yes	8	2.0
	No	390	98
Raised BP	Yes	26	6.5
	No	363	93.2
Valvular heart disease	Yes	33	8.3
	No	365	91.7
Cause of VHD	Rheumatic	9	27.3
	Others	24	72.7
cardiomyopathy	DCMP	1	0.3
	HCMP	0	0
	RCMP	0	0
	None	397	99.7
IHD	Yes	0	0
	No	398	100

Pulmonary hypertension	Mild	11	2.8
	Moderate	2	0.5
	Severe	2	0.5
	None	383	96.2
Pericardial disease	effusion	7	1.8
	Constrictive	0	0
	pericarditis	0	0
	others	0	0
Left ventricular hypertrophy	yes	5	1.3
	no	398	98.7
Diastolic dysfunction	Grade I	13	3.3
	Grade II	0	0
	Grade III	0	0
	none	385	96.3

Summary of the findings

- 41 (1o.3%) have some form of cardiovascular disease
- 8 hypertensive,18 raised BP
- 9 (2.3%) have definitive RHD
- ✓ Isolated moderate-severe MR-4(1%)
- ✓ Isolated moderate- severe MS -3(0.75%)
- ✓ Moderate-sever in combination-2(0.5%)
- One case of PPCM
- 4 cases of moderate-severe pHTN
- 1 moderate PE

conclusion

- The study revealed a relatively high prevalence of CVD among pregnant mothers in our set up.
- RHD prevalence among pregnant mothers was found to be fairly high.
- Primary care providers at ANC should be vigilant in their clinical evaluation to detect such problems in a timely manner.
- Multi-level prevention strategies towards RHD is highly advised.

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Thank you