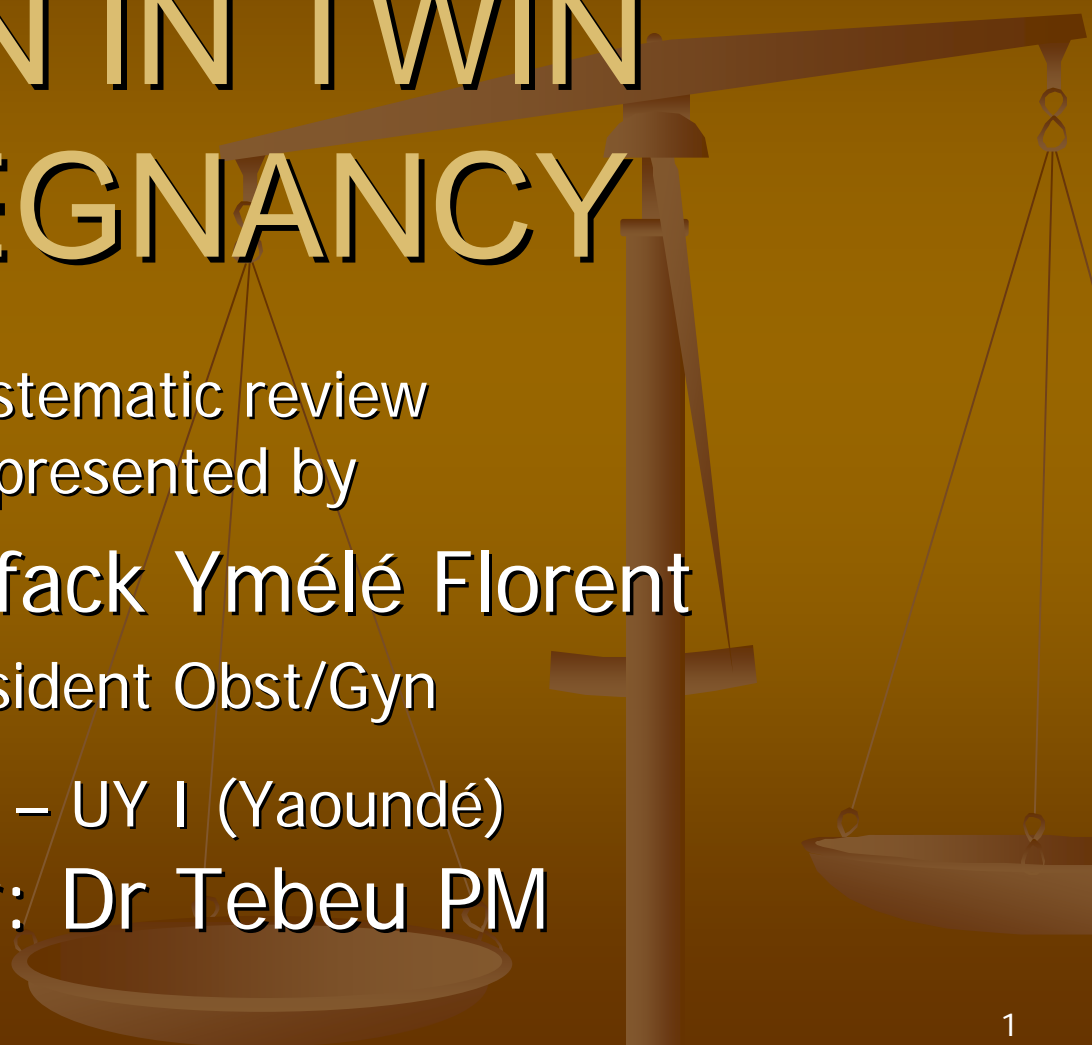


# MATERNAL WEIGHT GAIN IN TWIN PREGNANCY



Systematic review  
presented by

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# MWVG IN TWIN PREGNANCY: PLAN

- I- Introduction
- II- Objective
- III- Methodology
- IV- Critical Appraisal
- V- Results
- VI- Discussion
- VII- Conclusion



# MWG (TWIN PREGNANCY): PLAN

- VIII- Recommendations
- IX- References



# I- INTRODUCTION

Grossesse gémellaire = haut risque

Morbidité materno-fœtale ++

Risques: prématurité

RCIU

HTA-pré éclampsie

# I- INTRODUCTION

## Singleton pregnancy

Research in MWG with singletons shows that both the timing and the patterns of weight gain and maternal size are important in terms of foetal growth, birth weight, neonatal morbidity

# Répartition de la prise de poids G. monofoetale. Kliegman (4)

Paramètre	Gain de poids
Fœtus	3150g
Placenta	450g
Liquide amniotique	900g
Liquide extra-cellulaire	1350g
Développement des seins et de l'utérus	1350g
Masse sanguine	1800g
Graisses stockées	3600g
TOTAL	12600g

# I. INTRODUCTION

## Grossesse monofoetale: (6)

Gain de poids maternel: 12,5kg

1er trimestre: 0,169kg/sem

2e trimestre: 0,563kg/sem

3e trimestre: 0,663kg/sem

2e trim: plasma, placenta + foetus

# I. INTRODUCTION

## MWG (twin pregnancy)

bon suivi des grossesses :  
évolution du poids maternel : important  
-connu pour les grossesses monofoetales  
-peu de publications sur les grossesses multiples



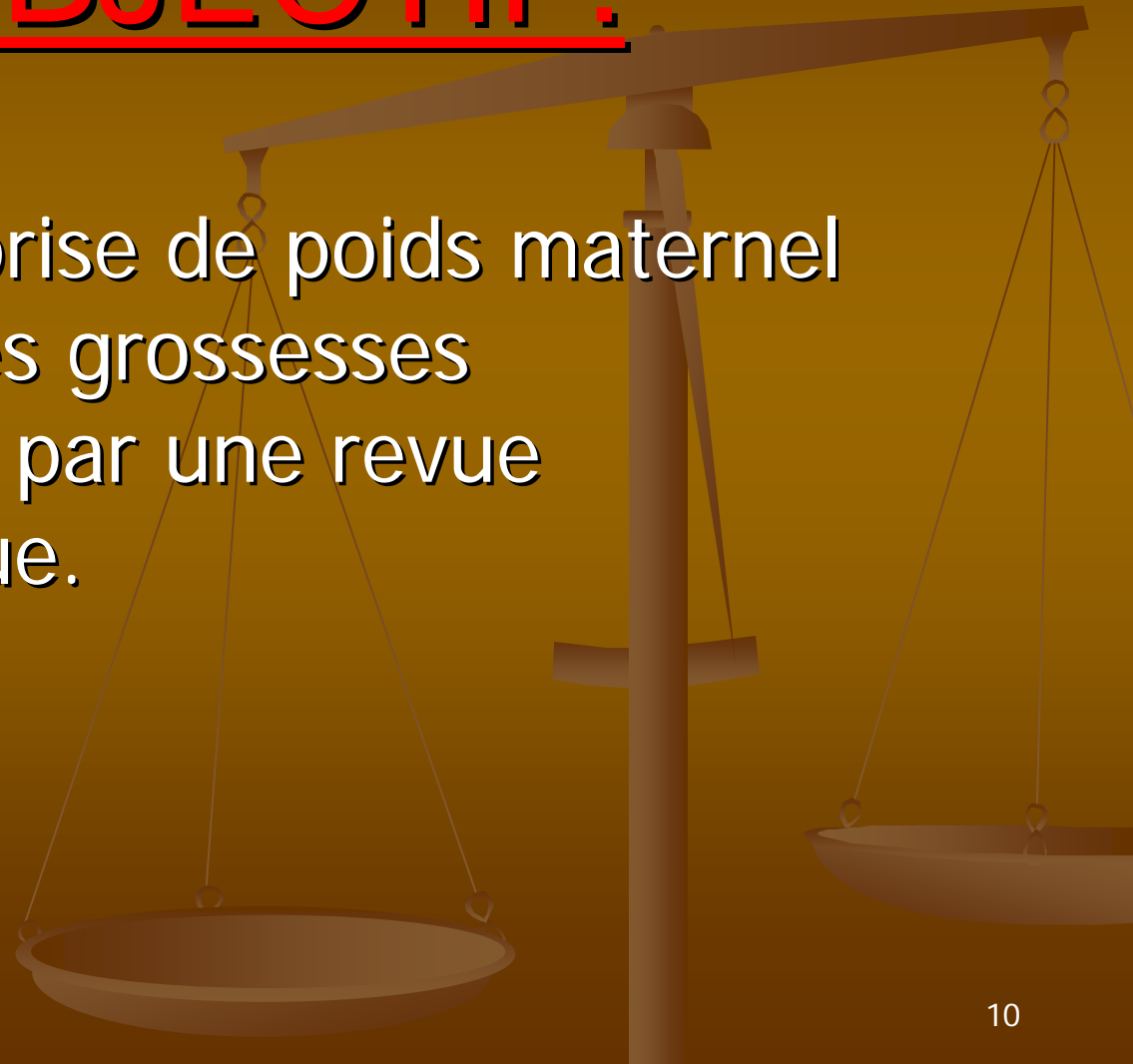
# I. INTRODUCTION

## Rationnel

Si on connaît comment le poids évolue au cours des GG, ceci peut permettre de réduire le risque des maladies métaboliques (maladies hypertensives en grossesse) et la morbidité foétale d'où l'objectif de cette étude.

## II. OBJECTIF:

Évaluer la prise de poids maternel au cours des grossesses gémellaires par une revue systématique.



# III. METHODOLOGY

## 1- criteria for considering studies of this review

- women with twins pregnancy
- any study about the MWG in normal twin pregnancy
- Weight by kg or data convertible to kilograms. Example: BMI, pounds

# **III. METHODOLOGY**

## **2- Exclusion criteria:**

- **Studies with no quantitative data**
- **Studies providing data during abnormal twin pregnancies (eg: pre eclampsia, IUD, abortion, diabetis, HTA, foetal malformation)**

# III. METHODOLOGY

## 3- Search strategy

- Medline search (pubmed)
- Text word terms: Maternal (136174 articles), Weight (21714), Gain (2442), Twin (43), Pregnancy (38)
- Hand searching (0)
- narrative review (2)
- 5 articles were eligible

# III. METHODOLOGY

## 4- Data extraction form

Contents of data extraction form:

1. time, author, place, source
2. design, sample size, study objective
3. data MWG before 20 w, from 20 to 28 w, from 28 to 37 w or more than 37 weeks of gestational age

# Les recommandations américaines

Grossesse monofoetale : 12,5 kg

- 1kg : 1er trimestre
- 11,5 kg : 2e et 3e trimestres

Grossesse gémellaire : 8,5 à 23,97 kg (12- 18,8 à 37 SA)

# IV. CRITICAL APPRAISAL

- No mention the regional variations (urban or rural) of the population
- No study was conducted in developing countries
- One study did not mention the size of sample



# V. RESULTS



The studies were conducted in the following countries:

- USA (2 studies)
- Canada (1)
- Czechoslovakia (1)
- Japan (1)

Most recent study in 2003 and the oldest one in 1989

# V. RESULTS

## 2) Luke's study (8)

Term	MWG			
	Kg/week	Total kg	At 28w	At 37w
0-20w	0.45-0.68	9-13.6		
20-28w	0.57-0.79	4.5-6.32	12.5- 19.92	
28-37w	0.45	4.05		17.55- 23.97
>37				

# V. RESULTS

## 3) Kanadys's study



Term	MWG			
	Kg/week	Total kg	At 28w	At 37w
28-37w	0.58	5.22		21.46
>37	0.69			

# V. RESULTS

## 4) MWG by study (summary)

Study	MWG			
	20w	28w	37w	>37
Fenton,			14.1	
Kanadys			21.46	
Luke B, 2003	9-13.6	13.5- 19.92	17.55- 23.97	
Yokoya m			12	
Paderso n			18.8	20

# V. RESULTS

## 5) summary

### MWG

- From 0-20 weeks included: 9-13.6 kg
- At 28 weeks: 13.5-19.92 kg
- 37 weeks: 14.1-23.97 kg
- >37 weeks: 17.55-23.97 kg

# VI. DISCUSSION

## 1) Limits of the study

- We used only abstracts (not possible to have full texts via network)
- All studies: babies outcome (weight at birth and term) depend on MWG during twin pregnancy
- Studies done in developed countries

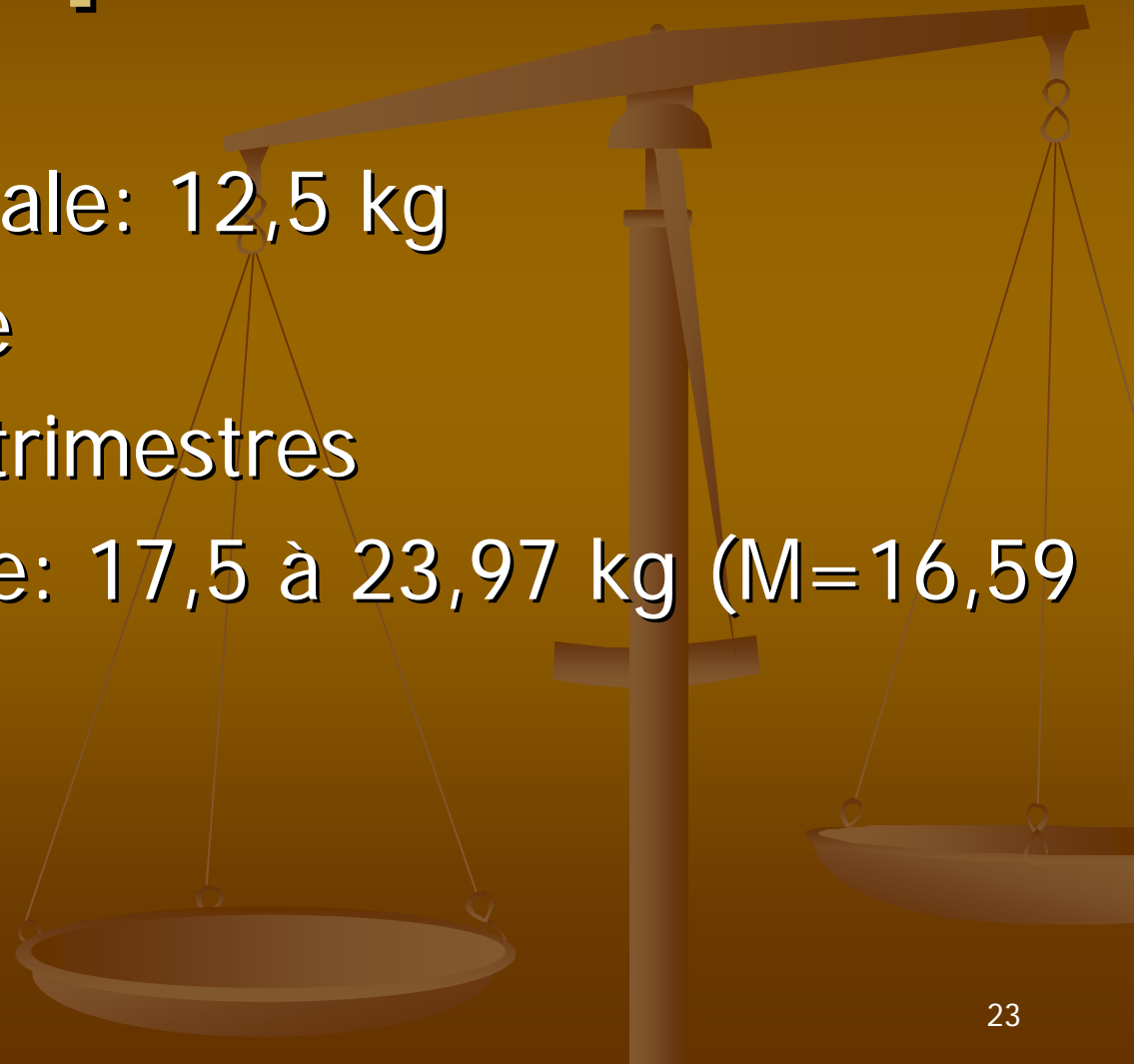
# VI. DISCUSSION

## 2) Comparaison 1

Grossesse monofoetale: 12,5 kg

- 1kg : 1er trimestre
- 11,5kg : 2e et 3e trimestres

Grossesse gémellaire: 17,5 à 23,97 kg (M=16,59 à 37 SA)



# VI. DISCUSSION

## 2) Comparaison 2

a) Grossesse monofoetale : gain de poids/sem

- 1er trimestre : 0,169 kg/sem
- 2e trimestre : 0,563 kg/sem
- 3e trimestre : 0,518 kg/sem

Abrams et al (6)



# VI. DISCUSSION

## 2) Comparaison 3

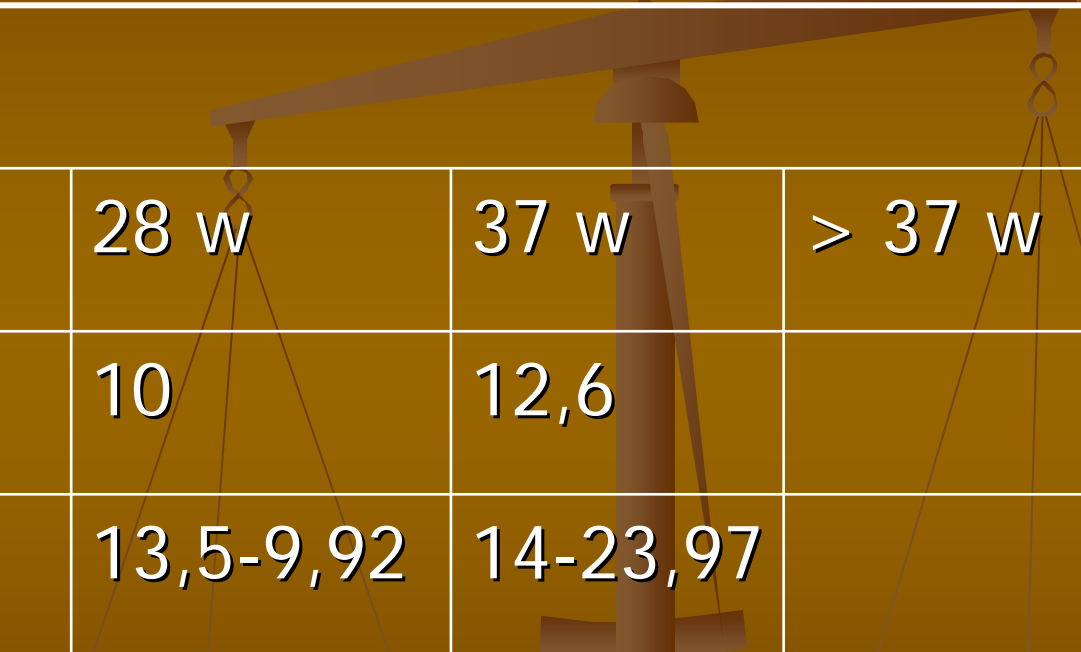
b) Grossesse gémellaire :

- 0-20 sem : 0,45-0,68 kg/sem
- 20-28 sem: 0,57-0,79 kg/sem
- 28-37 sem: 0,45 kg/sem
- >37sem: 0,69 kg/sem

(Kanadys)

# VI. DISCUSSION

## 2) Comparaison 4



	MWG			
	20 w	28 w	37 w	> 37 w
Singleton P.	6	10	12,6	
Twin P.	9- 13,6	13,5-9,92	14-23,97	

# VI. DISCUSSION

## 2) Comparaison 5

c) Gain de poids maternel au cours de la grossesse gémellaire supérieur au gain de poids maternel au cours d'une grossesse monofoetale

# VII. CONCLUSION 1



1- MWG in normal twin Pregnancy varies from 17.55 to 23.97 kg

## VII. CONCLUSION 2

2- Au regard de ce qui précède, le GPM est plus élevé au cours des grossesses gémeillaires qu'au cours des grossesses monofoetales mais nous ne pouvons pas être catégoriques en ce qui concerne nos données chiffrées car il faudrait disposer des études définitives pour conclure.

# VIII. RECOMMENDATIONS



- To conduct in developing countries
- To conduct the prospective study with a large size of sample
- To find full articles before state finally

# IX. REFERENCES

- Net work: Medline
- Hand searching
- Narrative review