



# **More than 90% of women planning to get pregnant were ignorant of their nutritional needs**

*International authorities recommend women should take multivitamin supplements before pregnancy*

**Panel members of Nutrition Concern Alliance**

**Dr. LI Fuk-him Dominic**

**Specialist in Obstetrics and Gynaecology**

**Ms. Carmen Lo**

**Registered Dietitian**

**24 November 2013**

# About HKPCF

- **Established in 2003**
- **Mission:**  
**Through public education and professional development, and collaboration between medical professionals, the government and the community, to promote the services and development of local primary care, so that the health of local community can be ensured.**



# Mission of Nutrition Concern Alliance



- **Established on 11 Sept 2011**
- **Provide nutritional information through various public education activities**
- **Increase parental understanding towards their children's nutritional need at different developmental stages and thus conduce to better health in the next generation**
- **The Alliance, composed of panel doctors from different specialties, aims to analyze from various perspectives the importance of proper nutrition**
- **Furnish expectant mothers with correct nutritional information appropriate for before, during and after pregnancy**

# Part 1

## *The Importance of the Preconception Nutrition*

**Dr. LI Fuk-him Dominic**

**Specialist in Obstetrics and Gynaecology**

**Panel Member of the Nutrition Concern Alliance**

# **The First Source of Fetal Nutrition is from mother's Diet**

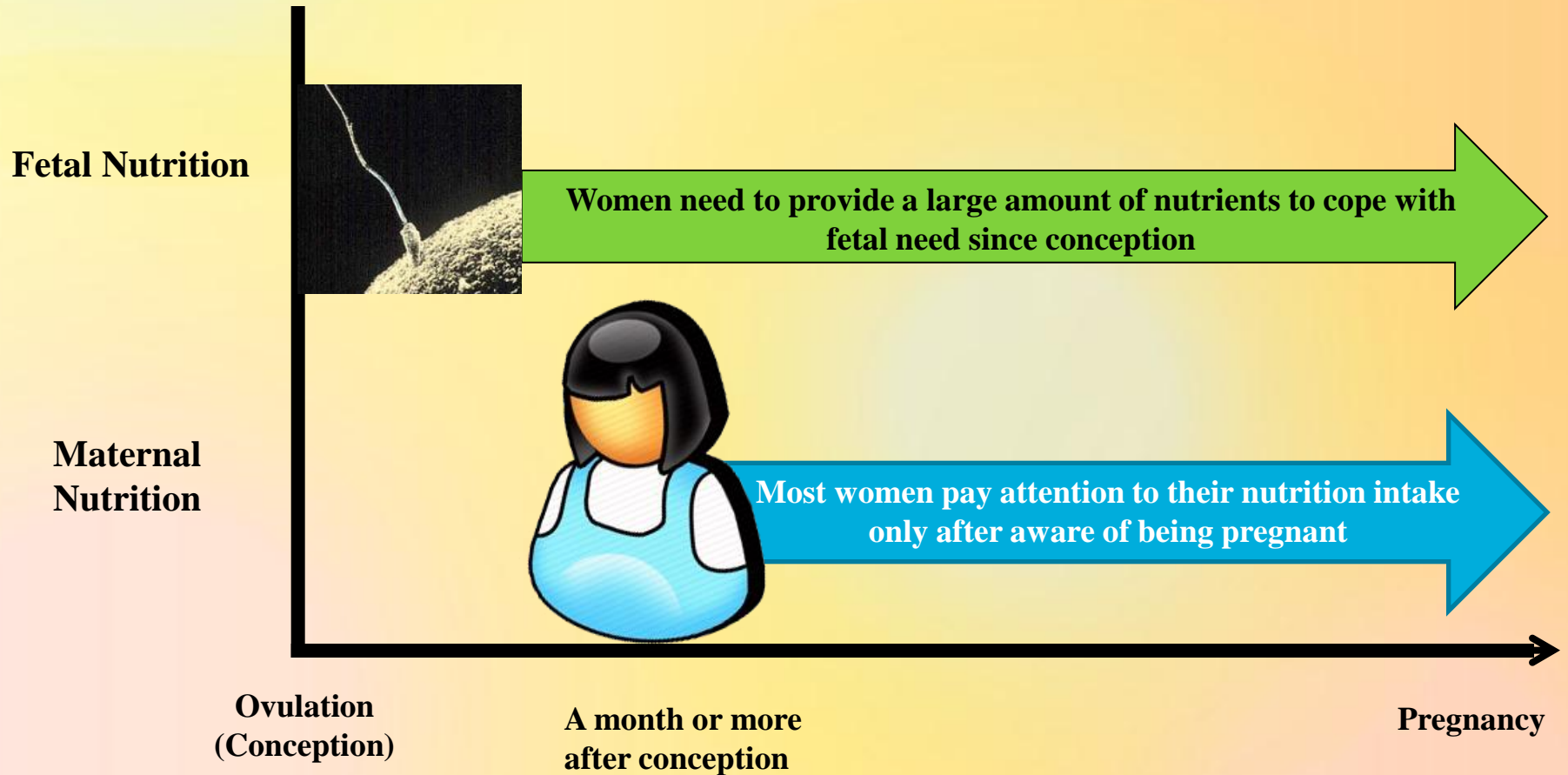


**A fetus obtains its nutrition solely  
from its mother**

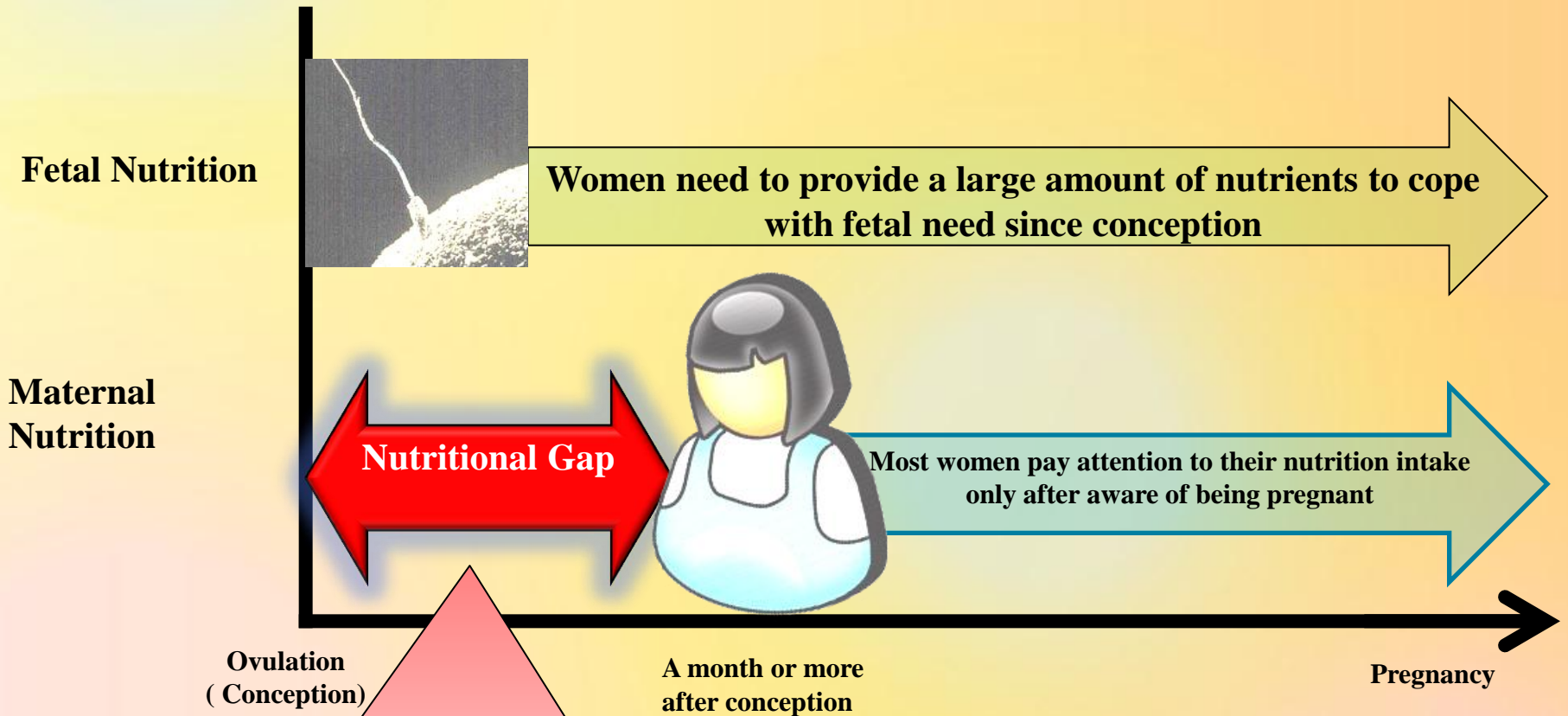
# An increased need of nutrients During Pregnancy

Nutrients	Female (Aged 19-50) Recommended Dietary Allowances (mg)	Pregnant women Recommended Dietary Allowances (mg)	Degree of increase
Vitamin B6	1.3	1.9	↑ 46%
Vitamin C	75	85	↑ 13%
Calcium	1000	1300	↑ 30%
Iodine	0.15	0.22	↑ 46%
Folic acid	0.4	0.6	↑ 50%

# Most Women Increase Nutrition Intake Only when they confirm their Pregnancy



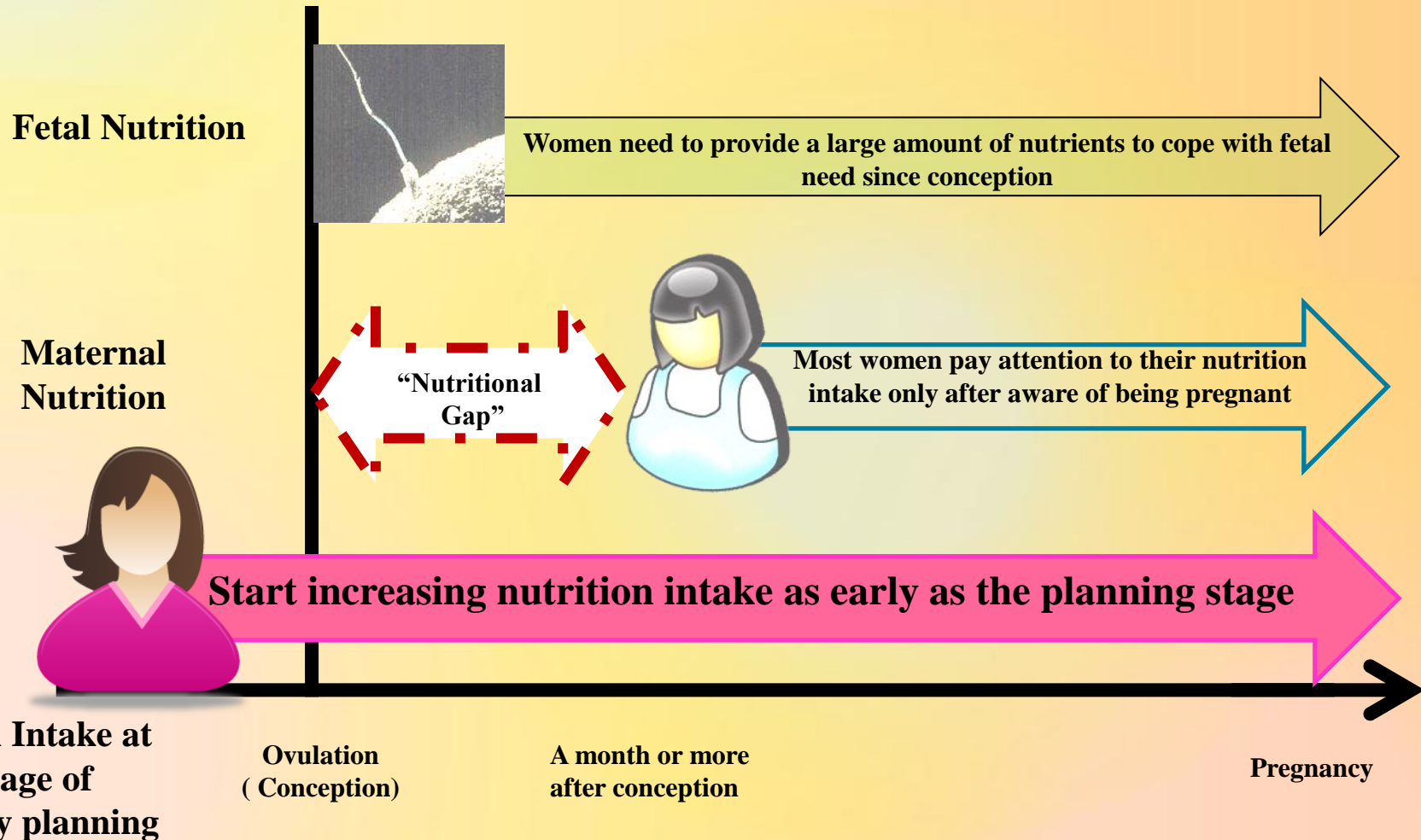
# An Increase in Nutrition Intake Only After Women Aware Of Their Pregnancy May Result in “Nutritional Gap”



- Unable to provide adequate nutrients to fetus during the early stage of fetal development
- Miss out the window of opportunity to provide additional nutrients to fetus



# Start Preparing Nutrient Reserves During Pregnancy Planning To Avoid the occurrence of “Nutritional Gap”



# Women are Likely to Miss the Window during Early Pregnancy for Nutritional Supplementation That is Vital to Their Fetus



- Most women are aware of pregnancy **one month after conception**
- Women **likely miss out the critical time** to provide suitable nutrients in the first few weeks of pregnancy



Women who **are planning for pregnancy** should start prepared for their nutrition plan, in order to support a healthy growth of the fetus.

## **Part 2**

***Result Announcement of the Latest Survey  
“The Issues Most Concerned by Local  
Women and Their Awareness towards  
Preconception Nutrition Needs at the stage  
of Pregnancy Planning”***

**Dr. LI Fuk-him Dominic**

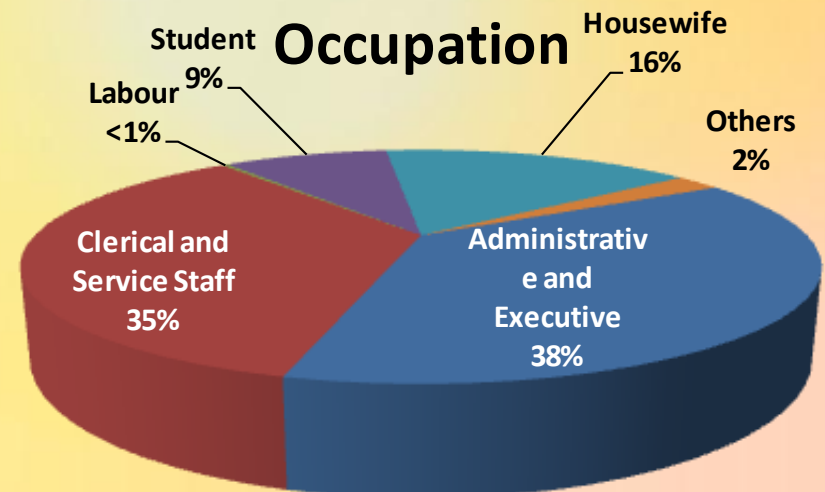
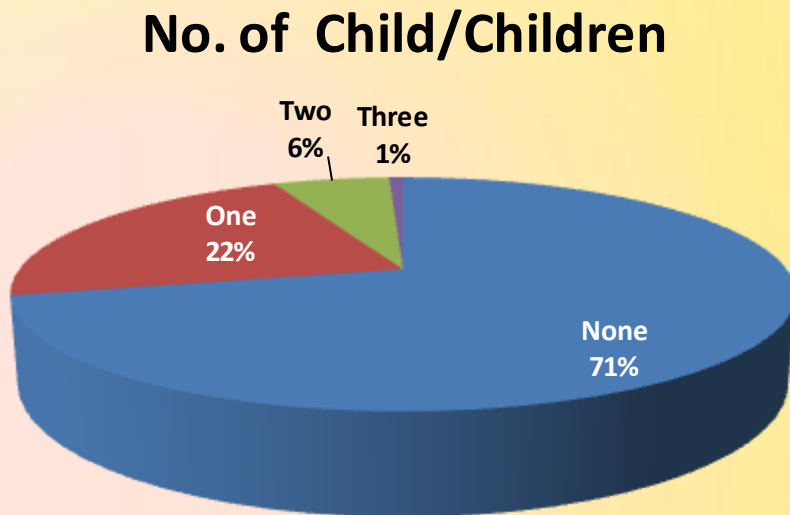
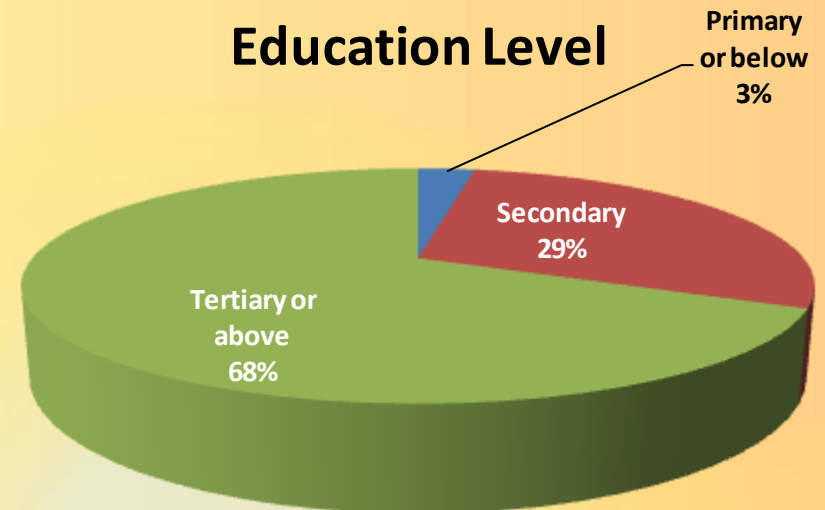
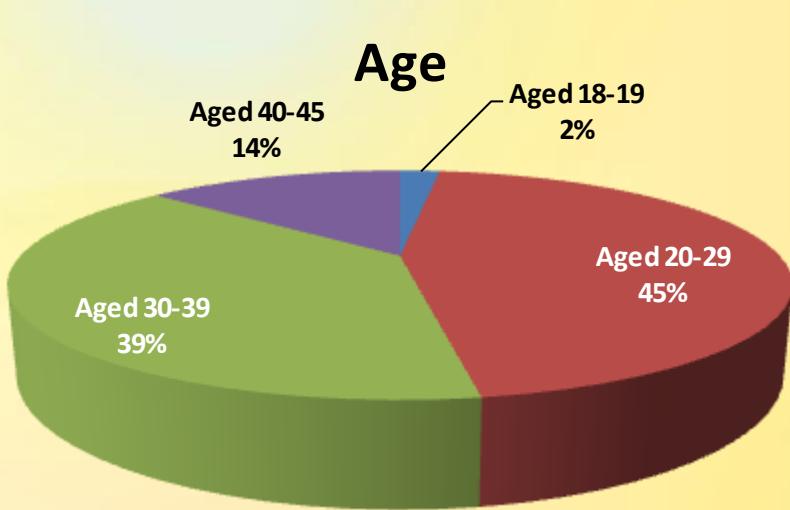
**Specialist in Obstetrics and Gynaecology**

**Panel member of the Nutrition Concern Alliance**

# Research Methodology

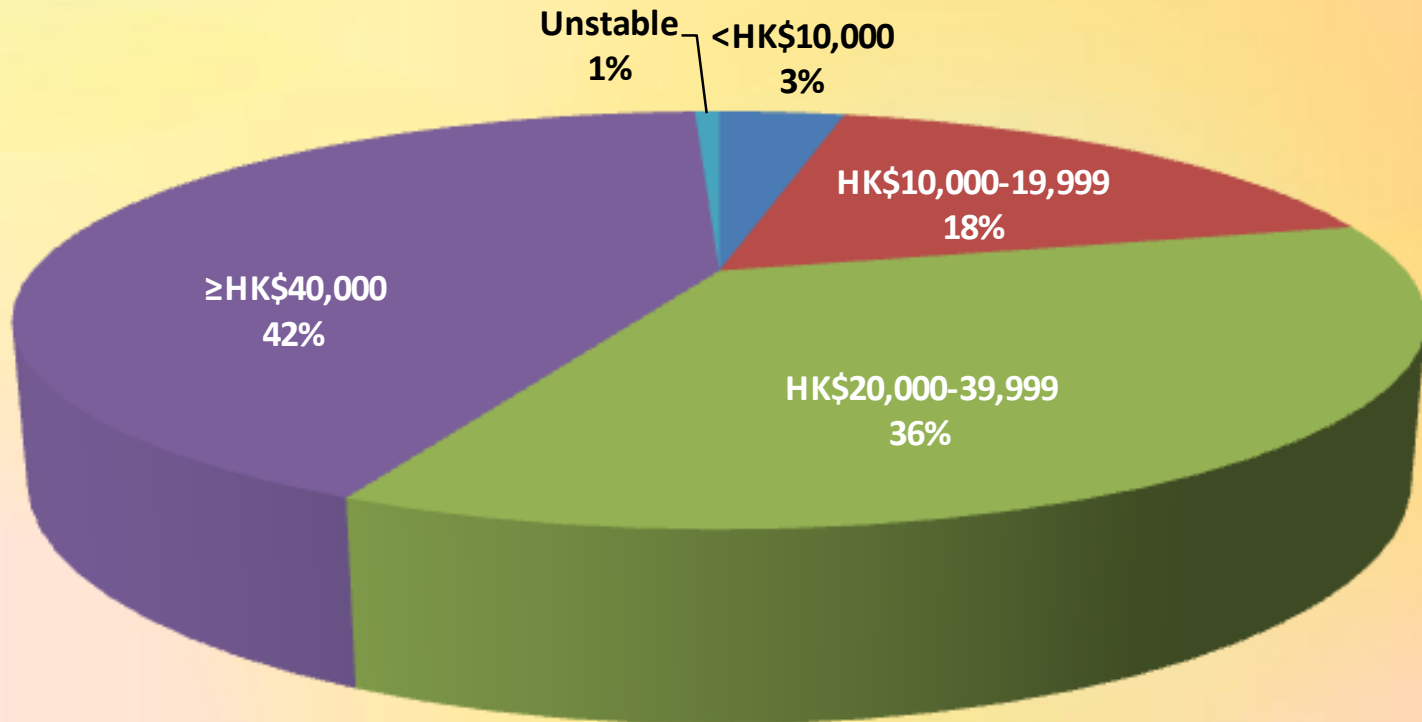
- **Objective** : to investigate the most concerned issues of local women at their stage of pregnancy planning; and to assess their level of awareness to pre-conception nutrition
- **Survey Body** : Public Opinion Programme of the University of Hong Kong
- **Interview method** : Telephone interview
- **Target interviewee** : Hong Kong women aged 18 to 45 who are planning to get pregnant
- **No. of respondents** : 304
- **Study Period** : October – November , 2013
- **Effective response rate**: 70.6%
- **Maximum sampling error**: < 2.9% (> +/- 4.4% at 95% confidence level)

# Respondents' Demographic Profile(1)



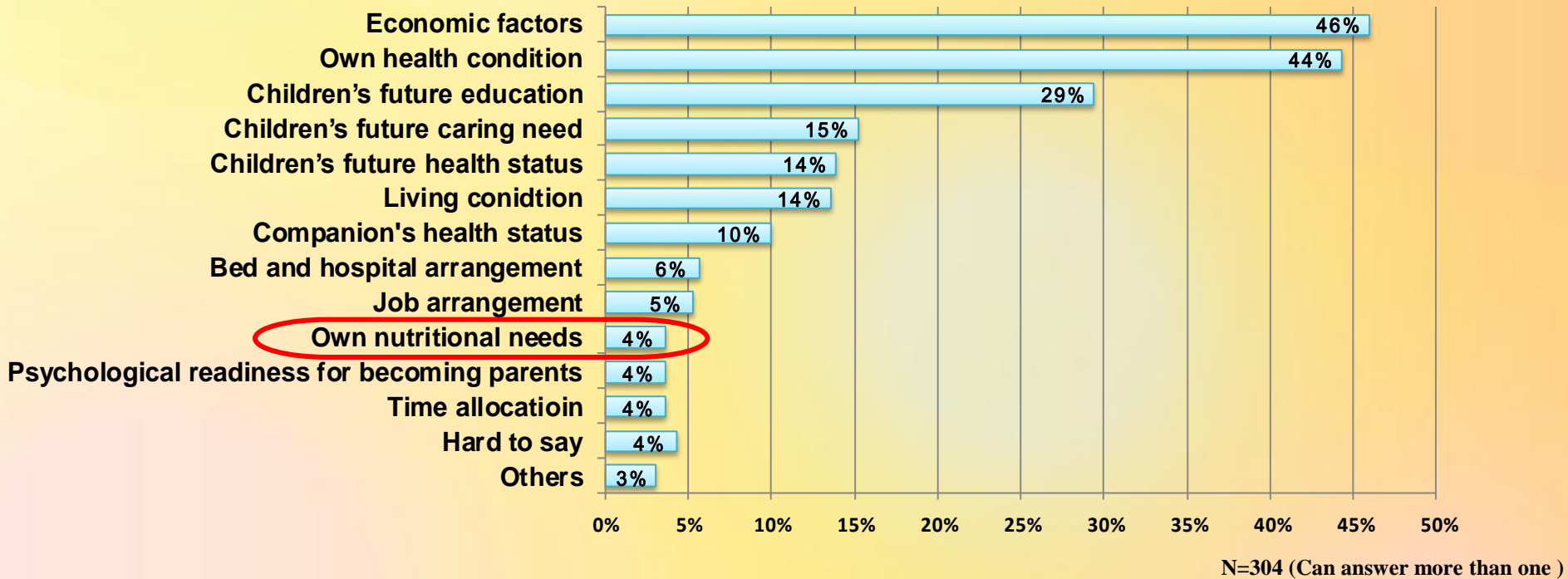
# Respondents' Demographic Profile(2)

## Monthly Family Income



# Nearly Half of the Respondents were Concerned About Their Overall Health Status for Pregnancy but Ignorant of the Importance of Preconception Nutrition

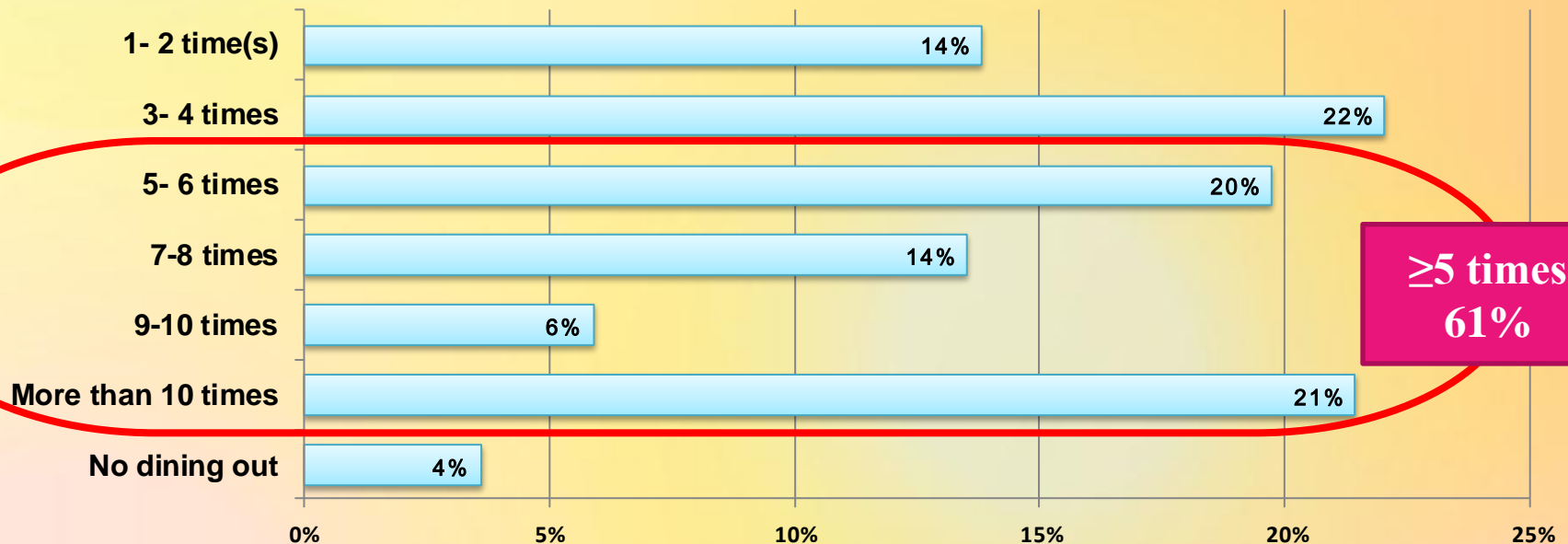
What are you concerned about when you are planning for pregnancy ?



**The most concerned factor is the economic well-being for affording a new life (46%), their health condition(44%) and education needs of their children(29%). Only 4 %of respondents are aware of their preconception nutritional needs.**

# Eating Habit of Women at the stage of Pregnancy Planning : More Than 60% of Respondents Dined Out 5 Times or more per week

How often did you dine out last week ?



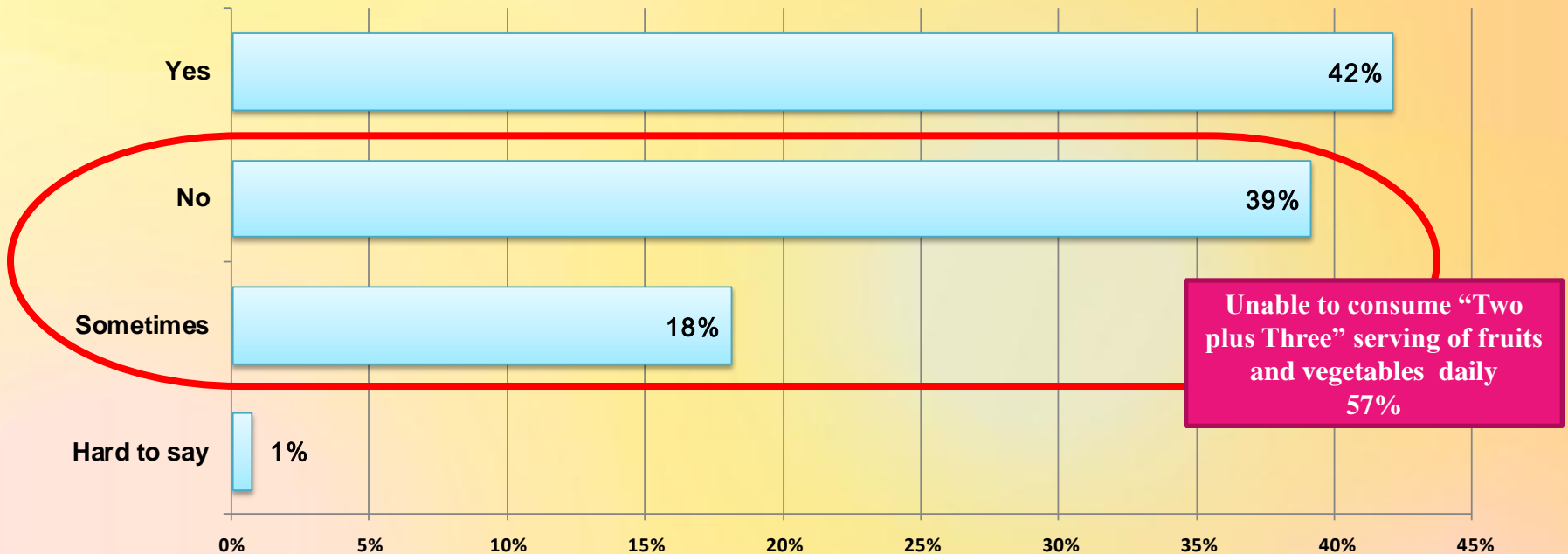
N=304

**More than 60% (61%) of respondents dined out 5 times or more per week and one-fifth (21%) of them dined out even more than 10 times per week.**



# Eating Habit of Women at the stage of Pregnancy Planning : Nearly 60% of Respondents Failed to Consume 3 Servings of Vegetables & 2 Servings of Fruits per day

Have you consumed 3 servings of vegetables and 2 servings of fruits per day last week?

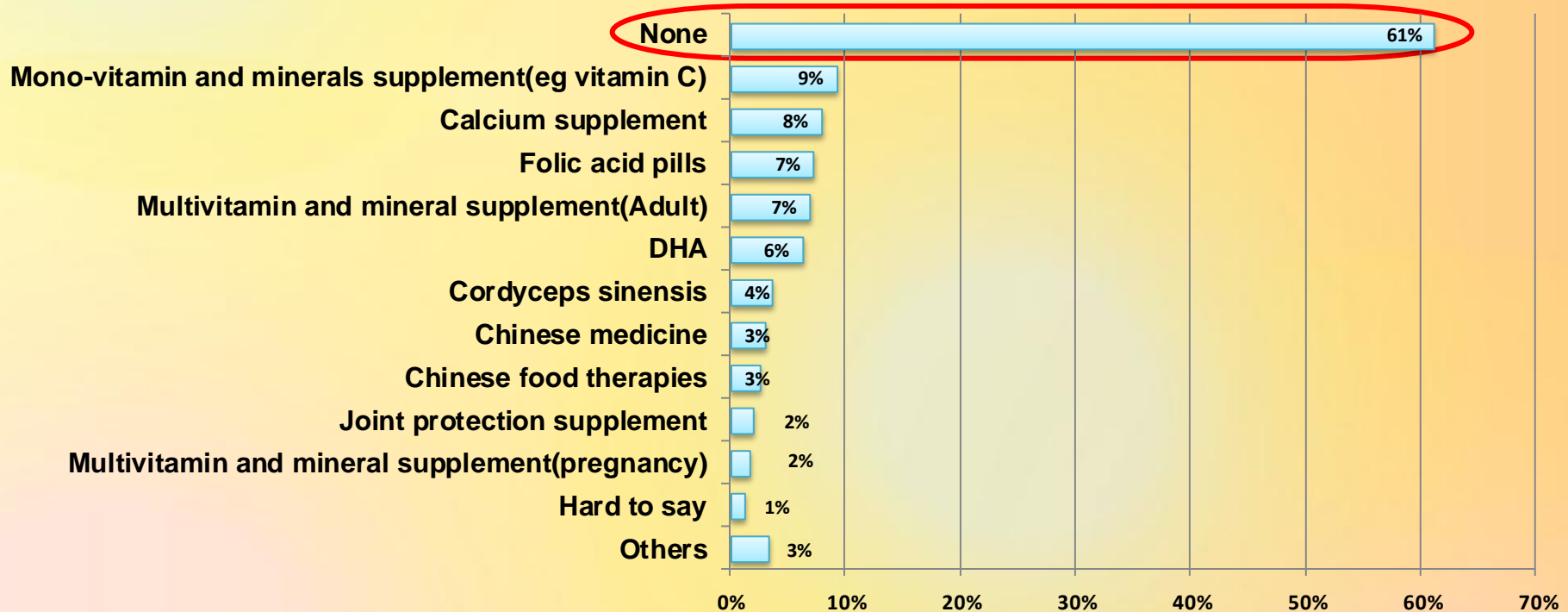


Nearly 60 % (57%) of them failed to uphold the Department of Health's recommended 3 servings of vegetables and 2 servings of fruits.

N=304

# Over 60% of Women Do Not Take Any Supplement when They are Planning for Pregnancy

Do you take any supplement regularly?

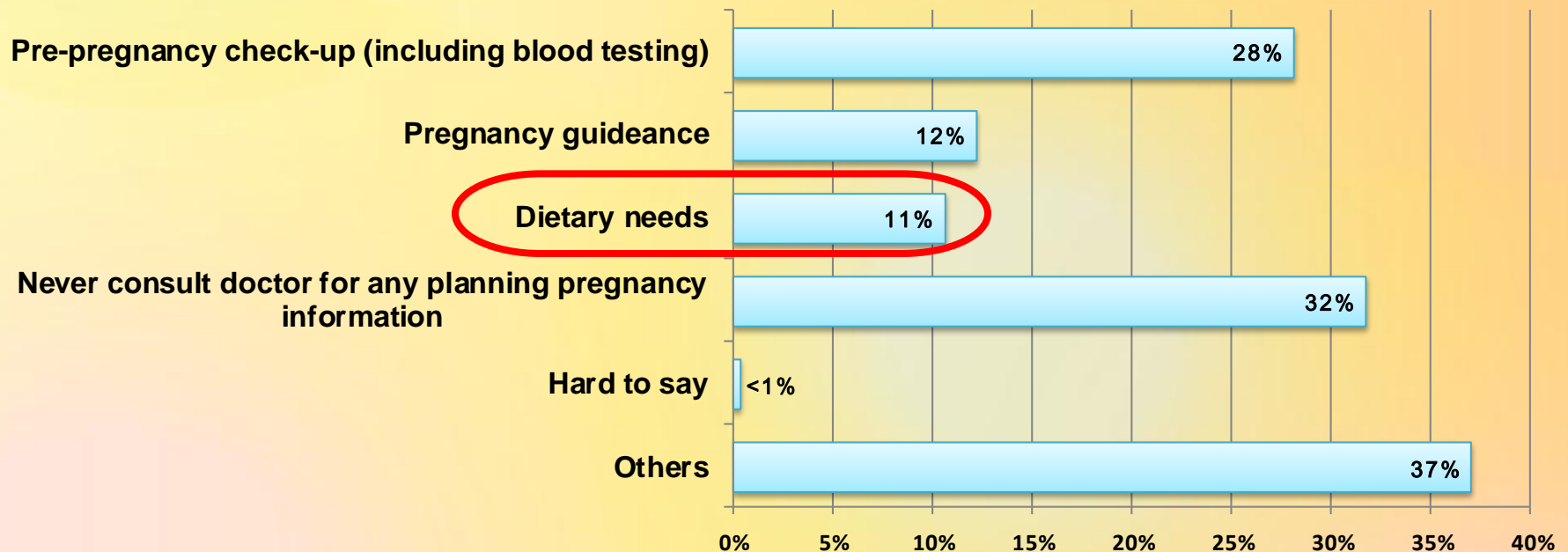


N=304 (Can answer more than one)

**Over 60% (61%) of women do not take any supplement when they are planning for pregnancy. It is worrisome that there is a lack of Nutrition preparedness during the preconception period, which might later on affect the nutrient supply to the fetus.**

# Only One in Ten Women Consult Doctors of their Nutrition Need at the Stage of Pregnancy Planning

Have you consulted doctor of any below information for pregnancy planning?

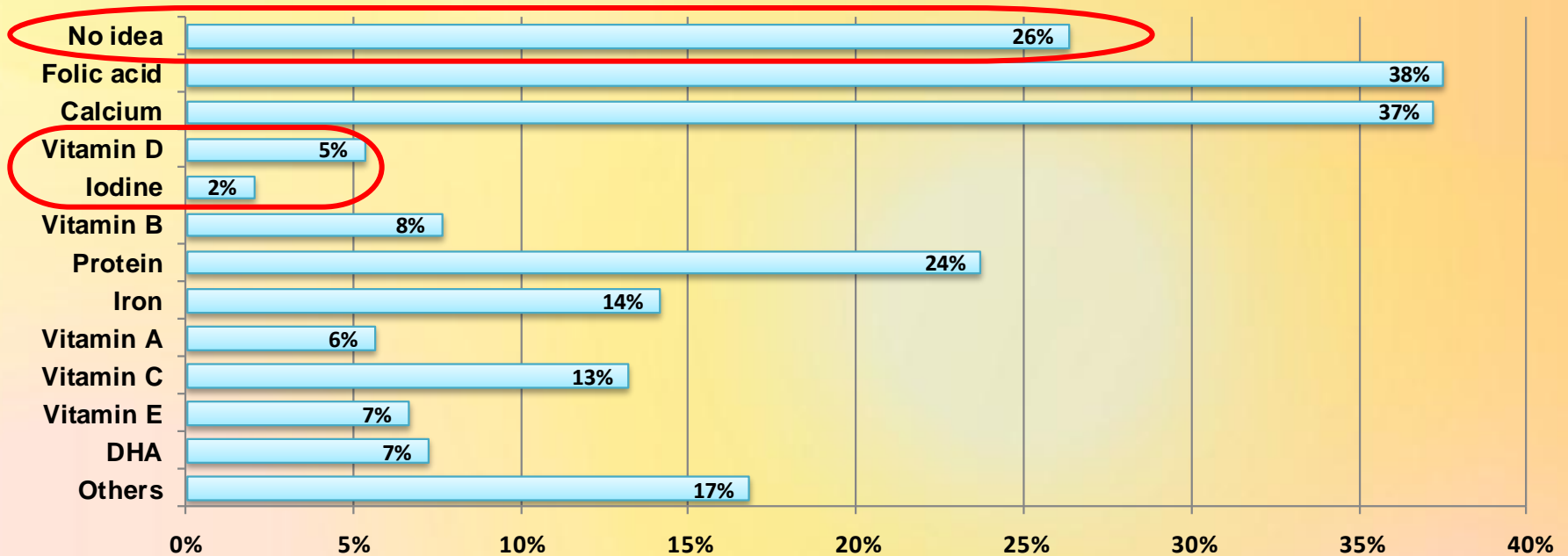


N=304(Can answer more than one)

**Only one in ten (11%) women discuss pre-conception nutrition with their doctor when they are planning for pregnancy.  
Local women may not be adequately and properly prepared for maternal nutrition.**

# Women who are Planning to be Pregnant Lack of a Comprehensive Knowledge of Preconception Nutrition

Do you know which kinds of nutrients should be taken by women at the stage of preconception or pregnancy ?

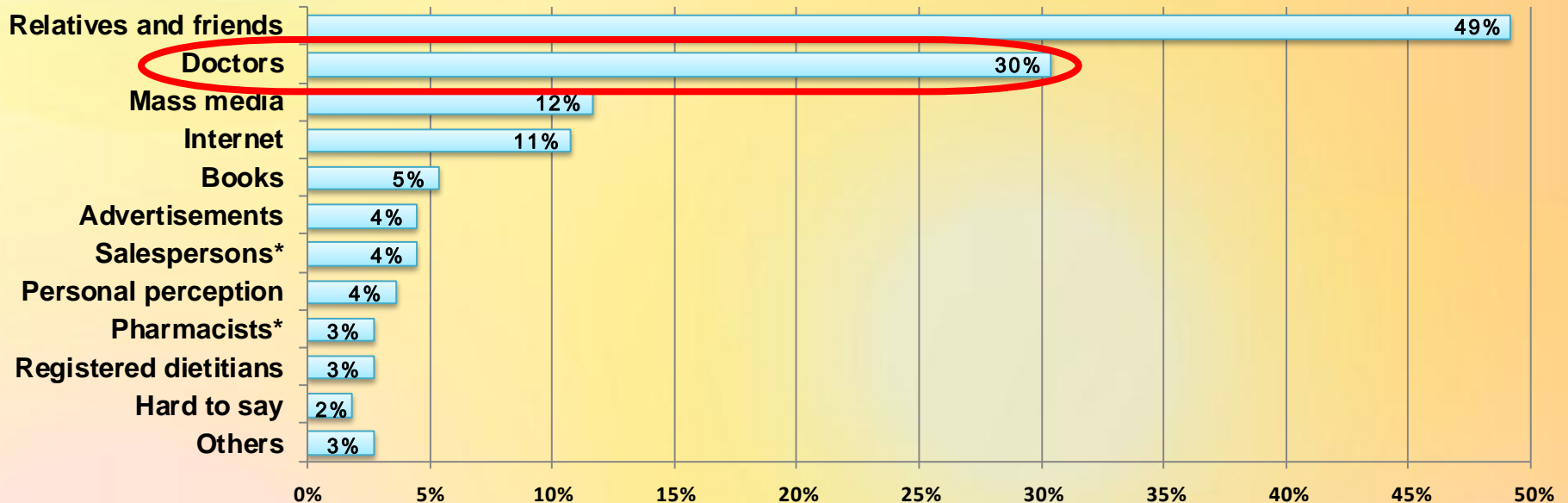


N=304 (Can answer more than one)

**Only Few respondents are aware of the importance of vitamin D (5%) and iodine(2%) while nearly 30% (26%) of them without any idea of their Nutrition needs.**

# Less than One-third of Respondents consider Doctors' Advice when choosing Supplement

Whom would you seek advice from/which channels do you use when choosing supplement ?#



N=114(Can choose more than one answer )

**Nearly half of the respondents seek the opinions of relatives and friends in choosing supplements. Just 30% of them look for doctor's suggestion, while only a very few of them will seek advice from pharmacists (3%) and registered dietitians (3%).**

\*including from chain stores and dispensary

# only answered by those taking Nutrition supplement frequently

# Summaries (1)



More than 90% of women planning to get pregnant neglect their nutrition needs

- Though most women planning to get pregnant are concerned about their health
- They demonstrate a low level of awareness towards preconception nutrition and they are also found fail to take respective action.



Women planning to get pregnant are found unable to maintain a balanced diet in daily life

- Most respondents dined out really often and are difficult to uphold the Department of Health's recommended three serving of vegetables and two serving of fruits.



It is not a common practice for women to take supplements at the stage of preconception

- Women may not be well equipped with adequate nutrition in preparation for pregnancy.

# Summaries (2)



Only a few women will discuss their pre-pregnancy Nutrition needs with their doctors

- It is worrying that women may not be knowledgeable of pre-conception nutrition; and get themselves well prepared for pregnancy.



Lack of Understanding of Preconception Nutrition Needs

- Many respondents do not know what kind of nutrients should be taken before pregnancy.
- Though most women are aware of the importance of folic acid and calcium, vitamin D and iodine are rarely known.



At preconception, most women seldom take advice from medical professionals when selecting supplement

- Mainly seeks opinions from friends and relatives.
- Only a few of them look for doctor's suggestions, even less of them will seek advice from pharmacists and registered dietitian .

# Part 3

*International Authorities Recommend Women  
Planning to Get Pregnant to  
Take multivitamin supplements to Avoid  
“Nutritional Gap”*

**Dr. LI Fuk-him Dominic**

**Specialist in Obstetrics and Gynaecology**

**Panel member of the Nutrition Concern Alliance**



# Avoid “Nutritional Gap”

women only know they are pregnant at least one month after conception in general

miss the critical time to provide nutrition supplement to the fetus

“Nutritional Gap “  
generated

Women who consider having baby should consult medical professionals of the nutritional needs during preconception

Improve their overall health and start preparing their Nutrient reserves earlier

# Authoritative medical professional bodies: Women need to be aware of nutrition intake before pregnancy

## The Royal College of Obstetricians and Gynaecologists

- A convincing evidence to support the supplementation of certain vitamins preconceptionally to reduce the likelihood of neural tube defects and other fetal abnormalities.<sup>1</sup>

## Chinese Nutrition Society

- Recommend women increase the dietary intake of vitamins and minerals before pregnancy.<sup>2</sup>

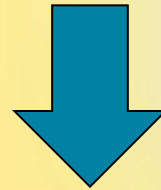
1. Royal College of Obstetricians and Gynaecologists , Vitamin supplementation in pregnancy (2012)

2.中國營養學會, 孕前期婦女膳食指南 (2007)

# Survey Results Reflect: Women who are planning for pregnancy may not Obtain Adequate Nutrients from Daily Diet



Survey results reflected that Hong Kong women might not obtain adequate nutrients from daily diet



**Necessary to supplement nutrients from alternative sources**

**HK Department of Health :**  
**Women Planning to Become Pregnant could Take Supplement if They Cannot Meet Nutrition Need through Daily Diet**

**If women who are planning to become pregnant have problem eating adequate foods rich in folic acid, iron , iodine or calcium, seek advice from medical professionals for any need for supplement.**

# More International Guidelines about Taking Supplements during the stage of Pregnancy Planning

Need taking supplements during pregnancy planning

## International recommendations

The Society of Obstetricians and Gynaecologists of Canada (SOGC)

Health Canada

American College of Obstetricians and Gynecologists (ACOG)

What is the benefit ?

When to take it?

Which kinds of supplement should I take ?

# **The Society of Obstetricians and Gynaecologists of Canada (SOGC)**

**Women who are planning for pregnancy should eat well and take daily multivitamin supplements (with folic acid) for at least 2-3 months before conception.**

# Health Canada's Food Guide

**Women of child bearing age should  
take multivitamin supplements  
(with folic acid) daily.**

# American College of Obstetricians and Gynecologists (ACOG)

**Women should be able to obtain adequate nutritional intake from daily diet. Nevertheless, it is advisable for women planning for their pregnancy to take multivitamin supplements which can also help effectively decrease the severity of nausea and vomiting during pregnancy thereafter.**



# **Part 4**

## ***Lack of Understanding of Preconception Nutrition***

**Ms Carmen Lo**

**Registered Dietitian**

**Panel member of the Nutrition Concern Alliance**

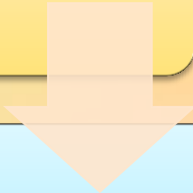
# Women have a limited knowledge of Preconception Nutrition

- **Survey results show :**

Women are more aware of the importance of folic acid and calcium

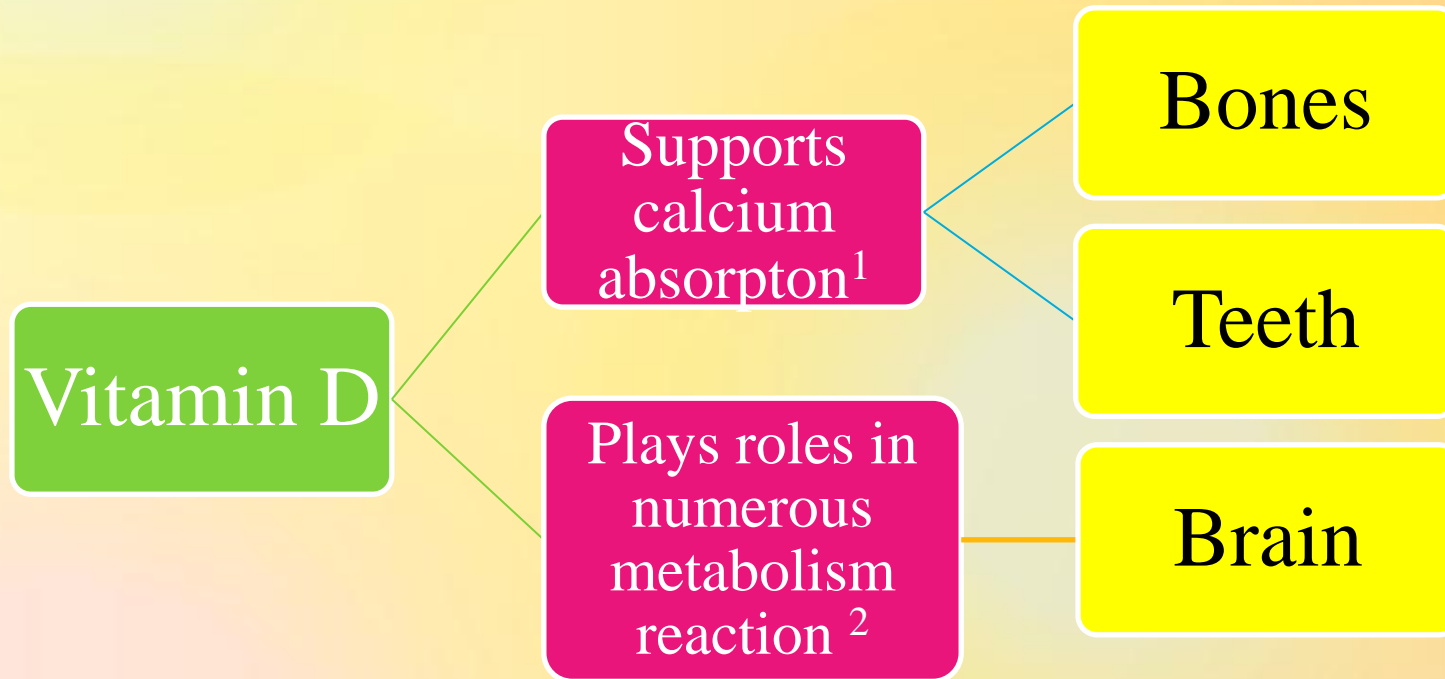


Few respondents are aware of the importance of Vitamin D and iodine



Nearly 30% of them have no idea of their preconception Nutrition needs.

# Vitamin D supports fetal development in various aspects

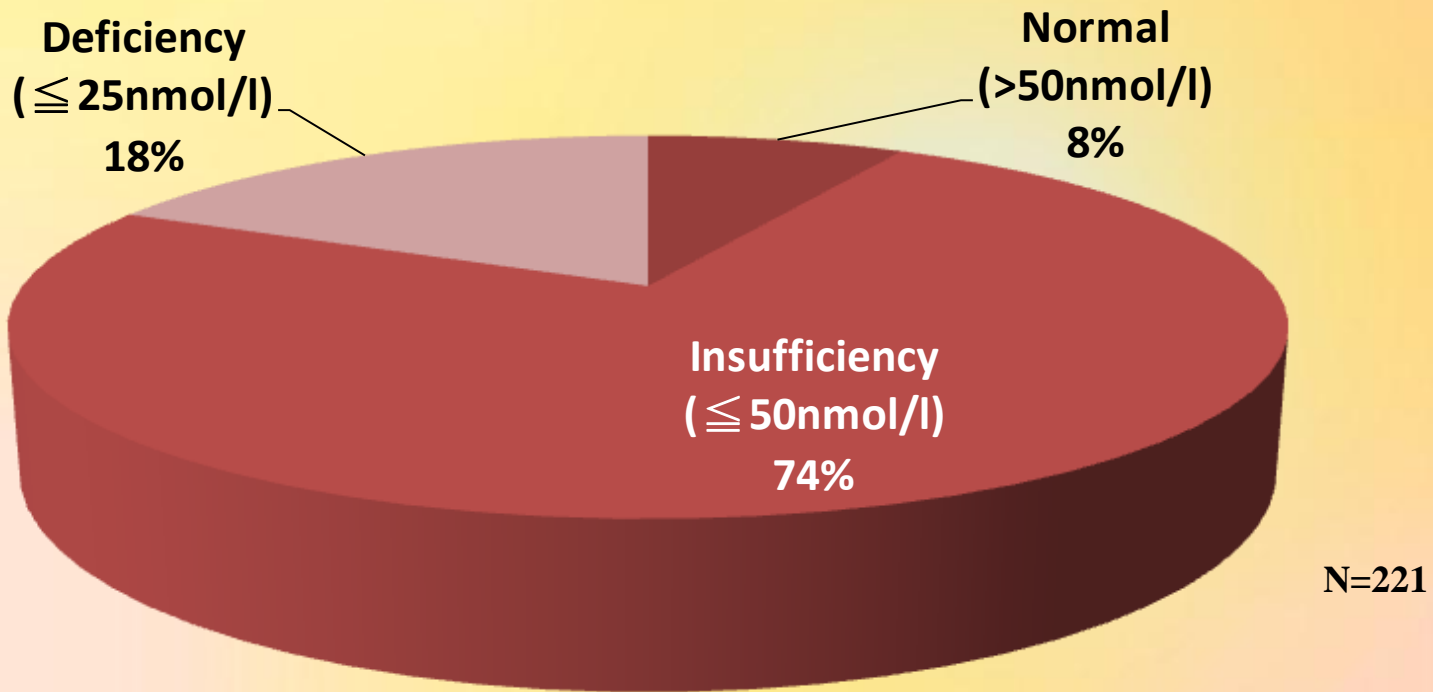


1. Wagner CL et al. Womens Health (Lond Engl). 2012 May;8(3):323-40.

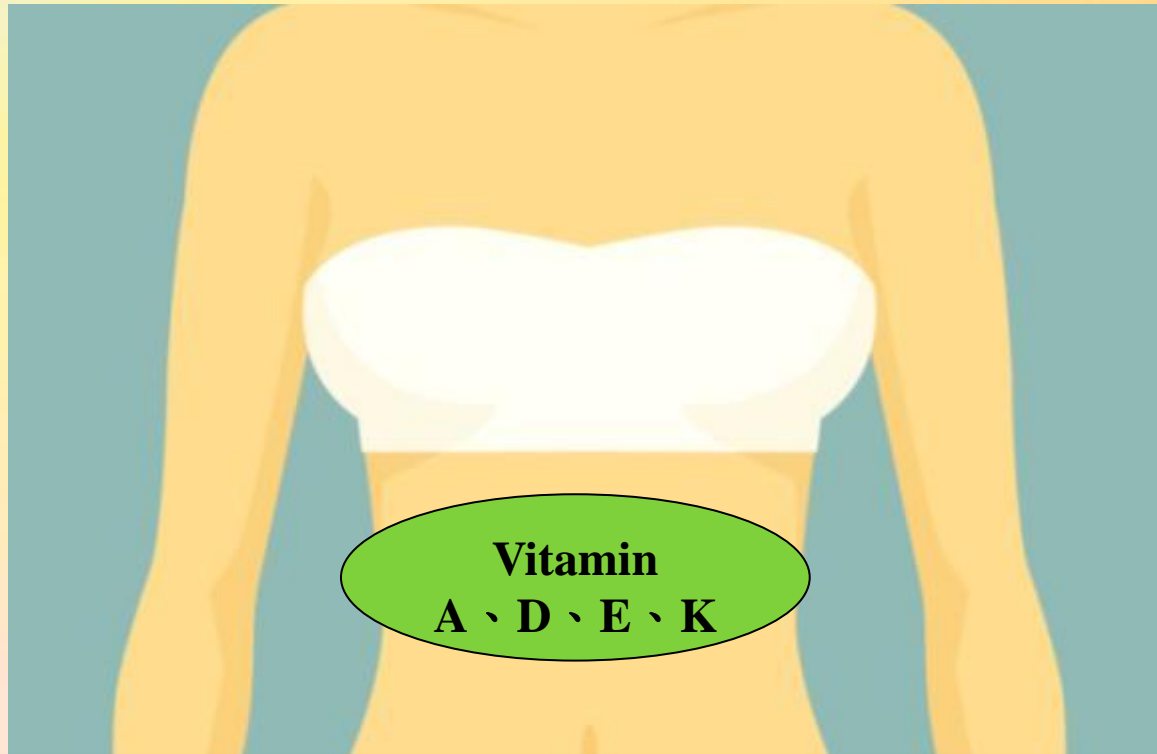
2. Eyles D et al . Semin Cell Dev Biol. 2011 Aug;22(6):629-36.

# Over 90% of Hong Kong women have insufficient Vitamin D in blood serum level

## Local Women's Serum Vitamin D Level

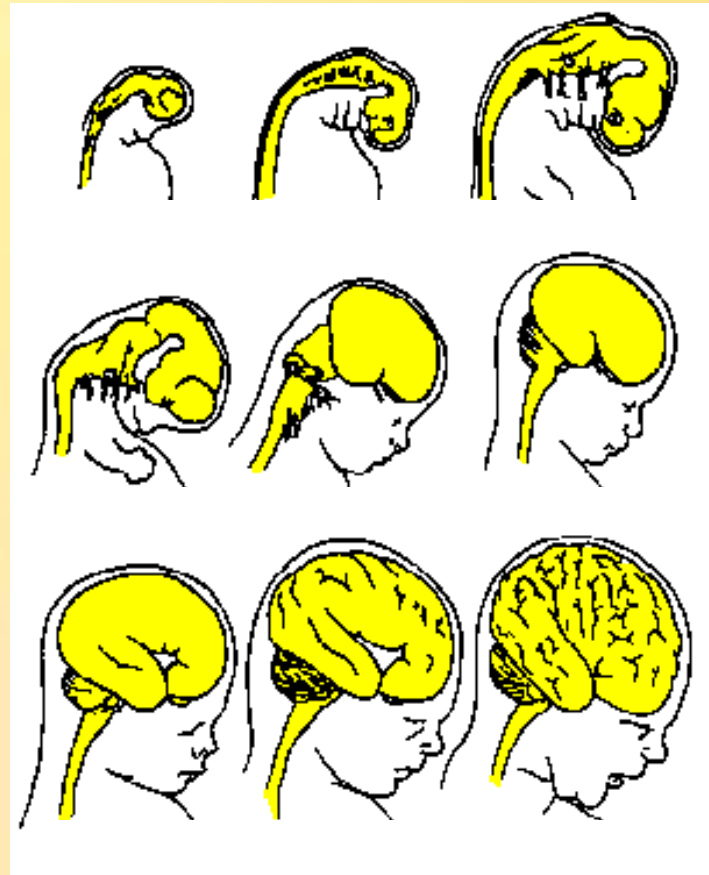


# Certain Kinds of Vitamins can be Stored as nutrient reserves

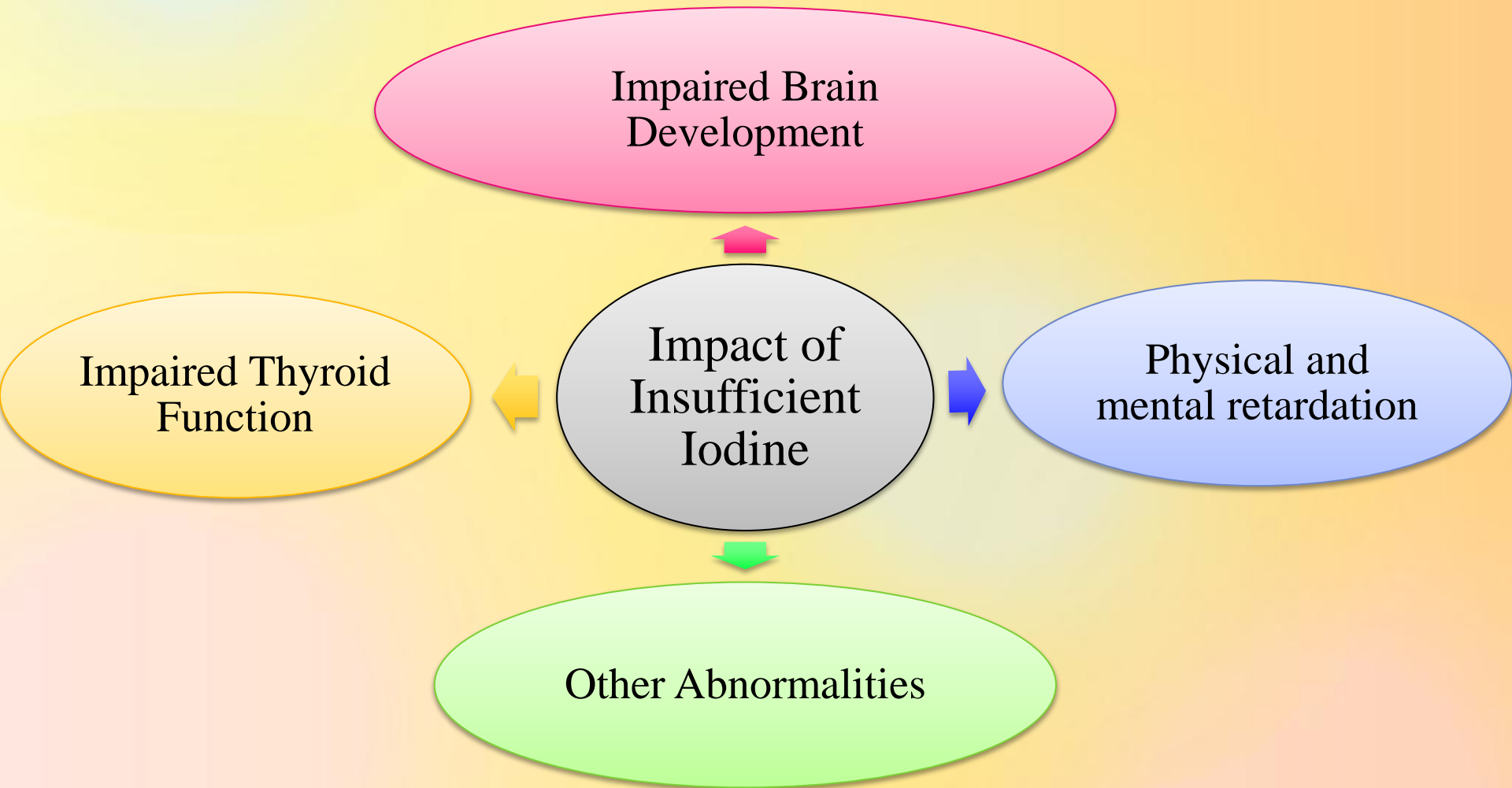


**Vitamin A, D, E, K can be stored and  
released when needed.**

# Iodine facilitates the development of the fetus brain and central nervous system



# Impact of inadequate iodine intake to Fetus' health



# Iodine Insufficiency is Common in Local Population

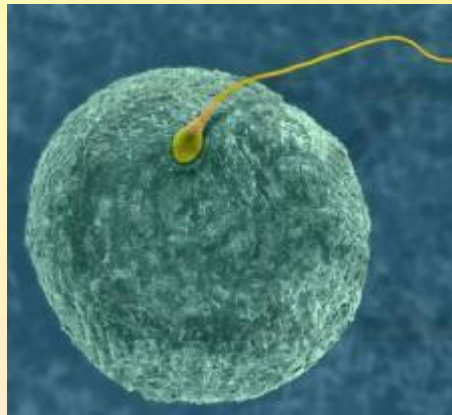
## Mean and percentiles of dietary iodine intake ( mg/day) in the local population

Mean ( mg / day)		Percentiles ( mg/day)						
		5 <sup>th</sup>	10 <sup>th</sup>	25 <sup>th</sup>	50 <sup>th</sup>	75 <sup>th</sup>	90 <sup>th</sup>	95 <sup>th</sup>
Males	0.11	0.017	0.022	0.031	0.046	0.067	0.103	0.166
Females	<b>0.142</b>	<b>0.016</b>	<b>0.02</b>	<b>0.029</b>	<b>0.043</b>	<b>0.064</b>	<b>0.111</b>	0.334
Total	0.127	0.017	0.021	0.03	0.044	0.066	0.107	0.277

**93% local citizens suffer from iodine insufficiency (daily uptake lower than the recommended 0.15 mg daily by the Chinese Nutrition Society).**



# Significant Increase in Iodine Requirement after Conception



Conception



Maternal thyroid hormone production increases by about **50%** due to an increased utilization by the fetus

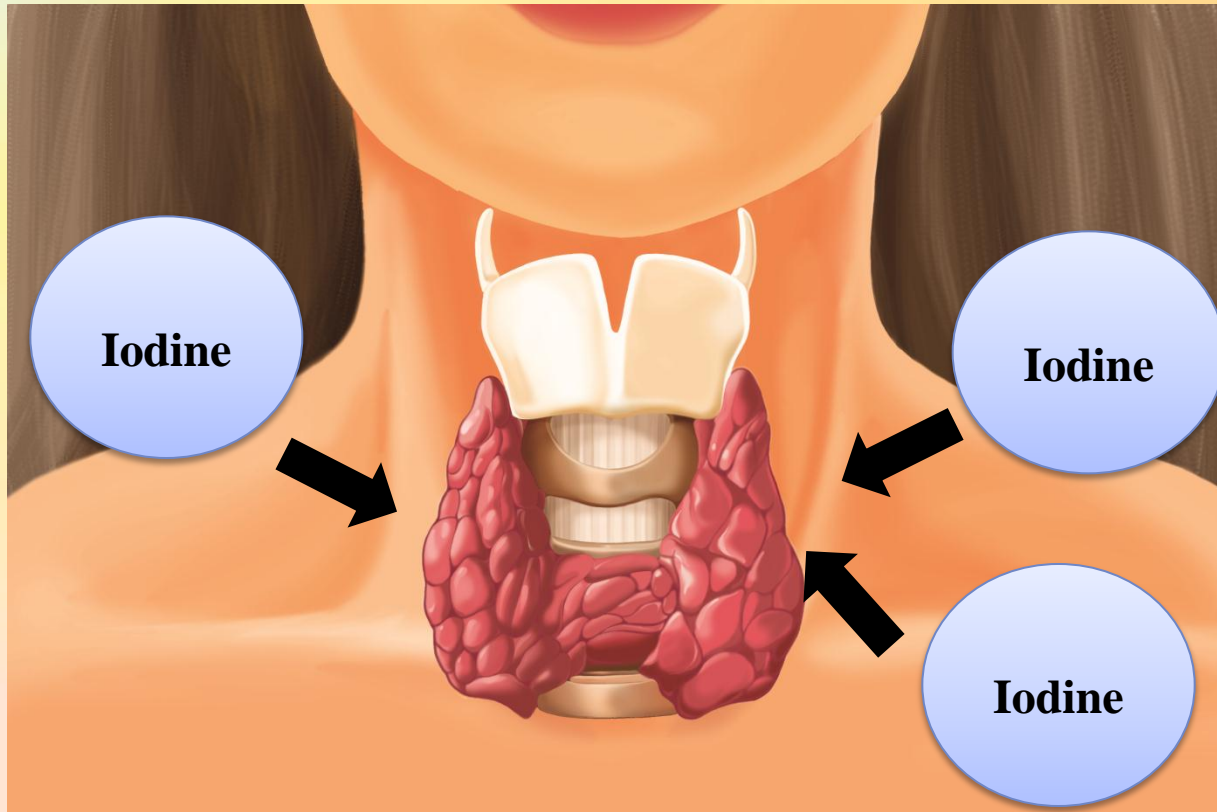
increased renal clearance of iodide in mother by about **30% to 50%**

increased binding of iodine to thyroid binding globulin (TBG)



Great increase in iodine after conception

# Iodine Can be Stored in Thyroid

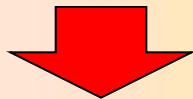


**Iodine will be absorbed and stored in thyroid.  
The level of storage varies in according to body  
condition.**

# **Women who are Planning to get Pregnant should Start Preparation Early and Maintain an Adequate Reserve of Nutrients**

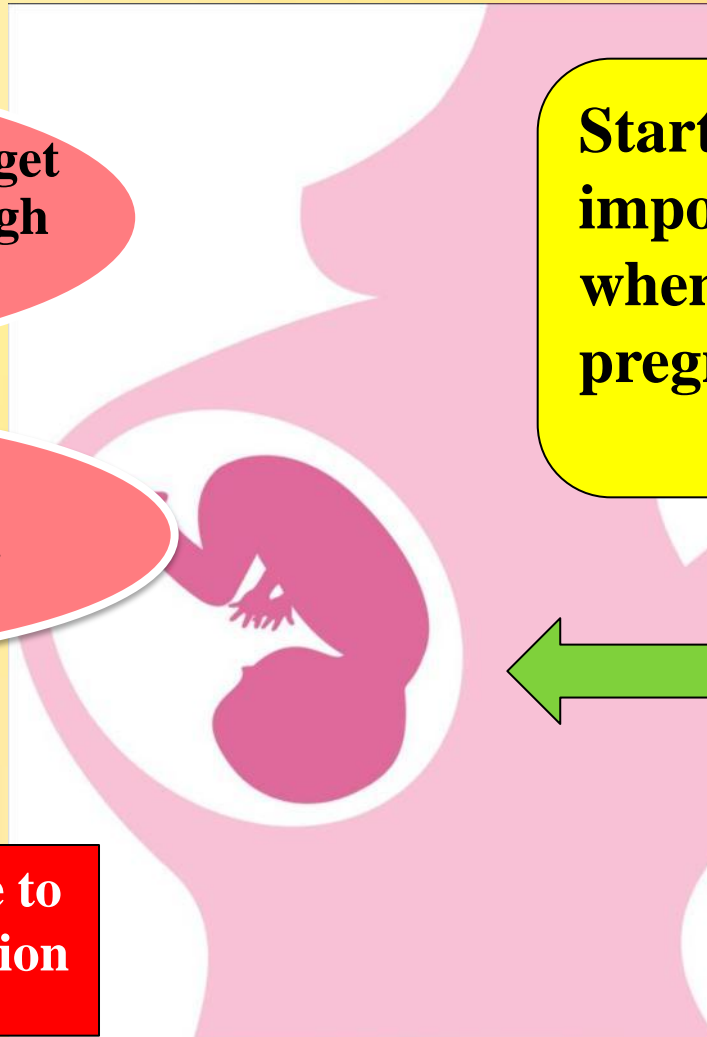
**Women who are planning to get pregnant not obtaining enough key nutrients**

**An Increased need for nutrient after conception**



**Pregnant women are unable to meet the need of fetal Nutrition**

**Start to intake important nutrients when planning to be pregnant**



# **Part 5**

## ***Conclusion & Recommendation***

**Dr. LI Fuk-him Dominic**

**Specialist in Obstetrics and Gynaecology**

**Panel member of the Nutrition Concern Alliance**

# Conclusion and Advice (1)

- **The survey results suggest that Hong Kong women who are planning to get pregnant likely neglect their nutrition needs during the period of preconception.**
- **According to various international recommendations, most women should start taking multivitamin supplements when they are preparing for pregnancy.**
- **“The Nutrition Concern Alliance” urges women who are planning to get pregnant :**
  - **eat well and pay attention to the nutrients taken in from their food.**
  - **talk to medical professionals about their nutrition needs during the pre-pregnancy period.**
  - **consider taking high quality multivitamin and mineral supplements.**

## Conclusion and Advice (2)

- **Consulting medical professionals during pregnancy :**
  - **To learn more about personal Nutrition needs.**
  - **To seek advice for selecting supplement and aware of the content of multivitamin and mineral supplements and if the products are produced by a trusted manufacturer.**



# **Q&A Session**