

# WHOLE GRAINS' HEALTH BENEFITS, REGULATION, DIETARY GUIDELINES, AND CONSUMPTION IN INDONESIA

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# WHOLE GRAINS' HEALTH BENEFITS, REGULATION, DIETARY GUIDELINES, AND CONSUMPTION IN INDONESIA

1. Consumption and Health Benefits
2. Regulation and Dietary Guidelines
3. Closing statements



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— Bogor Indonesia —

23/11/23

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# 1. Consumption and Health Benefits

## Whole Grains:

- ❑ Grains contain all the essential parts and naturally occurring nutrients of the entire grain seed in their original proportions (Whole Grains Council, 2004)
- ❑ As consisting of the intact, ground, cracked, or flaked fruit of the grains whose principal components, the starchy endosperm, germ, and bran, are present in the same relative proportions as they exist in the intact grain (USFDA 2006)

No formal definitions in Indonesia

Actually Indonesians consumed whole grains

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**Each grain has its own little specialties (besides containing Carbo, Protein, EFA, B Vits, and Dietary fibre):**

- ✓ **Yellow corn is contains carotenoids**
- ✓ **Wild brown rice (magnesium and calcium)**
- ✓ **Oats are high in (vitamin E, manganese )**
- ✓ **Durum wheat has more selenium**
- ✓ **Sorghum (phosphor, zinc)**
- ✓ **Barley is highest in fiber**
- ✓ **Quinoa rich in folate**



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Barley (hulled) <sup>3</sup>	Brown rice	Bulgur	Corn (yellow)	Oats	Rye	Sorghum	Wheat	Wild rice
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### Whole Grains (WG):

- ❑ No formal definitions of WG in Indonesia
- ❑ Actually Indonesians consumed WG, event in small amount
- ❑ There are a data set of the national food consumption, but no data specifically revealed the intake of WG

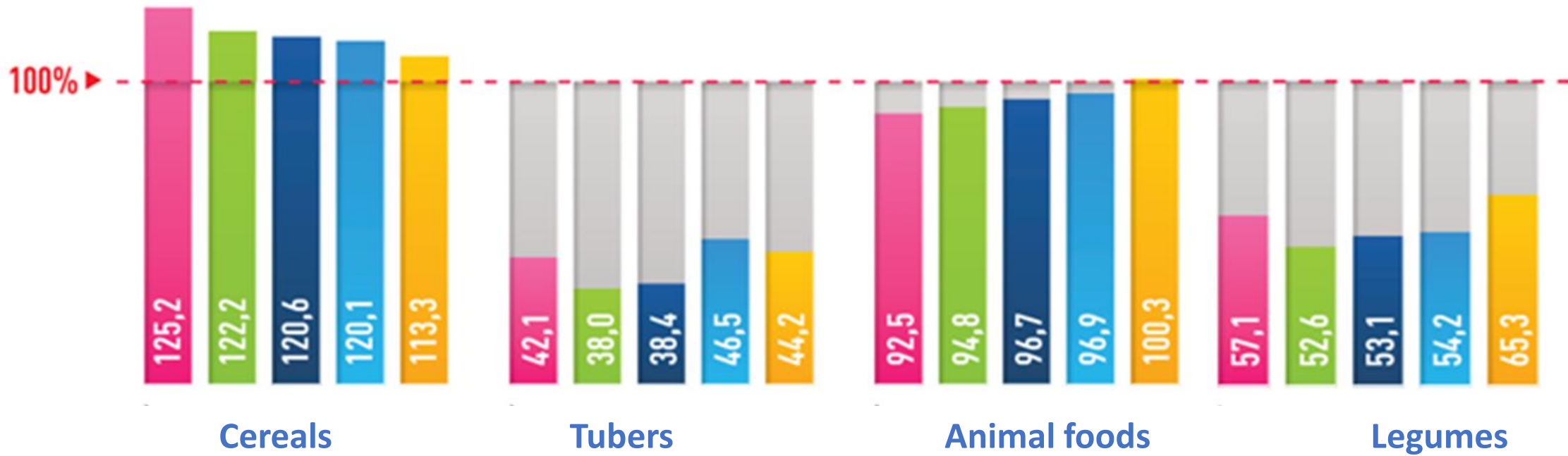




## Food Expenditure of Indonesians (CBS, 2023)

Food Groups	2020 <sup>↑↓</sup>	2021 <sup>↑↓</sup>	2022 <sup>↑↓</sup>
Cereals	12,93	10,98	9,46
Tubers	0,34	0,47	0,40
Fish	6,27	6,52	5,53
Meat	2,46	3,07	3,53
Eggs & milk	3,93	3,39	3,71
Vegetables	7,23	8,66	6,96
Legumes	2,40	2,50	2,34
Fruit	4,74	4,34	4,31
Oil & coconut	2,73	2,99	3,60
Beverages	2,79	2,61	2,61
Spices	2,33	3,03	2,63
Others	1,62	2,14	1,82
Food away FH	35,80	33,74	37,95
Cigarette/tobacco	14,43	15,55	15,14
<b>TOTAL</b>	<b>100,00</b>	<b>100,00</b>	<b>100,00</b>

# % Adequacy of food by food group





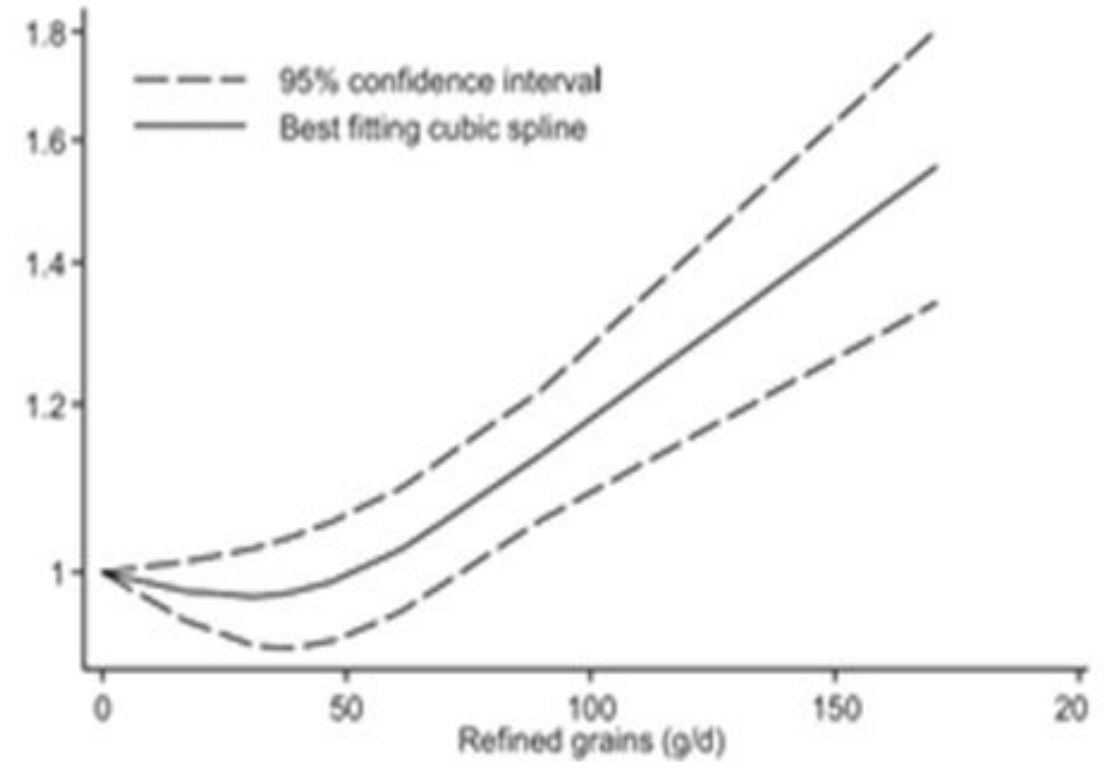
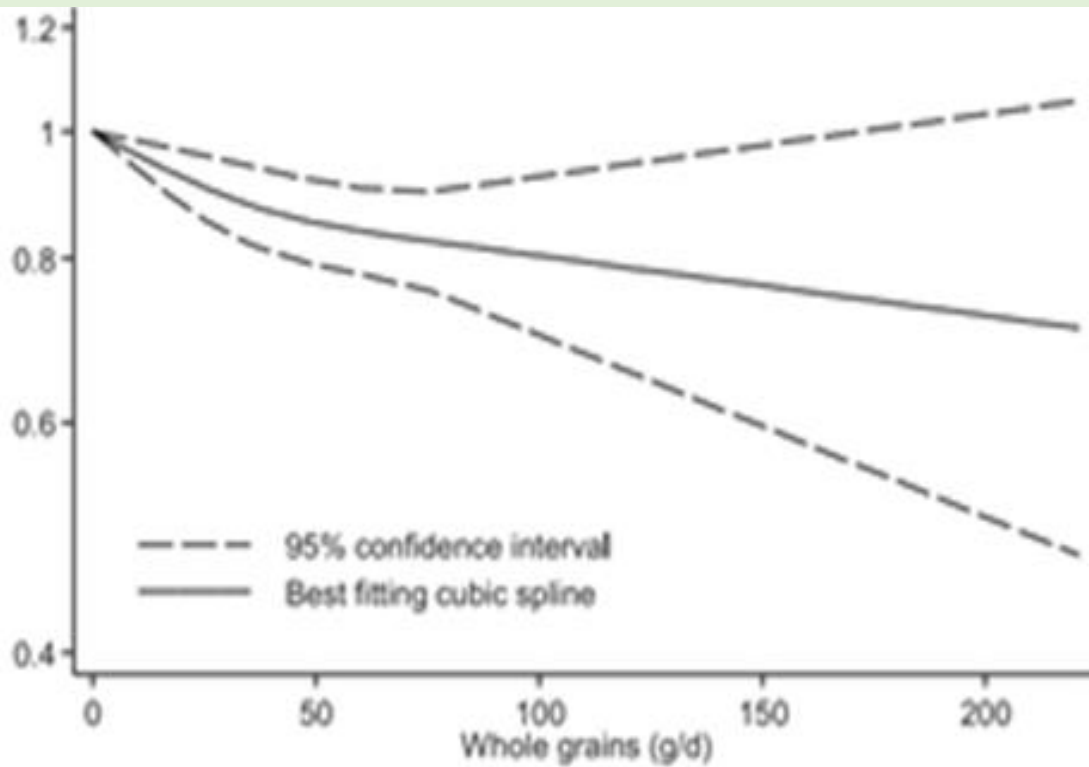
# No clinical studies in Indonesia on health benefits of WG.

## Strong evidence from overseas as a meta analysis

### Food Groups and Risk of Overweight, Obesity, and Weight Gain: A Systematic Review and Dose-Response Meta-Analysis of Prospective Studies

Sabrina Schlesinger,<sup>1</sup> Manuela Neuenschwander,<sup>1</sup> Carolina Schwedhelm,<sup>2,3</sup> Georg Hoffmann,<sup>4</sup> Angela Bechthold,<sup>5</sup> Heiner Boeing,<sup>2,3</sup> and Lukas Schwingshackl<sup>2,3</sup>

<sup>1</sup>Institute for Biometrics and Epidemiology, German Diabetes Center (DDZ) at Heinrich Heine University, Düsseldorf, Germany; <sup>2</sup>Department of Epidemiology,



Schlesinger, Sabrina et al (2019)

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## 2. Regulation & Dietary Guidelines

- **BPOM (Indonesian FDA) Regulations on WG only about how to claim the products that contain WG (=>25%)**
- **The DGs for Indonesians (Regulated by MOH) implicitly promote the consumption of WG**





MENTERI KESEHATAN  
REPUBLIK INDONESIA



PERATURAN MENTERI KESEHATAN REPUBLIK INDONESIA  
NOMOR 41 TAHUN 2014

TENTANG  
PEDOMAN GIZI SEIMBANG

- DGs for Indonesians (MOH), consist of predominantly plant foods, which can be considered as Plant Based Diet (PBD)
- The guidelines provide advice on what to eat and drink to meet nutrient needs and promote health as a basis for nutrition education for better health



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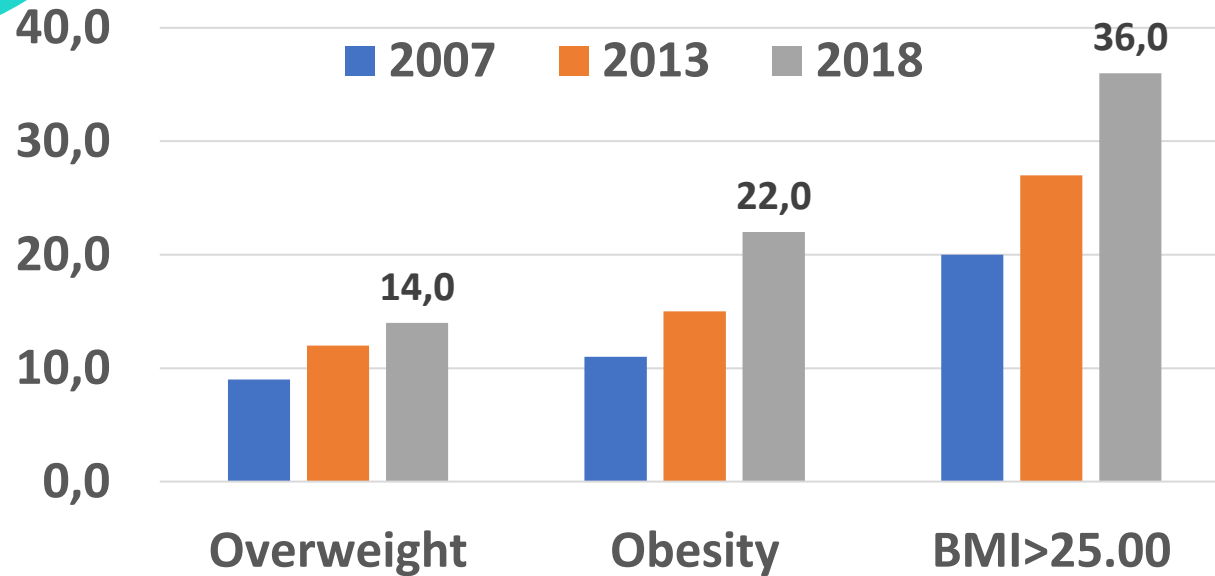


In the DGs regulation by MOH, the messages on WG was written as follows

- a. The Carbo foods should include: rice, potato, cassava, sweet potato, corn, sago, other cereals and tubers



## Obesity among 18+ years of Indonesian



- ❑ Increased almost double during the last decade in all age-sex groups, especially, among adults and Elderly (>35 yrs)
- ❑ Higher in female compared to male

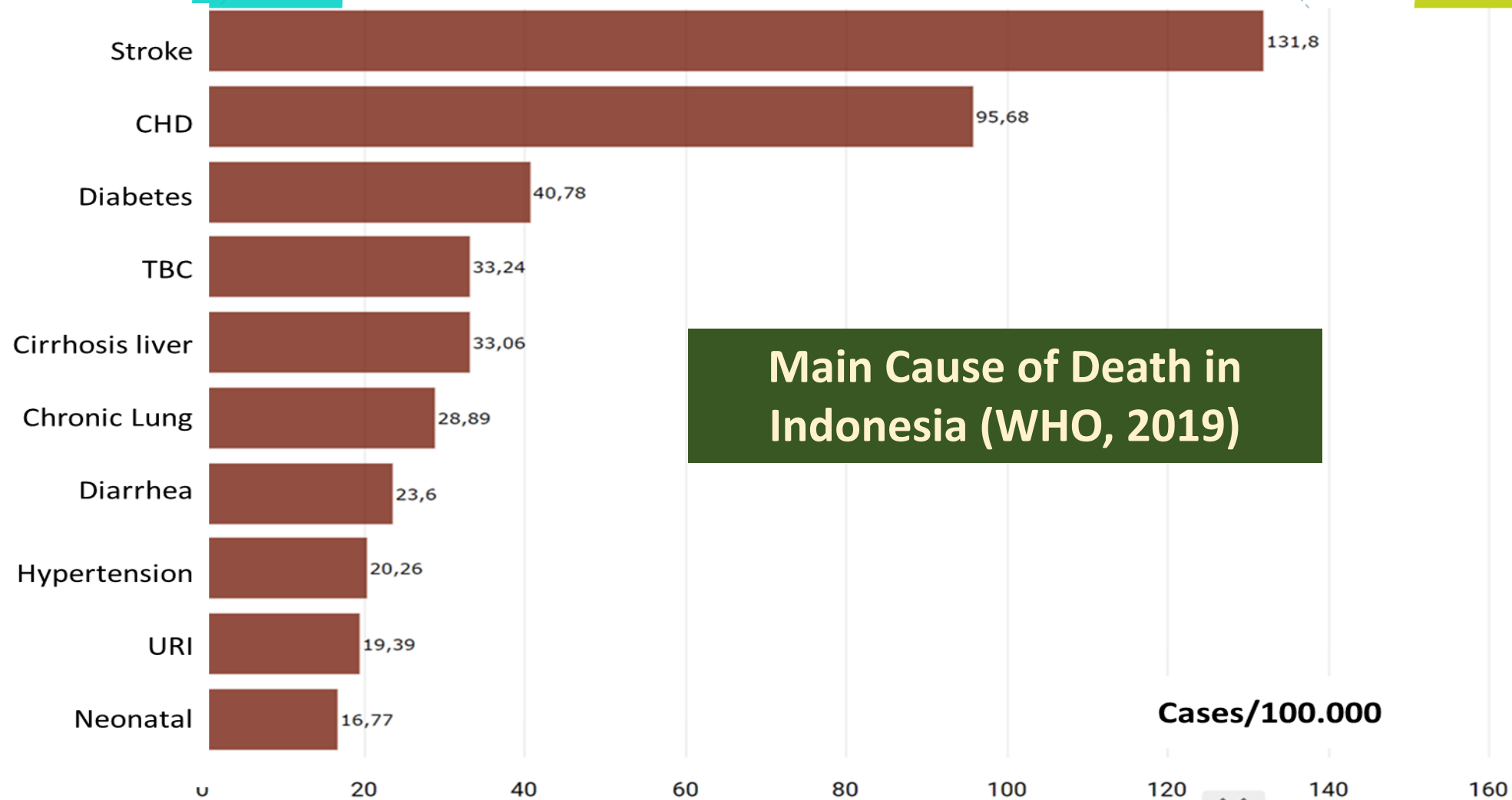
Obesity



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# On average, two thirds of those whose diet has changed suggest they are trying to eat more healthily

Base: All agree their diet has changed since the pandemic

Iris Market Survey Worldwide (2021)





### 3. Closing Statements

- Food consumption data and health benefits evidence on eating whole grains (WG) in Indonesia is very limited. Few studies on WG done in relation to glicemic index
- Regulations on WG by BPOM (FDA) only about how to claim the products that contain WG (=>25%); and by MOH on DGs, which implicately promote the consumption of the WG
- There are strong evidences from overseas studies that increasing whole grain to about 100 g/d lowering the risk of obesity, coronary heart diseases and stroke
- We need a large scale study on assessing the intake of the types and the quantity of whole grains as well as the perception and the reasons not to consume more the whole grains
- The challenges on promoting the consumption of WG are for instance the lack of awareness on the benefits, as well as low access to WG foods physically and economically





terima kasih

