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# WHAT ARE GLP-1 DRUGS?

## WHAT IS GLP-1 ?

- Glucagon Peptide 1 Receptor Agonist
- Hormone Created by Small Intestines
- Regulate blood sugar levels and appetite
- GLP-1 (Glucagon-like Peptide-1) medications mimic the natural hormone GLP-1

## PRIMARY ROLES OF GLP-1 HORMONE AND DRUG

Increase insulin
Decrease glucagon
Suppress appetite
Slow stomach emptying

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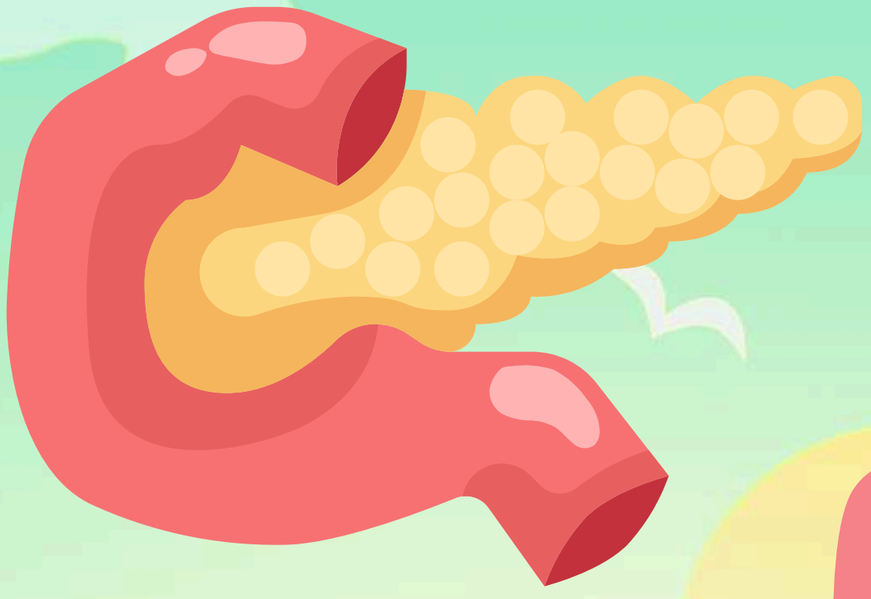
# GLP - 1



↑↑ Insulin
↓↓ Glucogon

↓↓ Gastric emptying
↓↓ GI motility

↓↓ Food intake
↓↓ Water intake

## MECHANISM OF ACTION

Stimulate insulin secretion after an oral glucose load via the incretin effect

Inactivated by dipeptidyl peptidase-4 (DPP-4)

Delayed gastric emptying and inhibiting glucagon production from pancreatic α-cells if blood sugar levels are high

Pharmacological levels of GLP-1 can revive insulin excretion

Can decrease pancreatic β-cell apoptosis while promoting their proliferation

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# WHY IT MATTERS?

GLP-1 drugs go beyond weight—they may protect your heart and liver too

| Health Issue | GLP-1 Benefits |
|---|---|
| Type 2 Diabetes | Better blood sugar control |
| Obesity | Significant weight loss |
| Cardiovascular Disease | Reduced risk with some medications |
| Possibly in Future: | NASH, PCOS, heart-specific outcomes |

These drugs are outperforming previous diabetes meds in both sugar and weight control (up to 20% weight loss)

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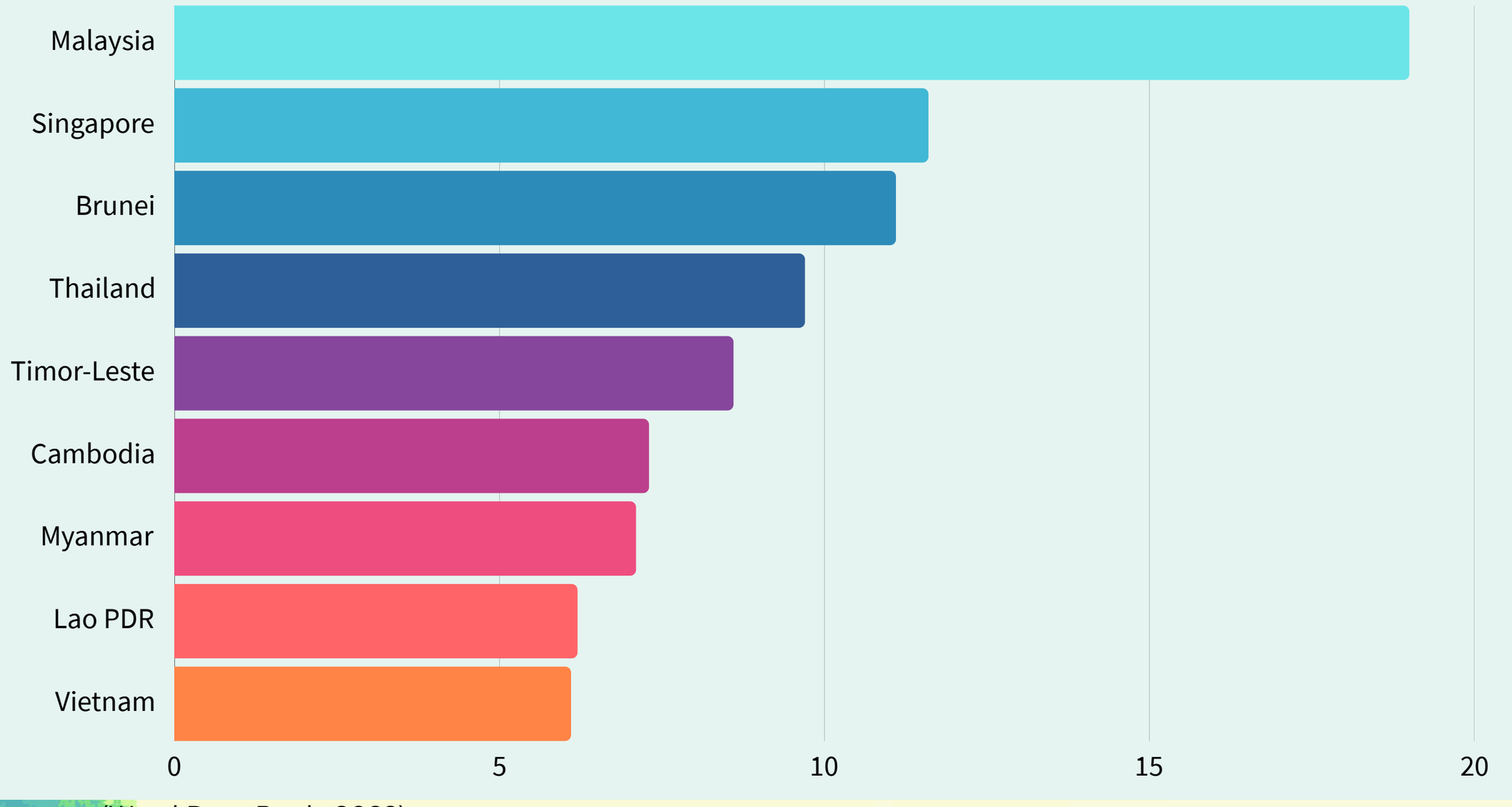
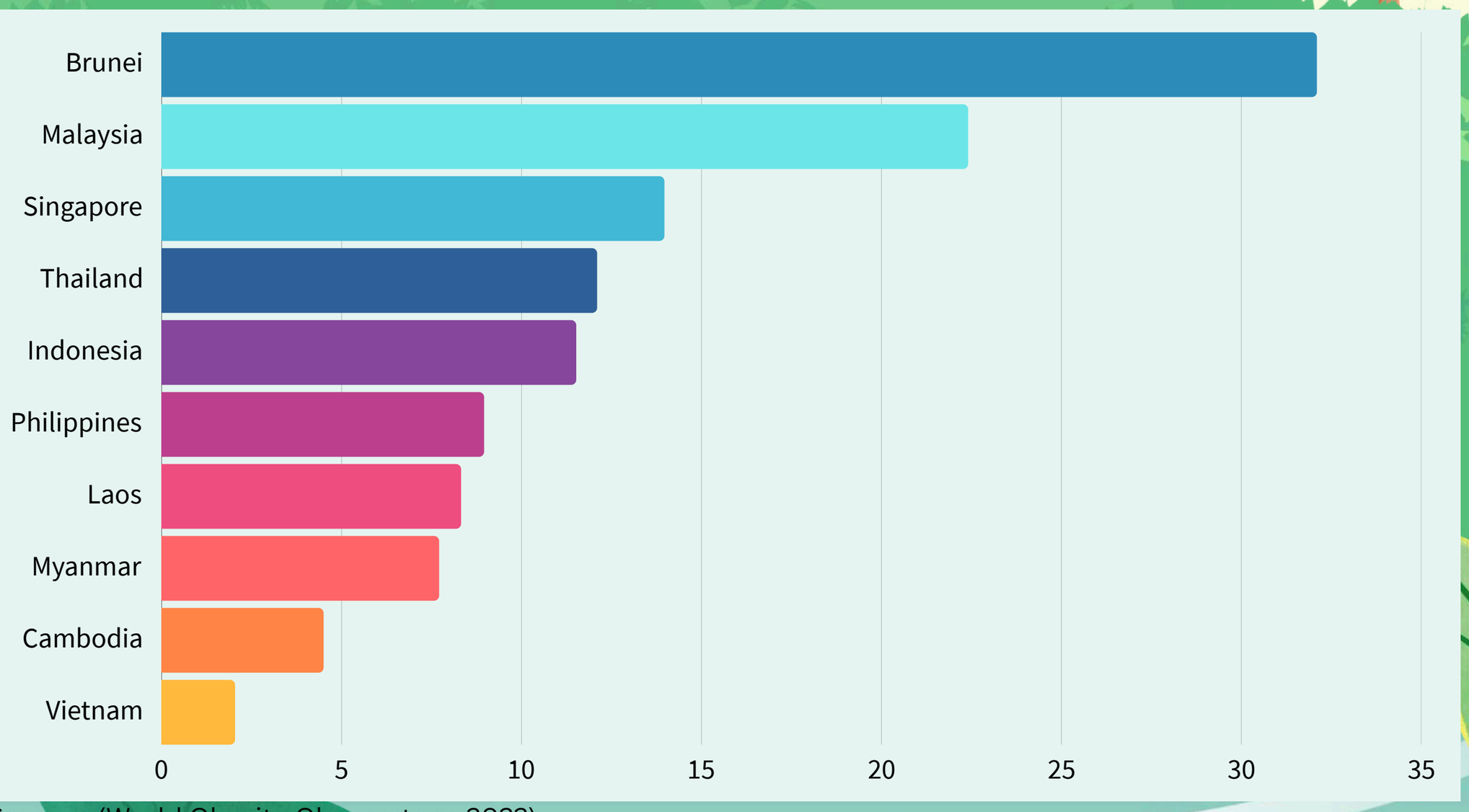
# DIABETES PREVALENCE RATE (%) IN ASEAN COUNTRIES 2022




Source : (Word Data Bank, 2022)

# OBESITY PREVALENCE RATE (%) IN ASEAN COUNTRIES 2022




Source : (World Obesity Observatory, 2022)

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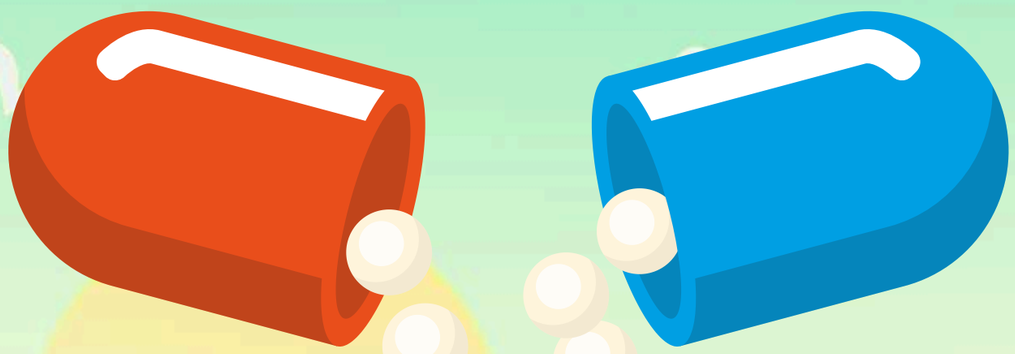
# WHAT'S NEXT FOR GLP-1?



Targeting liver diseases (NASH) - Clinical trials are assessing GLP-1 therapies for non-alcoholic steatohepatitis (NASH) and polycystic ovary syndrome (PCOS).

More heart-focused variants - Future treatments could see even greater cardiovascular benefits or new drugs that are designed specifically for heart health

Personalized medicine using genetic profiling - Advances in genetic research and biomarkers may allow doctors to select the most appropriate GLP-1 treatment based on a patient's genetic makeup

Combo therapies (GLP-1 + SGLT2 or DPP-4) - Future GLP-1 treatments could be combined with SGLT-2 inhibitors or DPP-4 inhibitors, to create multi-action drugs.