What Is Good About Resistant Starch?
Resistant Starch As An Alternative Strategy to Improve Vitamin D Status in Type 2 Diabetes

Presenter: Yi Ting Loo
Agenda

- Type 2 Diabetes (T2D) & Vitamin D (VD)
- About Resistant Starch
- About Research Study
  - Objective
  - Methods
  - Results
  - Conclusion
Relationship Between T2D & VD

- Two forms of VD- 25D & 1,25D

Kidney is important for VD
- Kidney disease causes low VD status
- Kidney disease is common in T2D
What Is Resistant Starch (RS)?

- A type of fermentable fiber
- Not digested
- Fermented in colon
- Low glycemic food

Potential for Diabetes Management
What Can RS Help in Diabetes?
Objective of The Study

Prevent loss of VD

Maintain serum 25 D concentrations

Zucker Diabetic Fatty Rats (ZDF)
Diet

Control Diet (Cornstarch)

Lean Control (LC group)  n= 8

ZDF (DC group)  n= 8

Treatment Diet (RS)

ZDF (DRS group)  n= 8
After 6 weeks of treatment, we collected:

- Urine
- Blood
- Kidney
What we found...
Body Weight

[Graph showing body weight gain over time for LC, DC, and DRS groups. Legend indicates legend and key points with letters and error bars.]
Fasting Blood Glucose

Biochemical measurements of LCs, DCs, and DRSs.\(^1\)

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<td>Blood glucose after food deprivation, mg/dL</td>
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594mg/dL  351mg/dL  41% lower
Indications of Kidney Damage

- Polyuria
- ↑ excretion of protein & albumin
- ↓ excretion of urinary creatinine

RS PREVENT these!
# Urinary Volume, Protein, Albumin, Creatinine

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Kidney Damage

21% lower
Serum 25D

41% higher
Urinary Loss of 25D & 1,25D

89% lower

97% lower
Conclusion

RS

protect kidney health

maintains VD status in T2D
References

Questions?
Thank You!