high-quality bowel preparation is often difficult. The main aim was to evaluate the impact of the intensive patient educational programme on the quality of bowel preparation. The secondary endpoint was to assess the patient’s compliance, acceptability, and tolerability towards the preparation regimen apart from identifying factors associated with good quality bowel preparation.

Methods We performed an assessor-blinded, randomised, controlled trial in an outpatient surgical clinic of a tertiary referral center. Patients were randomly assigned to a control group and comprehensive education programme. The randomisation allocation was concealed in an opaque envelope. All subjects were required to complete a questionnaire as to assess their compliance, acceptability and tolerability towards bowel preparation. Pearson chi-square and multivariable logistics regression were used in statistical analysis.

Results Three hundred and twelve patients were randomised, but only 300 patients were included in the analysis. Patients’ characteristics of both groups were similar. The proportion of good bowel preparation quality in the interventional group was significantly higher than the control group (98.7% versus 52.3%, p<0.001). The median total Boston Bowel Preparation Scale (BBPS) score for the interventional group was significantly greater than the control group (8 versus 5, p<0.001). As compared to the control group, subjects in the interventional group demonstrated higher compliance (96.6% vs 85.4%, p<0.001), acceptability (89.3% vs 33.1%, p<0.001) and tolerability (85.9% vs 19.2%, p<0.001) to bowel preparation regimen. Variables associated to good quality of bowel preparation identified from this study include intensive, structured and comprehensive education programme (OR: 22.5, p<0.001, 95% CI: 4.05, 124.67), compliance to bowel preparation identified from this study include intensive, structured and comprehensive education programme (OR: 22.5, p<0.001, 95% CI: 4.05, 124.67), compliance to bowel preparation (OR: 8.5, p<0.001, 95% CI: 1.55, 18.39) and non-hypomotility drugs (OR: 3.2, p<0.05, 95% CI: 1.25, 8.43).

Conclusions Patient educational programme is effective in optimizing the quality of bowel preparation for colonoscopy.

### Abstract IDDF2019-ABS-0209 Table 1

<table>
<thead>
<tr>
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<th>Muscle</th>
<th>Liver</th>
<th>Mitochondria</th>
<th>Pancreatic beta-cells</th>
<th>Adipose</th>
<th>Pancreatic islets</th>
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<tr>
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<td>856</td>
<td>510</td>
<td>273</td>
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<td>348 (0.342)</td>
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</table>

Results: The Jaccard Index of pathway intersection between any two tissues.
Conclusions

Totally, we proposed a new viewpoint as pan-tissue analysis and implemented a pathway-based computational approach to detect the critical difference and common pathways in the responsive tissues during T2D progression, and also shown that the tissue-common pathways can especially serve as genetic warning signals for the T2D sub-states (e.g. complications).

**IDDF2019-ABS-0224**

SECRETOME MODULATION OF CACO2 CELL LINE INDUCED BY A MULTI-STRAIN PROBIOTIC

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**Background**

Probiotics are defined as live, non-pathogenic bacteria that confer health benefits beyond their nutritional value. Particularly VSL#3, a probiotic mix containing 4 strains of Lactobacilli (L. paracasei, L. plantarum, L. acidophilus and L. delbrueckii subsp. bulgaricus), 3 strains of Bifidobacteria (B. longum, B. infantis, B. breve) and Streptococcus thermophilus, has demonstrated efficacy in the management of diseases characterized by increased intestinal permeability. The aim of the present study was to study secreted bioactive factors in order to evaluate the mechanisms of action to enhance intestinal epithelia.

**Methods**

Two different lots of VSL#3 (Manufacturer: Nutrilenea Srl, Gallarate (VA) - Italy, lot #802097 and lot #802100) were used. Caco2 cell line were treated with a conditioning media (CM) prepared using 1g of probiotic formula grown in D-MEM cell culture medium (free of serum and antibiotics) at 37°C for 48 hours without shaking and in anaerobic conditions. Caco2 were treated with diluted CM at 1:10 and 1:25 for 24 and 48 hours. Media culture for each condition has been collected and analyzed by a deeper proteomics approach. Differential protein expression was evaluated by shotgun proteomics analysis based on nLC-HDMS E and carried out on Synapt G2-Si mass spectrometer.

**Results**

The analysis of supernatants from Caco2, treated with CM, showed the presence of bacteria strain-specific proteins. Human proteins synthesized from CaCo2 were also identified, such as caspase 1, IL8, HSP70, HSP70b, HSP90, HSP105. The productions were time- and dose-dependent. In CM diluted 1:10, probiotic-derived proteins have been shown to be more expressed at 24 hours. Human caspase 1, IL8, HSP 70, HSP 70b, HSP 90, HSP 105 were also found upregulated in Caco2 treated for 24 hours with CM diluted 1:10.

**Conclusions**

This is the first time where a probiotic secretome was explored. Analysis of secretome from Caco2, treated with CM, showed the presence of bacteria strain-specific proteins. Human proteins synthesized from CaCo2 were also identified, such as caspase 1, IL8, HSP70, HSP70b, HSP90, HSP105. The productions were time- and dose-dependent. In CM diluted 1:10, probiotic-derived proteins have been shown to be more expressed at 24 hours. Human caspase 1, IL8, HSP 70, HSP 70b, HSP 90, HSP 105 were also found upregulated in Caco2 treated for 24 hours with CM diluted 1:10.

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