

The GH-Method

A Clinical Case of Using GH-Method: Math-Physical Medicine to Control Type-2 Diabetes Patient via Both Lifestyle Management and Effective Medication (No. 058)

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Keywords: Diet; Exercise; Body weight; Type 2 diabetes

Abbreviations: PPG: postprandial plasma glucose; FPG: fasting plasma glucose; T2D: type 2 diabetes

1. INTRODUCTION

This clinical case concerns a 72-year-old male patient diagnosed with Type 2 Diabetes (T2D). His health data comparison for the recent period spanning 174 days, from 4/21/2018 to 2/1/2019, is summarized as follows:

- Initial Body Weight: 138 lbs / 126 lbs
- Initial BMI: 21.6 / 19.7
- Initial Fasting Plasma Glucose (FPG): 195 mg/dL / 135 mg/dL
- Initial Postprandial Plasma Glucose (PPG): 200 mg/dL / 120 mg/dL
- Initial Daily Glucose: 164 mg/dL / 117 mg/dL
- Initial Hemoglobin A1C (A1C): 8.9% / 6.0%

2. METHODS

The patient has diligently followed the findings, conclusions, and recommendations resulting from his personal medical research utilizing the GH-Method: math-physical medicine approach (MPM). Additionally, he employs an AI tool he developed, known as the Glucometer, to predict and manage his T2D conditions.

3. RESULTS

Notable improvements can be discerned in this patient's data:

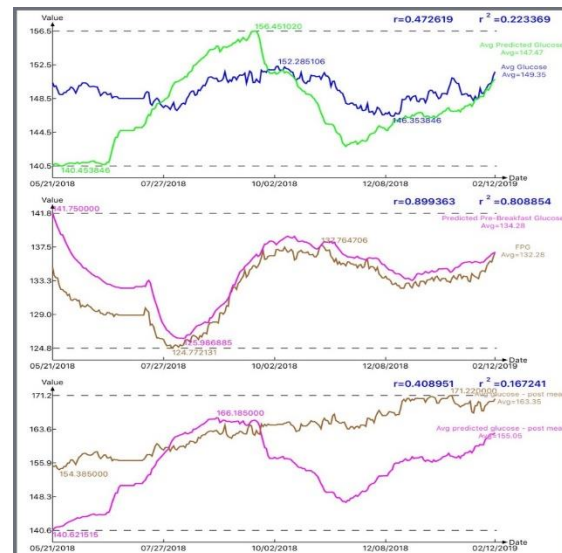


Figure 1: Predicted vs measured daily glucose, FPG, PPG.

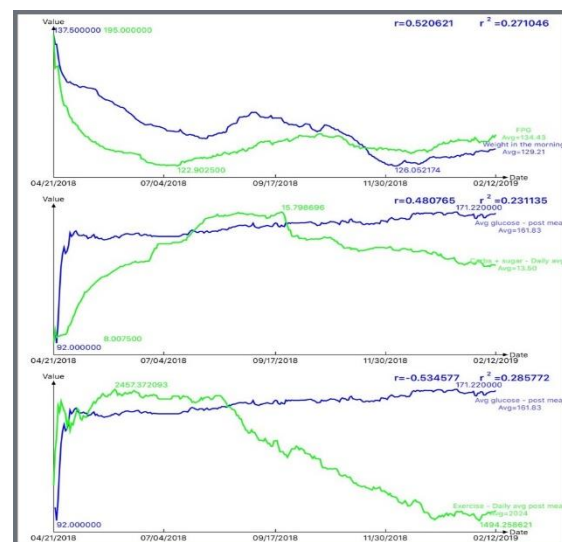


Figure 2: FPG vs weight, PPG vs carbs/sugar intake, PPG vs post-meal exercise.

1. Weight has decreased by 27 lbs in a span of 5 months.
2. The reduction in weight has led to a 50 mg/dL drop in FPG.
3. A strong correlation of 89% exists between body weight and FPG.
4. PPG has decreased by 80 mg/dL and is correlated with a 46% reduction in carb/sugar intake amount (15 grams, low-carb diet) and a -53% correlation with post-meal walking (2,179 steps & ~20 minutes).
5. The accuracy of predicted glucose (120.21 mg/dL) versus measured glucose (125.65 mg/dL) is impressively high at 96%, though their correlation is 61% due to some missing or incorrect data input around November 2018.

6. The patient effectively utilizes the AI Glucometer developed by him, achieving a 96% accuracy in predicting PPG. By comparison, the author's PPG prediction model based on linear elastic glucose theory attained a 99.3% prediction accuracy and an 82% correlation based on 3,992 meal data points (53% US and 47% international).

4. CONCLUSION

Through the application of the GH-Method: math-physical medicine, and the use of his developed AI tools, this T2D patient has achieved significant improvements in controlling his diabetes within a relatively short period of 9+ months.