

## Peer Review File

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**Comment 1:** Abstract: remove the results from the background.

In the background: explain briefly what Traditional Chinese Medicine Body constitution is. In the background section: please add the aim of this study.

**Reply 1:** We have modified the background of Abstract as follows.

**Changes in the text:** on Page 3: *“Traditional Chinese Medicine (TCM) Body constitution (BC), primarily determined by physiological and clinical characteristics, is an important process for clinical diagnosis and treatment and play a critical role in precision medicine in Traditional Chinese Medicine. The purpose of the study was to explore whether the distributions of BC types differed by obesity status.”*

**Comment 2:** Introduction: The introduction is very short. Maybe you can add some information about the importance of TCM BC and why it should be applied also in Western medical practice.

**Reply 2:** We added the following *“In recent decades, obesity has surged to epidemic proportions and has been a major contributor to the global burden of chronic noncommunicable diseases and the associated disability. According to the World Health Organization (WHO) in 2016, over 1.9 billion aged 18 years and older were overweight and 650 million adults were obese. Obesity is not only a condition of increased body weight but also a complex disorder that affects glucose, lipid, and protein metabolism. Furthermore, it is closely related to metabolic disorders such as insulin resistance (IR), type 2 diabetes (T2DM), and liver steatosis, leading to significant morbidity, mortality, and societal burden(1).*

*Body constitution (BC), the foundational concept of Traditional Chinese Medicine, classifies individuals into nine types: Balanced constitution, Qi-deficiency constitution, Yang-deficiency constitution, Yin-deficiency constitution, Phlegm-dampness constitution, Damp-heat constitution, Blood-stasis constitution, Qi-*

*stagnation constitution and Inherited-special constitution(2). This classification is based on physical, psychological, and physiological characteristics, as well as susceptibility to illnesses and adaptability to the environment. These constitutions are dynamic and can be influenced by acquired factors including lifestyles and environment(3). BC is an important process for clinical diagnosis and treatment and play a critical role in precision medicine and precision prevention.”*

**Changes in the text:** On Page 5 lines 95-112

**Comment 3:** Methods: You could add the English version of the questionnaire in the supplementary material. Did you measure only height and weight? Please also specify the protocol of measurements used and the instrumentation.

**Reply 3:** (1) This is an ancillary study nested in the parent study, the “Personalized Prevention of Colorectal Cancer Trial”

(PPCCT, NCT01105169 at ClinicalTrials.gov). Our first report about Traditional Chinese Medicine Body Constitution and Cardiovascular Disease Risk we have cited in the manuscript is under consideration for publication. Thus, we are unable to add the English version of the questionnaire for the current publication. (2) Following the study protocol, height, weight, waist and hip circumference and other vital signs were measured during the participants’ clinical visit. We added the following in the text.

**Changes in the text:** (On page 8): *“Weight was taken on a digital scale and measured in kilograms. When the participant was properly positioned and the digital readout was stable, the study nurse recorded the number on the screen. Standing height was measured in centimeter with a fixed stadiometer with a vertical backboard and a moveable headboard. They were asked to stand on the floor with the heels of both feet together and the toes pointed slightly outward at approximately a 60° angle. When the participant was properly positioned, the study nurse recorded the height. At least two measurements were required, the 3<sup>rd</sup> measurement was made only if the difference between the first two was greater than the difference threshold (0.1 kg for weigh and 1 cm for height).”*

**Comment 4:** Results: In table 1 you divided between TCMQ and without TCMQ patients. Do you mean that not all the patients filled out the questionnaire?

In table 3 you reported data collected on Chinese population. You need to cite the reference. There is no explanation of table 1 or table 2. Also, there the tables are not referenced in the text.

**Reply 4:** (1) In the parent study, 250 participants enrolled, 239 completed the study with 11 participants finishing part of the study before withdrawal. One participant completed questionnaires and provided samples at baseline and at the end of the trial after withdrawal. In total 240 participants were included (shown in Table 1).

Traditional Chinese Medicine Questionnaire (TCMQ, English version: Health Questionnaire)” as a component of the study was approved by IRB on May 31, 2012 which was a year later after the trial started. 191 participants (80% of 240) completed the self-administered TCMQ from May 31, 2012 to Jan 30, 2016. These were added in the manuscript.

(2) We added a note “(Li et al.2017)” to indicate the data source in Table 3. The reference (Reference 11) was cited in the text on Page 9 Line 214.

(3) We added “We compared baseline demographic characteristics between 191 participants who completed TCMQ and all participants (240) in the parent study (Table 1). No significant difference was found for baseline characteristics between these two groups. Shown in Table 2 were the distributions of the nine-body constitution by body weight, and no difference was found between normal, overweight, and obese participants” in the text.

**Changes in the text:** On Page 6: *“In the parent study, 250 participants enrolled and 239 completed the study with 11 participants finishing part of the study before withdrawal. One participant completed questionnaires and provided samples at baseline and at the end of the trial after withdrawal. In total, 240 participants were included (shown in Table 1). The component Traditional Chinese Medicine Questionnaire (TCMQ, English version: Health Questionnaire) as a component of the study was approved by IRB on May 31, 2012, which was a year after the trial started.*

*191 participants (80% of 240) completed the self-administered TCMQ from May 31, 2012 to Jan 30, 2016.”*

In the Table file, a note “(Li et al.2017)” was added in Table 3.

On Page 9, we added “*We compared baseline demographic characteristics between 191 participants who completed TCMQ and all participants (240) in the parent study (Table 1). No significant difference was found for baseline characteristics between these two groups. Shown in Table 2 were the distributions of the nine-body constitution by body weight and no difference was found between normal, overweight, and obese participants.*”

**Comment 5:** The discussion is missing.

**Reply 5:** We put results and discussion together. Now it was separated as two sections.

**Changes in the text:** On Page 9 Line 204, “**Results and Discussion**” was replaced with “**Results**”. On Page 10 Line 232, we added “**Discussion**”.