Title: The Diet Quality of Medical Students in the United States during the Early COVID-19 Pandemic

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Authors Contribution Statement:

Contributor Role	Role Definition	1	2
Conceptualization	Ideas; formulation or evolution of overarching research goals and aims.	MY	BK
Data Curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse.	MY	
Formal Analysis	Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.		
Funding Acquisition	Acquisition of the financial support for the project leading to this publication.	N/A	
Investigation	Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.	MY	BK
Methodology	Development or design of methodology; creation of models	MY	BK
Project Administration	Management and coordination responsibility for the research activity planning and execution.	MY	BK
Resources	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.	MY	BK
Software	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.		
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.		BK
Validation	Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.	MY	BK

Visualization	Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.	MY	BK
Writing – Original Draft Preparation	Creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).	MY	BK
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Discussion Points:

1. Did your diet quality improve or worsen during the early quarantine of the pandemic? Medical students at one midwestern school were surveyed about their nutrition habits during this critical period. #medicalstudents #dietquality #pandemic #quarantine

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ABSTRACT.

Background: Medical students report lacking the knowledge to conduct nutrition counseling for patients and practice good dietary quality in their personal life. This cross-sectional study describes the dietary quality of medical students at one midwestern college of medicine during the early COVID-19 pandemic.

Methods: Medical students (n = 102) enrolled at the time of this study in the spring of 2020 were surveyed utilizing the Rapid Eating Assessment for Participants–Shortened (REAP-S). The response rate was 27%.

Results: One hundred and two medical students were included. A mean REAP-S score of 30.5, SD=3.9 (range 13-39) was obtained (67% of ideal dietary quality). Body weight remained the same for 54.9% of students, 25.7% gained weight and 18.8% lost weight during the late spring of 2020. Students with BMI < 24.9 kg/m2 (mean REAP-S score of 31.6±3.6) had a significantly better dietary quality ($p < 0.001$) compared to students with BMI > 25 kg/m2 (mean REAP-S score of 28.9±3.9). Students with self-reported “less healthy” diet (mean REAP-S=28.2±3.3) had significantly worse dietary quality ($p < 0.001$) compared to those who either maintained healthy diet (mean REAP-S=31.1±3.8) or improved diet (mean REAP-s=31.9±3.6). Of note, 89.2% of students indicated that they want to improve their diet.

Conclusion: The dietary quality of participants was found to be sub-optimal during the early COVID-19 pandemic, with potential to adversely impact the long-term health of our future medical workforce.

Key Words: Medical students; Diet; Body mass index; COVID-19 pandemic; Diet surveys.

INTRODUCTION.

A healthy diet is critical for good health, the mitigation of chronic disease and optimal functioning for the general population, as well as for future healthcare providers.[1] Despite the growing crisis of chronic disease prevalence in healthcare in the United States (US) driven by poor lifestyle choices, medical student education has been well documented to be deficient in delivering comprehensive nutrition training for many years.[2-4] Graduating medical students have reported lacking the knowledge and skills necessary to conduct adequate nutrition counseling for patients.[4] Furthermore, in a recent study of first year medical students, a discrepancy between knowledge and self-practice of good dietary quality was found.[5] There is a significant evidence-practice gap between the nutrition education provided to medical students and the students' nutrition knowledge, skills, and attitudes needed for the comprehensive care of patients.[6] It is anticipated that such deficiencies may have profound and dire health-related adverse outcomes for the patient population, particularly as the obesity epidemic continues to escalate even further, with continued higher rates projected in the upcoming decade.[7] In addition, poor self-nutrition care could portend poorer health outcomes for future healthcare providers themselves.[5]

The optimal overall quality of a diet may have a greater impact on health than the more reductionistic view of individual macronutrients in the diet, such as just one food group or food item, and as a result, indices of healthy eating to determine dietary quality have been developed.[8] The Healthy Eating Index (HEI) has been developed by the Center of Nutrition Policy and Promotion to monitor the diet quality of the US population and aligns with the National guidelines from the US Dietary Guidelines for Americans. The HEI is regularly updated to remain consistent with newer recommendations.[8] Since the HEI is a lengthy tool, the Rapid Eating Assessment for Participants (REAP) was developed by a team of researchers and validated against the HEI to improve nutrition training in the US medical schools.[9,10] In 2004, the REAP was further shortened to the Rapid Eating Assessment for Participants-Shortened Version (REAP-S), and in addition was validated against nutrient intakes using the 1998 Block Food Frequency Questionnaire in 110 medical students.[11] Moreover, the REAP-S survey can assess the dietary quality of food intake in a clinical or research setting, requires less than 10 minutes to complete without the need for trained staff to deliver or interpret results, and has negligible costs unlike the lengthier and more cumbersome HEI.[11] In a previous study, including omnivores, the REAP-S was used in a US population and correlated with metabolic outcomes.[9,10] Prior to the outbreak of the COVID-19 pandemic, there were no reports addressing dietary quality from medical students in the United States.

During the COVID-19 pandemic in 2020, emerging international reports indicated that healthy eating was declining in the general population.[12,13] In the US, medical students were not considered essential workers and in-person teaching and clinical activities were terminated at the University of Nebraska Medical Center on 16th March 2020.[14] The medical university campus was closed and medical students were asked to isolate at home, while teaching transitioned to remote learning only, until the end of June 2020. While this period was not a strictly enforced "lockdown", normal life abruptly came to a complete halt across this midwestern state, and only essential services were kept open. The eating of meals away from home was drastically reduced due to the closing of restaurants and cafeterias, restricted travel, and fear of being in public areas. Medical students now had more time and access for healthy cooking in their home kitchens with

groceries stores remaining open. On the contrary, less healthy patterns of eating and poor quality of diet such as skipping breakfast, increasing sugary foods, and snacking at home could be an issue.

There was a gap in the knowledge of the dietary quality of medical students in the US, and its impact on health during this unprecedented time in modern history, with no published reports or review of the literature in June 2020. Hence, the goal of our study was to investigate dietary quality using the REAP-S at a US midwestern college of medicine, at the end of the three-month isolation at home period, due to the COVID-19 pandemic. Our overarching goal was to determine any significant changes in dietary quality and body weight, to inform future mitigation strategies if adverse effects from the early course of the COVID-19 pandemic on medical students were observed.

MATERIALS OR PATIENTS AND METHODS.

Study Design

This was a cross sectional single-center study. Special consent from the Dean of the College of Medicine and the COVID-19 research task force was obtained. Institutional Review Board (IRB #492-20-EX) clearance was granted from the affiliated university medical center.

Study Population/Participants

The study population of medical students was chosen since no previous study has been done in this population and this information would add important new data for early targeted interventions if an adverse impact of the COVID–19 pandemic was to be observed.

The study population consisted of medical students with active Email addresses on file (*n*=383), enrolled at the University of Nebraska Medical Center College of Medicine for the upcoming 2020-2021 academic year. Fourth year medical students could no longer be reached since they had already graduated, reducing the number of potential participants. The complete medical college program consists of four years of medical school with approximately 130 students per class. The study was conducted at the end of June 2020, when medical students had been learning remotely and isolated at home for the previous three months (March-June 2020). Medical students who were diagnosed with COVID-19 (n=2) were excluded from the study as dietary quality may have been significantly impacted due to sickness and loss of taste and smell.

Study Process

Three hundred and eighty-three e-mails inviting participation were sent to all enrolled medical students with instruction for accessing the web-based survey. Surveys remained open for two weeks. A reminder e-mail was sent at the end of the first week. Participants were asked to reference an average week in June 2020 when answering the survey questions, to specifically target diet quality during the pandemic. Responses were captured anonymously in a secure database.

Survey tool

The 16-item, self-reported REAP-S questionnaire was used to measure dietary quality. The survey asks about food consumption during the week prior to the survey to be recalled by the study participant. Only the first 13 questions are scored, and capture eating behavior, dietary patterns and types and quantities of food groups eaten. Each question is scored on a 3-point Likert scale (range 1-3 for each question). Total possible scores for the 13 questions range from 13-39, with higher scores indicative of better diet quality. Questions 14 through 16 of the REAP-S are not captured in the total score and collect information on current cooking and eating habits (eating at home versus eating out) and the willingness to improve eating patterns.[9,10] Sociodemographic questions on race, ethnicity, marital status, and current Body Mass Index (BMI) categories were included in the preface of the survey.

To capture changes due to the COVID 19 pandemic three additional questions were added:

1. “How has your diet changed during the period of time in which most Americans were isolated due to the Covid-19 pandemic (approximately March-June 2020)?”

Answer options: a. “less healthy diet” b. “about the same” or c. “healthier diet”

2. “Since the COVID-19 pandemic started, I have…”

Answer options: a. “Lost weight” b. “Gained weight” c. “Remained the same weight” or d. “I don’t know or prefer not to answer”.

3. “Have you been diagnosed with COVID-19 in the last three months?”

Answer options: a: “yes” or b. “no”.

Lastly, we added a question on willingness of medical students to change their diet:

4. “How willing are you to make changes in your eating habits in order to be healthier?”

Answer options: a. “Very unwilling” b. “Somewhat unwilling” c. “Neither willing nor unwilling” d. “Somewhat Willing” d. “Very Willing”.

Outcomes

The primary outcome of the study was to obtain total mean REAP-S scores for all medical students as a single cross-sectional cohort study group. Secondary outcomes included two sub-analyses. The first sub-analysis compared the mean REAP-S scores in self-reported BMI groups. We categorized BMI of all the medical students into two BMI categories consisting of 1. BMI < 24.9 kg/m^2 (normal weight and below) and 2. BMI > 25 kg/m^2 (overweight and obese). The second sub-analysis similarly compared the mean REAP-S scores in self-reported change in diet categories from pre-pandemic to end of isolation at home, March – June 2020. The three sub-groups based on the question on change in diet, were a. “less healthy”, b. “about the same”, or c. “healthier”.

Statistical analysis

For the statistical analysis, data are reported as mean ± standard deviation. Monte Carlo significance for the Pearson Chi Square and for the Fisher’s Exact Test were conducted due to the smaller sample size. The significance levels (*p*-values) were set for 0.05 (two-way statistical testing). Partial correlation analyses were used for differences between groups using one-way Analysis of Variance (ANOVA) and Tukey test. Statistical Package for the Social Sciences (SSPS) system version 25.0 was utilized for all statistical proceedings.

RESULTS.

Invitations for survey participation with a link to the anonymous database were emailed to all enrolled 383 medical students, and 104 medical students responded (response rate of 27%). Two medical students reported COVID-19 infections and were excluded; hence 102 surveys were evaluated (Figure 1). As expected from the predominantly Caucasian racial makeup of a US midwestern state, 88.2% of the medical students reported race as being Caucasian, and 11.9% African American or other races. 78.4% were not married, 19.6 % were married, 1% divorced and another 1% preferred not to answer. 55.4% of students declared to have remained the same weight over the three-month period of isolation at home, while 25.7% reported weight gain and 18.8% reported a weight loss. 58 students (58.5%) were in the BMI category < 24.9 kg/m^2, and 40 (40.4%) were in the BMI category > 25kg/m^2. The remaining students either preferred to not report their BMI (1 student) or had incomplete survey responses and were excluded (3 students).

The mean REAP-S scores are provided for each item and tabulated for the study group (Table 2). During an average week of June 2020, the mean REAP-S score was 30.5 (SD=3.9) for all the medical students, with a possible range of 13-39. There was no significant difference between the average scores of any of the individual question items, with the average being 2.3 (with a possible range of 1-3). Statistical analyses using ANOVAs did not reveal any significant difference in mean REAP-S scores between race, ethnicity, or marital status.

Our first sub-analysis compared the mean REAP-S scores for medical students (n = 99 with complete data) between self-reported BMI groups, one student preferred not to report BMI (Table 3). 58 (58.5%) of medical students with BMI < 24.9 kg/m^2 had a mean REAP-S score of 31.6 (SD=3.6), compared to 40 (40.4%) medical students with BMI >25 kg/m^2 and mean REAP-S score of 28.9 (SD=3.9). This difference in mean REAP-S scores between the two BMI categories was found to be significantly different (p < 0.001).

The second sub analysis compared the mean REAP-S scores for medical students (n = 99 with complete data) between self-reported changes in diet quality categories during the stay-at home period (Table 4). The group consisting of 30 (30.3%) medical students that reported a decline in their diet to “less healthy” had mean REAP-S scores of 28.2 (SD=3.3). The 38 (38.4%) medical students that were able maintain a healthy diet had a mean REAP-S score of 31.1 (SD=3.8) and 31 (31.3%) medical students who reported improvement in their diet had mean REAP- S score of 31.9 (SD=3.6). There was no statistically significant difference in mean REAP-S scores between those who indicated their diet did not change and those who indicated their diets were “more healthy”, while there was a significant difference in mean REAP-S scores in the group that had a decrease in the diet quality due to more unhealthy options compared to their peers who were able to maintain or even improve diet (p < 0.001).

A combined 91 students (89.2%) indicated that they would be “somewhat willing “or “very willing” to change eating habits to be healthier (Figure 1). Willingness to make changes in eating habits ranged from 5 students (4.9%) rating their willingness as “very unwilling”, 3 students (2.9%) as “somewhat unwilling”, 2 students (2.0%) as neither willing nor unwilling.” 43 students (42.2%) stated that they are “somewhat willing” and 49 students (48.0%) were “very willing” to change eating habits in order to be healthier.

DISCUSSION.

This is the first study to report on the preliminary negative impact of home isolation on a single cohort of US medical students due to the COVID-19 pandemic during the late spring of 2020. The overall dietary quality of this cohort of medical students was noted to be suboptimal with low REAP-S scores and even lower dietary quality scores noted in the subgroup of medical students with overweight and obesity compared to their peers with normal weight. Not entirely unexpectedly, a third of the medical students reported an improvement in their diet during the pandemic, but the REAP-S scores from this sub-group cannot confirm a change in dietary quality from baseline of the population. The dietary quality was lower in those medical students who had self-declared "less healthy" changes during the COVID-19 pandemic, compared to their peers who reported being able to maintain a healthy diet or even improve their diet. While most medical students were able to maintain their weight, a little over a quarter of the medical students reported weight gain in this three-month period, and a minority reported weight loss.

In the most recent 2015 Healthy Eating Index, for younger adults in the general population, the HEI score is 58.3 out of a possible range of 0-100 points (58.3%). The average REAP-S score of our surveyed medical students was 30.5 with a range of possible scores from 13-39 (67%). HEI scores ranging from 51-80% of the total score reflect diets that "need improvement". Our study would concur with findings from the HEI regarding the general population that this cohort of US medical students are also consuming a suboptimal dietary quality. Though marginally the dietary quality of medical students is better than the normal population, in such a highly educated group, there were no scores that were ideal, indicating that all medical students could improve on their dietary quality.

A particular strength of our study was the use of the REAP-S tool that has been previously validated for use in medical students.[9,10] The survey could be conducted virtually and safely during the pandemic. The REAP-S survey tool has many benefits and has been well studied; it has been found to correlate to dietary quality as measured by the premier standard of US dietary quality, the HEI,[8] and with well-documented markers of dietary quality such as the nutrient density of the diet,[15] the Potential Renal Acid Load (PRAL)[16], urine pH[17] and plasma vitamin C concentrations.[18,19]

Additionally, lower scores on the REAP-S have been found to be directly associated with metabolic abnormalities including obesity, hypertension, lipid abnormalities and insulin resistance.[10] Prior to the pandemic, the mean REAP-S score for young and healthy, university students with normal weight, consuming a typical omnivorous diet was 32 (range 13-39).[9] The students with REAP-S scores below 32 were detected to have significant metabolic abnormalities.[18] By comparison, the mean REAP-S score from our similar cohort was 30.5; this would indicate that this cohort of midwestern medical students could be at an increased metabolic risk.

Based on our findings, we determined that medical students who are overweight or obese have a significantly poorer dietary quality compared to their normal-weight peers. These groups of medical students who are overweight or obese could be even more likely to be at higher increased future metabolic risk, and experience greater weight gain, as observed in a recent small study on patients with obesity, the majority of whom gained significant weight within a month of the pandemic.[13] Similarly, the subgroup of students that self-reported a significant decline in their diet during the pandemic, had a lower dietary quality score and could be at additional risk of metabolic disorders such as insulin resistance and hyperlipidemia.[10]

A majority of medical students in this study cohort did not report weight gain; however, a little over a quarter did note weight gain, while a smaller minority had weight loss. Any weight gain is well known to be difficult to keep off and long-term consequences may develop.[20] Our observation of the adverse impact of the isolation period of the pandemic on diet was similar to that seen in an Australian study of university students reporting 20% excess eating during the pandemic isolation.[12] We did not find similar percentages of weight loss seen in the study reported from medical students from Croatia.[21]

The limitations of any self-reported diet survey are well known to include self-reporting bias and under-reporting. [22] Faulty recall is another issue, and in one international COVID-19 study the Block Food Frequency Questionnaire was used, but due to greater inherent error of bias recall, the authors of this study elected not to pursue this as a survey tool.[23] Limitations due to brevity of the survey may have led to the omission of further details on family composition, impact of stress, socioeconomic status and other confounders that may have impacted diet quality and lifestyle changes. We were also limited by the restrictions and special permission for medical student research as well as new COVID-19 research requirements. We recognized the additional stress levels of medical students due to remote learning, the COVID-19 pandemic, and overstretched resources, and as a result kept the survey items to the minimum.[13,22] We also could not include the fourth-year medical students who had graduated in middle of June 2020, reducing the number of potential participants as a result.

Since the time of our study, there have been new and more comprehensive surveys available from international studies on COVID-19, but these have not been validated in US medical students.[22,24] We anticipate that these tools can be used in future studies.

The overwhelming positive response to our question on the willingness to make changes in eating habits were indicative of the large gap in nutritional training and self-practice of healthy eating in US medical students. Our study highlights and reinforces the need for greater education on nutrition and self-care for our medical trainees and future clinical health care workforce.[6,25] In the US, curricula and programs such as Nutrition in Medicine, Healthy Kitchen, and Culinary Medicine have been recognized as being helpful.[26-28] Local facilities can be incorporated as demonstrated by the culinary medicine program at Tulane University, and at our institute we have collaborated with a local culinary institute to help with medical student education.[28,29] At the global level, the World Health Organization (WHO) has established diet recommendations such as reducing snacking, eating breakfast and good dietary quality meals to optimize health throughout the COVID-19 pandemic.[30] A comprehensive multi-level framework of action to support nutrition and food security during the COVID-19 pandemic, using the various levels of ecological health modes from the individual, community level, national level and global level has been developed to serve as a guideline.[25]

The dietary quality of medical students at one midwestern US college of medicine was found to be suboptimal during the early part of the COVID-19 pandemic. We anticipate that the results of our study can be used to inform future interventions on improving diet quality of medical students, and eventually translate into improved delivery of nutritionally enhanced clinical care to patients. We advocate medical schools to enhance nutritional teaching and self-practice skills to bridge the knowledge-practice gap. It is critical to optimize the health of all our future healthcare workforce, particularly during times of extreme stress.

Summary – Accelerating Translation

Title: The Diet Quality of Medical Students in the United States during the Early COVID-19 Pandemic

Main Problem to Solve: Medical students report lacking the knowledge to conduct nutrition counseling for patients and practice good dietary quality in their personal life.

Aim of Study: This cross–sectional study describes the dietary quality of medical students at one midwestern college of medicine during the early COVID-19 pandemic.

Methodology: Medical students (n = 102) enrolled at the time of this study in the spring of 2020 were surveyed utilizing the Rapid Eating Assessment for Participants–Shortened (REAP-S). The response rate was 27%.

Results: One hundred and two medical students were included. A mean REAP-S score of 30.5 was obtained (67% of ideal dietary quality). Body weight remained the same for 54.9% of students, 25.7% gained weight and 18.8% lost weight during the late spring of 2020. Students with BMI < 24.9 kg/m2 had a significantly better dietary quality compared to students with BMI > 25 kg/m2. Students with self-reported “less healthy” diet had significantly worse dietary quality compared to those who either maintained healthy diet or improved diet. Of note, 89.2% of students indicated that they want to improve their diet.

Conclusion: The dietary quality of participants was found to be sub-optimal during the early COVID-19 pandemic, with potential to adversely impact the long-term health of our future medical workforce.

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FIGURES AND TABLES.

Table 1: Rapid Eating Assessment for Participants-Shortened Version (REAP-S) Mean Survey Questions and Mean Response Scores Among Study Participants

Survey Questions, n (%)	Usually/Often [1]	Sometimes [2]	Rarely/Never or Does not apply to me [3]	Mean (SD)
Skip breakfast?	32 (31.4)	17 (16.7)	53 (52.0)	2.21 (0.89)
Eat 4 or more meals from sit-down or take out restaurants?	12 (11.8)	23 (22.5)	67 (65.7)	2.54 (0.70)
Eat less than 2 servings of whole grain products or high fiber starches a day?	13 (12.9)	39 (38.6)	49 (48.5)	2.36 (0.70)
Eat less than 2 servings of fruit a day?	16 (15.7)	45 (44.1)	41 (40.2)	2.25 (0.71)
Eat less than 2 servings of vegetables a day?	14 (13.7)	47 (46.1)	41 (40.2)	2.26 (0.69)
Eat or drink less than 2 servings of milk, yogurt, or cheese a day?	19 (18.6)	39 (38.2)	44 (43.1)	2.25 (0.75)
Eat fried foods such as fried chicken, fried fish, French fries, fried plantains, tostones or fried yuca?	12 (11.9)	47 (46.5)	42 (41.6)	2.30 (0.67)
Add butter, margarine or oil to bread, potatoes, rice or vegetables at the table?	16 (15.7)	45 (44.1)	41 (40.2)	2.25 (0.71)
Eat sweets like cake, cookies, pastries, donuts, muffins, chocolate and candies more than 2 times per day.	14 (13.7)	48 (47.1)	40 (39.2)	2.25 (0.68)
Drink 16 ounces or more of non-diet soda, fruit drink/punch or Kool-Aid a day?	1 (1.0)	9 (8.8)	92 (90.2)	2.89 (0.34)
Eat more than 8 ounces (see sizes below) of meat, chicken, turkey or fish per day?	34 (33.7)	40 (39.6)	27 (26.7)	1.93 (0.78)
Use regular processed meats (like bologna, salami, corned beef, hotdogs, sausage or bacon) instead of low-fat processed meats (like roast beef, turkey, lean ham; low-fat cold cuts/hotdogs)?	6 (5.9)	20 (19.6)	76 (74.5)	2.69 (0.58)
Eat regular potato chips, nacho chips, corn chips, crackers, regular popcorn, nuts instead of pretzels, low-fat chips or low-fat crackers, air-popped popcorn?	14 (13.7)	36 (35.3)	52 (51.0)	2.37 (0.72)

Survey response from 102 participants

Table 2: Mean Rapid Eating Assessment for Participants-Shortened Version (REAP-S) Scores in Healthy Weight and Overweight or Obese Participants

Body Mass Index category (BMI) (kg/m^2)	Frequency (N) (Percent) (%)	Mean REAP-S Score (SD)	*p* value	Mean Difference	95% CI of Mean Difference
BMI < 24.9 kg/m^2	58 (58.5)	32 (3.6)	$p<0.001$	2.7	1.2-4.3
BMI > 25.0 kg/m^2	40 (40.4)	28 (3.9)			
Prefer not to answer	1 (1.0)	N/A			

Table 3: Mean Rapid Eating Assessment for Participants-Shortened Version (REAP-S) Scores in Self-Reported Health Rating of Diet Categories

Health rating during isolation	Frequency (N) (Percent) (%)	Mean REAP-S Score (SD)	*p* value
It was less healthy than before	30 (30.3)	28.2 (3.4)	**p*<0.001
It was about the same as before	38 (38.4)	31.1 (3.8)	
It was more healthy than before	31 (31.3)	31.9 (3.6)	

* Those who indicated that their diet was less healthy during quarantine had significantly lower average REAP-S scores than those who said their diet was about the same and those who said their diet was “more healthy”.

Figure 1. Process Flow Diagram of Survey Participants

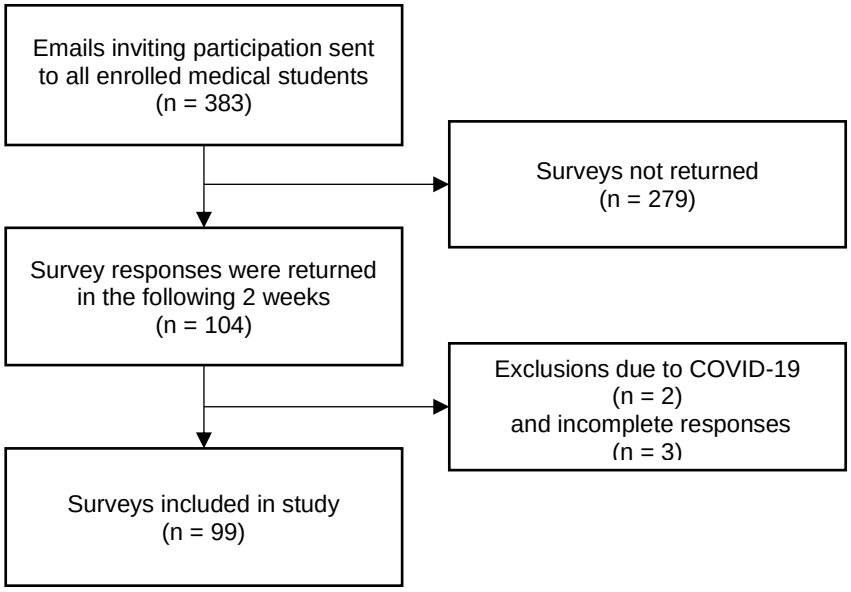
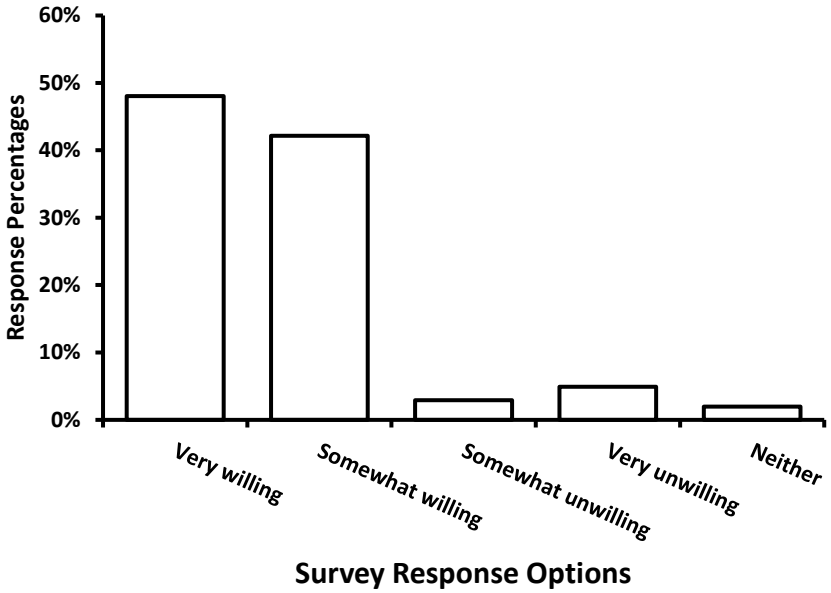


Figure 2. Willingness of Medical Student Participants to Make Healthy Changes in their Eating Habits



Survey response from 102 participants