

Health and Nutrition Guidebook for RDNs to Counsel Youth: Promoting Healthy Eating Behaviors

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Introduction

Adolescence is a critical stage of growth and development characterized by significant biological and psychosocial changes that may influence health patterns. Inadequate intake of fruits and vegetables and high intakes of sugar-sweetened beverages are unhealthy adolescent eating behaviors (Figures 1 & 2) promoting future obesity, diabetes mellitus, and cardiovascular disease.

Concern

Overwhelming amount of content online creates challenges for middle adolescents (ages 13 to 17 years) to find and decipher reliable evidence-based information

Address

Concise and informative guidebook for RDNs to counsel youth to improve adolescents' understanding and encourage integration of healthy nutrition habits

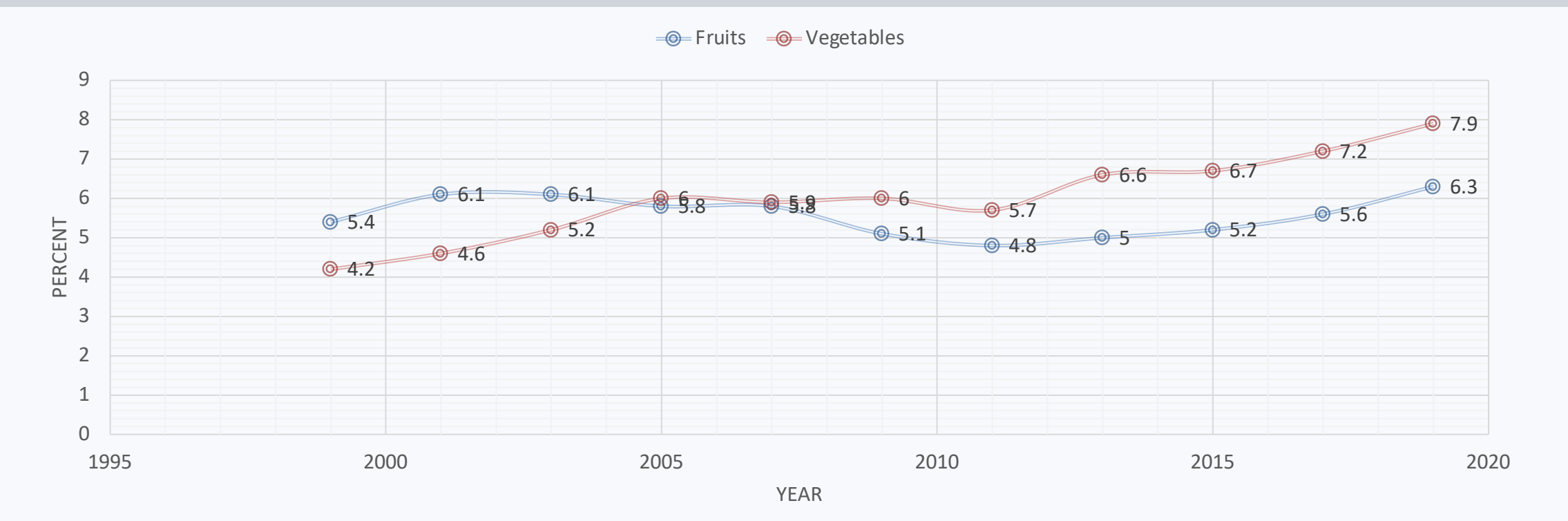


Figure 1. YRBSS 2019: Percentage of High School Students Who Did Not Eat Fruit, Drink 100% Fruit Juices, or Eat Vegetables, 1999-2019

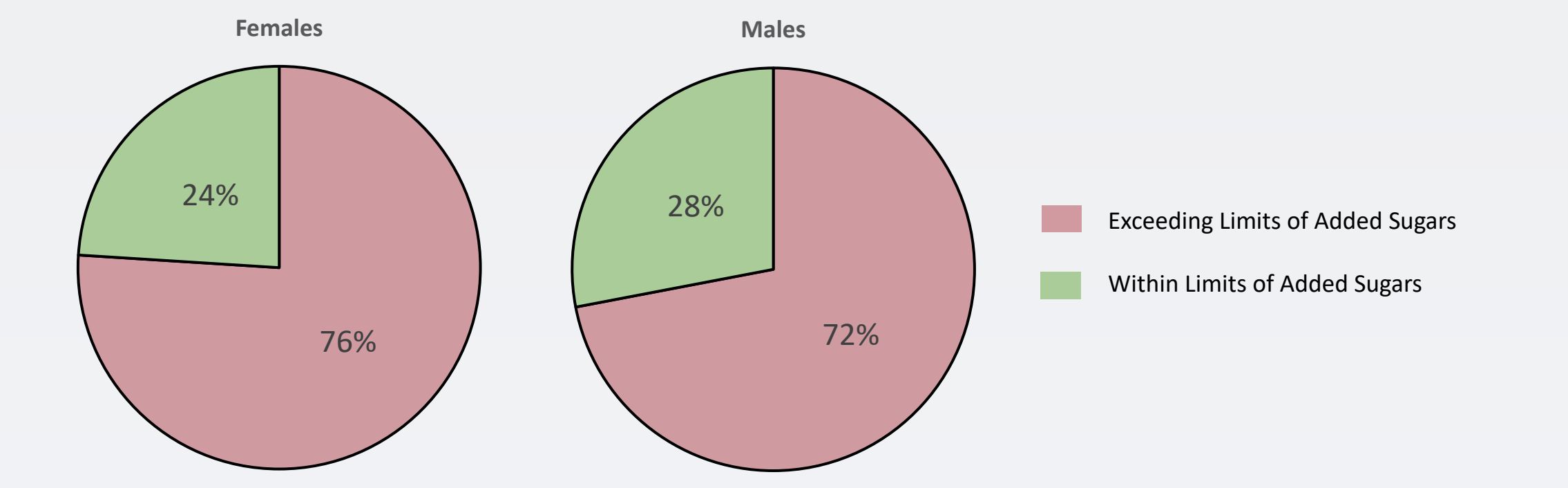


Figure 2. DGA 2020 - 2025: Percentage of Americans ages 14 to 18 years old exceeding limits of added sugars (10% of daily energy)

Purpose

To develop a guidebook (Table 1) focusing on the 'Dietary Guidelines for Americans', specifically for RDNs to counsel middle adolescents 13-17 years old and for MA youth to increase nutrition knowledge and healthy eating behavior.

Methodology

Action	Detail
1. Submit	Application and required documentation to obtain IRB approval
2. Receive	Approval from CSULB Office of Research and Sponsored Programs Institutional Review Board (IRB)
3. Develop	Guidebook prototype with complete details and activities
4. Recruit	Email RDNs a scripted letter to establish an expert panel
5. Obtain	Consent from RDNs to complete a pre- and post-evaluation
6. Email	Electronic copies of guidebook and pre-evaluation form to each expert committee member
7. Collect	Completed pre-evaluation forms
8. Analyze	Calculate an average of each response and specific comments of each participant to determine the need for change
9. Revise	Create final guidebook version in CANVA integrating expert comments, review of literature, MA eating patterns and tips for meeting recommendations
10. Return	Send expert panel final guidebook as a portable document format (PDF) and QR code with acknowledgments and listed names
11. Upload	Upload final version of the guidebook online for RDNs and MA youth to access

Table 1. Overview of methods and description

Results

Twenty-seven items were evaluated in the RDNs' pre- and post-evaluation survey to determine appropriateness of the content, functionality, layout design, and sections (Tables 2 & 3). A score of 4.0 or higher defined an item as appropriate. RDNs provided additional feedback and recommendations on how to improve specific items in the comment box provided (Table 4). The final question showed 77.8% of RDNs would recommend the finalize version to middle adolescents.

Question	Strongly Disagree n (%)	Somewhat Disagree n (%)	Neutral n (%)	Somewhat Agree n (%)	Strongly Agree n (%)	Mean
Content						
Q 1	0 (0.0)	2 (25.0)	0 (0.0)	3 (37.5)	3 (37.5)	3.9
Q 2	1 (12.5)	3 (37.5)	1 (12.5)	2 (25.0)	1 (12.5)	2.9
Q 3	0 (0.0)	2 (25.0)	1 (12.5)	4 (50.0)	1 (12.5)	3.5
Q 4	0 (0.0)	1 (12.5)	6 (75.0)	1 (12.0)	0 (0.0)	3.0
Functionality						
Q 5	0 (0.0)	1 (12.5)	1 (12.5)	4 (50.0)	2 (25.0)	3.9
Q 6	0 (0.0)	1 (12.5)	0 (0.0)	4 (50.0)	3 (37.5)	4.1
Q 7	0 (0.0)	1 (12.5)	0 (0.0)	4 (50.0)	3 (37.5)	4.1
Layout and Design						
Q 8	0 (0.0)	0 (0.0)	0 (0.0)	2 (25.0)	6 (75.0)	4.8
Q 9	0 (0.0)	0 (0.0)	1 (12.5)	3 (37.5)	4 (50.0)	4.3
Q 10	0 (0.0)	0 (0.0)	0 (0.0)	3 (37.5)	5 (62.5)	4.6

Table 2. Pre-Evaluation Results: Content, Functionality, Layout, and Design (n=8)

Question	Strongly Disagree n (%)	Somewhat Disagree n (%)	Neutral n (%)	Somewhat Agree n (%)	Strongly Agree n (%)	Mean
Content						
Q 1	0 (0.0)	1 (11.1)	0 (0.0)	2 (22.2)	6 (66.7)	4.4
Q 2	0 (0.0)	0 (0.0)	2 (22.2)	2 (22.2)	5 (55.6)	4.3
Q 3	0 (0.0)	2 (22.2)	0 (0.0)	1 (11.1)	6 (66.7)	4.2
Q 4	0 (0.0)	0 (0.0)	0 (0.0)	3 (33.3)	6 (66.7)	4.7
Functionality						
Q 5	0 (0.0)	0 (0.0)	1 (11.1)	3 (33.3)	5 (55.6)	4.4
Q 6	0 (0.0)	1 (11.1)	0 (0.0)	2 (22.2)	6 (66.7)	4.4
Q 7	0 (0.0)	2 (22.2)	0 (0.0)	2 (22.2)	5 (55.6)	4.1
Layout and Design						
Q 8	0 (0.0)	1 (11.1)	0 (0.0)	0 (0.0)	8 (88.9)	4.7
Q 9	0 (0.0)	1 (11.1)	0 (0.0)	0 (0.0)	8 (88.9)	4.7
Q 10	0 (0.0)	0 (0.0)	1 (11.1)	1 (11.1)	7 (77.8)	4.7

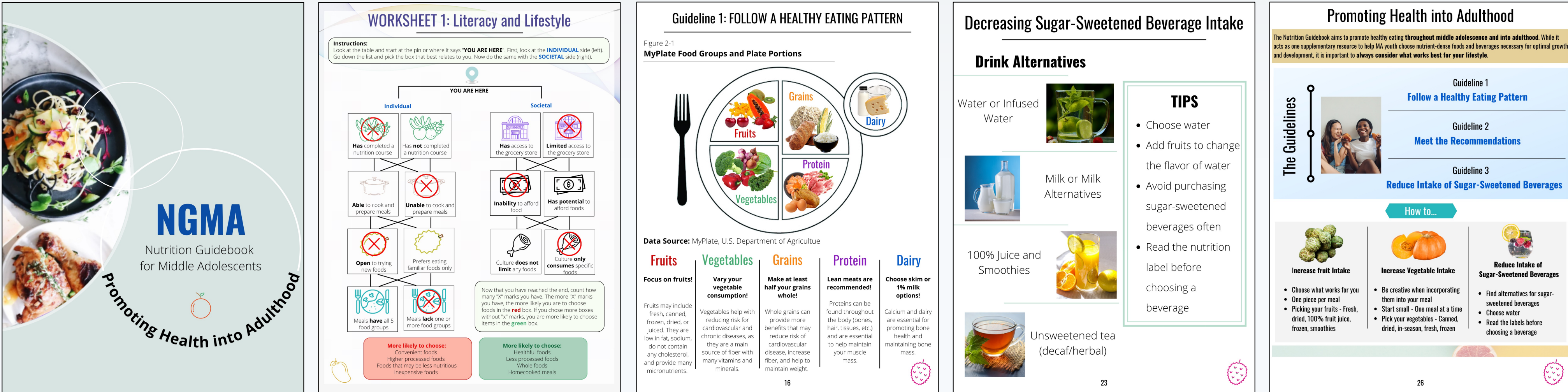
Table 3. Post-Evaluation Results: Content, Functionality, Layout, and Design (n=9)

Panelist	Comment
1	Very appropriate and impressive adjustments made from the first draft, in my opinion.
2	I think you did an excellent job. The guidebook will be a great resource for youth to provide such important information.
3	Pg 10: Include reference to appendix resource and message to reader who may be experiencing food insecurity and hunger; another resource to consider: ShopSimple with MyPlate is a web-based tool to optimize nutrient intake on a budget
4	Amazing work! The guidebook is appropriate for middle adolescents and the visuals are beautiful. I would definitely recommend this to my clients and patients.
5	I think a few more revisions will add clarity to this project and make it an excellent tool for students.
6	Overall, I like the content and love the graphics! Well done. However, would I give this to a teenager in its current state? Not yet, unfortunately.

Table 4. Partial: Expert Panelist Post-Evaluation Additional Feedback (n=6)

Final Guidebook Sections

1	2	3
Lifestyle Influences and Future Health Concerns in MA Youth	Current Nutrition Recommendations, Healthy eating patterns, and Basic Nutrition Concepts	Resources to Combat Low Fruit and Vegetable and High Sugar-Sweetened Beverage Intake



Discussion

Results from expert panelists showed agreement that creating a guidebook for MA youth was beneficial and appropriate in helping MA youth to integrate that knowledge into their lifestyle. Further revisions were recommended based on the additional feedback comments.

Tailoring the Guidebook	1. Use of simple language
	2. Addition of multicultural fruits, vegetables, and beverages visuals with explanations
	3. Inclusion of explanations and three worksheets to promote understanding and increase application

Limitations

- 1) Ensuring all expert panelists completed the pre- and post-evaluation
- 2) Inability to include foods and beverages from multiple cultures
- 3) Restricted ability to include extensive explanation for all guidebook content

Conclusion

A nutrition guidebook was developed and created for use by RDNs when counseling MA youth. Integration of the feedback from the nine expert panelists and the literature review was extensively used throughout its refinement. Based on the analysis of expert panel responses, the guidebook was deemed appropriate for RDNs counseling youth and for middle adolescents to be used as a supplementary resource for increasing nutrition literacy.

Implications

- RDNs' resources to counsel MA youth for improved eating patterns can be evaluated for accuracy, applicability, and comprehensibility.
- Further research can strengthen and determine the effectiveness of this guidebook by RDNs and MA youth.
- Fruit, vegetable, and sugar-sweetened beverage intake can be evaluated and improved.

Acknowledgements

For the completion of this journey would have never come to fruition without you all, I acknowledge everyone who contributed to the creation of this directed project. I sincerely thank you all.

Committee Members

Gail Frank, DrPH, RD, CHES
Rachel Blaine, DSc, MPH, RD
Mary Lyons, MS, RD

Family and Friends

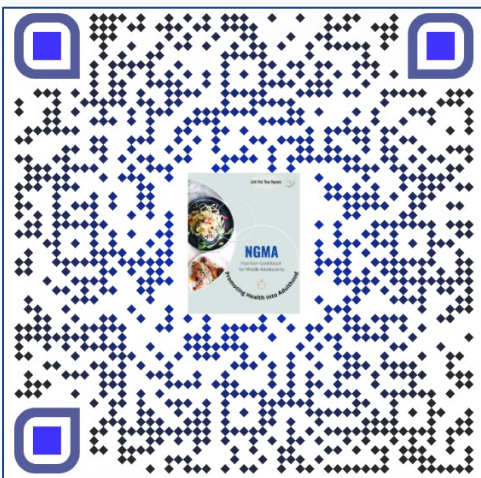
Bố, Mẹ, Van Nguyen (Chi)
My best friend, Timmy Nguyen
Cohort 10 of CSULB Internship Program
in Nutrition and Dietetics

Expert Panel

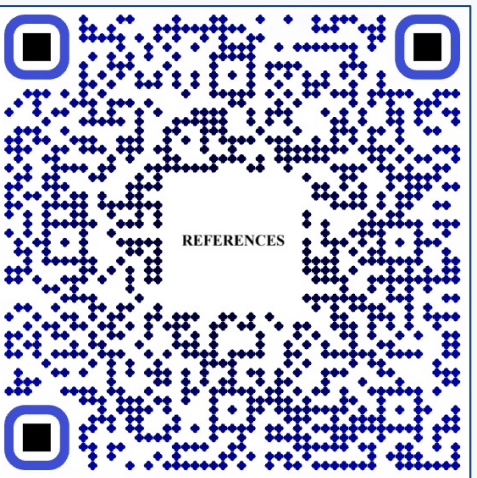
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For More Information

Please contact Linh Viet Thuy Nguyen at linh.nguyen18@student.csulb.edu.
References and the completed nutrition guidebook can be found by scanning the QR code to the right.



Nutrition Guidebook



References



CALIFORNIA STATE UNIVERSITY
LONG BEACH

