

**UNIVERSIDADE FEDERAL DO PAMPA  
CURSO DE NUTRIÇÃO**

**ANDRIELY BERRO VEPPPO**

**EFICÁCIA DE INTERVENÇÕES NUTRICIONAIS NO APERFEIÇOAMENTO DE  
HABILIDADES CULINÁRIAS: UMA REVISÃO SISTEMÁTICA**

**Itaqui  
2023**

**ANDRIELY BERRO VEPPPO**

**EFICÁCIA DE INTERVENÇÕES NUTRICIONAIS NO APERFEIÇOAMENTO DE  
HABILIDADES CULINÁRIAS: UMA REVISÃO SISTEMÁTICA**

Trabalho de Conclusão de Curso apresentado ao Curso de Nutrição da Universidade Federal do Pampa, como requisito parcial para obtenção do Título de Bacharel em Nutrição.

Orientadora: Fernanda Aline de Moura.

**Itaqui  
2023**

Ficha catalográfica elaborada automaticamente com os dados fornecidos pelo(a) autor(a) através do Módulo de Biblioteca do Sistema GURI (Gestão Unificada de Recursos Institucionais).

V472e VEPPO, Andriely Berro

Eficácia de intervenções nutricionais no aperfeiçoamento de habilidades culinárias / Andriely Berro VEPPO.  
53 p.

Trabalho de Conclusão de Curso (Graduação) – Universidade Federal do Pampa, NUTRIÇÃO, 2023.

“Orientação: Fernanda Aline de Moura”.

1. Alimentação saudável. 2. Ciências da Nutrição. 3. Culinária. 4. Educação Alimentar I. Título.

**ANDRIELY BERRO VEPPPO**

**EFICÁCIA DE INTERVENÇÕES NUTRICIONAIS NO APERFEIÇOAMENTO DE  
HABILIDADES CULINÁRIAS: UMA REVISÃO SISTEMÁTICA**

Trabalho de Conclusão de Curso  
apresentado ao Curso de Nutrição da  
Universidade Federal do Pampa, como  
requisito parcial para obtenção do Título  
de Bacharel em Nutrição.

Trabalho de Conclusão de Curso defendido e aprovado em: 06 de julho de 2023.

Banca examinadora:

---

Prof.<sup>a</sup> Dr.<sup>a</sup> Fernanda Aline de Moura  
Orientadora  
UNIPAMPA

---

Prof.<sup>a</sup> Dr.<sup>a</sup> Karina Sanches Machado D'Almeida  
UNIPAMPA

---

Prof.<sup>a</sup> Dr.<sup>a</sup> Roberta de Vargas Zanini  
UNIPAMPA

## RESUMO

As intervenções nutricionais culinárias têm tomado força nos últimos anos, tendo como principal finalidade a promoção da alimentação adequada e saudável, desenvolvendo/aperfeiçoando habilidades culinárias e melhorando a qualidade de vida de diferentes públicos. O presente estudo teve como objetivo investigar a eficácia de intervenções nutricionais no aperfeiçoamento ou desenvolvimento de habilidades culinárias e na alimentação. Foi realizada uma pesquisa de revisão sistemática a partir da busca de artigos científicos publicados nos bancos de dados eletrônicos PubMed, ScienceDirect e Scielo, através das palavras-chave em inglês, “cooking skills”, “food skills” e “culinary skills” publicados entre os anos de 2018 e 2022. Em geral, as intervenções basearam-se em aulas de educação culinária, educação alimentar e nutricional e alimentação saudável, seguidas de aulas práticas de culinária. Os resultados demonstram que todas as intervenções realizadas foram eficazes ou em aperfeiçoar as habilidades culinárias ou em melhorar a alimentação dos participantes. Com isso, pode-se dizer que as intervenções nutricionais possuem efeitos positivos em aperfeiçoar e/ou desenvolver habilidades culinárias dos indivíduos e na sua alimentação.

Palavras-Chave: Alimentação saudável, Ciências da nutrição, Culinária, Educação alimentar.

## **ABSTRACT**

Culinary nutrition interventions have been gaining momentum in recent years, with the main purpose of promoting adequate and healthy eating, developing/improving culinary skills, and improving the quality of life of different audiences. The present study aimed to investigate the effectiveness of nutritional interventions in improving or developing cooking and eating skills. A systematic review research was conducted by searching for scientific articles published in the PubMed, ScienceDirect, and Scielo electronic databases using the keywords in English, "cooking skills," "food skills," and "culinary skills" published between the years 2018 and 2022. In general, the studies were based on cooking education classes, food and nutrition education, and healthy eating followed by practical cooking classes. The results, in their entirety, demonstrate that all of the interventions conducted were effective in improving the culinary skills as well as the nutrition of the participants. Thus, it can be said that nutritional interventions have positive effects in improving and/or developing individuals' culinary skills and nutrition.

**Keywords:** Healthy eating, Nutrition science, Cooking, Culinary and food education.

## SUMÁRIO

APRESENTAÇÃO.....	8
INTRODUÇÃO.....	9
MÉTODOS.....	10
RESULTADOS.....	11
DISCUSSÃO.....	19
CONCLUSÕES E IMPLICAÇÕES.....	21
REFERÊNCIAS.....	22
ANEXO A - Diretrizes para autores do Journal of Nutrition Education and Behavior.....	25

## APRESENTAÇÃO

Este TCC está apresentado em formato de artigo científico. Sua elaboração segue as diretrizes para autores do Journal of Nutrition Education and Behavior (ANEXO A).

### **Eficácia de intervenções nutricionais no aperfeiçoamento de habilidades culinárias: uma revisão sistemática.**

#### **Resumo**

**Objetivo:** Investigar a eficácia de intervenções nutricionais no desenvolvimento e/ou aperfeiçoamento de habilidades culinárias e na alimentação das pessoas, a fim de saber quais intervenções foram realizadas, quais métodos são efetivos no aperfeiçoamento das habilidades e, conseqüentemente, nos comportamentos alimentares saudáveis dos indivíduos.

**Desenho:** Realizado a busca de artigos científicos publicados nos bancos de dados eletrônicos PubMed, ScienceDirect e Scielo, publicados entre os anos de 2018 e 2022.

**Resultados:** Em geral, as intervenções basearam-se em aulas de educação culinária, educação alimentar e nutricional e alimentação saudável, seguidas de aulas práticas de culinária. O público, o tamanho da amostra e o tempo das intervenções variaram em todos os estudos.

**Discussão:** Os resultados demonstram que as intervenções realizadas foram eficazes em aperfeiçoar as habilidades culinárias ou em melhorar a alimentação dos participantes.

**Conclusões e implicações:** As intervenções nutricionais possuem efeitos positivos em aperfeiçoar e/ou desenvolver habilidades culinárias dos indivíduos e na sua alimentação. Obteve-se dificuldade de compreender o efeito das intervenções, tempo de duração da atividade, carga horária e frequência de realização e no tamanho da amostra.

**Palavras-Chave:** alimentação saudável, ciências da nutrição, culinária, educação alimentar.



## INTRODUÇÃO

Com o passar dos anos e com o surgimento da formação de nutricionistas, alguns conceitos foram surgindo e tomando cada vez mais força em discussões, como as práticas alimentares, técnica dietética, culinária e gastronomia. Contudo, com o surgimento da indústria alimentar e junto a isso os alimentos industrializados que prometiam ser acessíveis e de fácil preparo, houve um declínio no uso das habilidades culinárias, o que contribuiu para uma transição culinária, onde deixou-se de lado o preparo de alimentos e optou-se por alimentos processados e ultraprocessados<sup>1</sup>.

Diante desse cenário de transição alimentar e o crescente processamento industrial, surgiram novas classificações baseadas no processamento dos alimentos e este passou a conter quatro grupos, proposto pelo Guia Alimentar para a População Brasileira<sup>2</sup>: alimentos *in natura* ou minimamente processados - que são obtidos diretamente de plantas ou de animais ou que tenham sido submetidos a alterações mínimas para o consumo; ingredientes culinários - que engloba produtos extraídos da natureza e são utilizados em preparações culinárias; alimentos processados - que são alimentos *in natura* que passam por um processamento e adição de sal ou açúcar no seu processo de fabricação; e alimentos ultraprocessados - que são formulações industriais prontas para o consumo, onde o produto passa por diversas etapas de processamento e adição de diversos ingredientes<sup>3</sup>.

Recentemente a relação entre gastronomia e nutrição se tornou mais estreita e começou-se a relacionar as habilidades culinárias com a promoção da alimentação saudável. Segundo o Guia Alimentar para a População Brasileira<sup>2</sup>, habilidades culinárias são todos os atos que envolvem a seleção, o pré-preparo, tempero, cozimento, combinação e apresentação dos alimentos. O guia reforça a ideia de que quanto mais deixadas de lado essas habilidades, maior será o consumo de alimentos ultraprocessados, e ressalta a importância de passar os conhecimentos culinários entre gerações, visando melhorar o contato com o alimento, valorizar o ato de cozinhar e, conseqüentemente, desenvolver hábitos alimentares saudáveis.

Com o enfraquecimento dos conhecimentos culinários passados de geração para geração, começou-se a promover intervenções nutricionais culinárias com o intuito de melhorar as refeições e saúde das famílias<sup>4</sup>. Dessa maneira, a educação alimentar, que visa a promoção de uma alimentação adequada e saudável, começou a ganhar força em todas as idades, utilizando de métodos de intervenção práticos, como por exemplo, as aulas de culinária<sup>5</sup>, livros e sites de receitas, blogs, entre outros.

Segundo Metcalfe e Leonard<sup>5</sup>, o desenvolvimento da educação culinária possui diferentes resultados positivos quando aplicados em diferentes públicos, melhorando a qualidade de vida dos mesmos, ou seja, sugere que a participação na culinária desenvolve comportamentos alimentares saudáveis em indivíduos de todas as idades, tanto em crianças, como adolescentes e adultos.

Considerando o exposto acima, esta pesquisa tem como objetivo revisar sistematicamente a literatura a fim de investigar a eficácia de intervenções nutricionais no desenvolvimento e/ou aperfeiçoamento de habilidades culinárias e na alimentação das pessoas.

## **MÉTODOS**

O presente trabalho trata-se de uma pesquisa de revisão sistemática. Para a seleção dos artigos foram seguidas as recomendações do protocolo PRISMA<sup>6</sup>. A coleta de dados foi realizada através da busca de estudos publicados nos bancos de dados eletrônicos PubMed, ScienceDirect e Scielo através das palavras-chave em inglês, “cooking skills”, “food skills” e “culinary skills”. O filtro da pesquisa incluiu artigos completos e publicados entre os anos de 2018 e 2022. A pesquisa nos bancos de dados ocorreu em outubro/2022. Após a seleção, a plataforma EndNote foi utilizada para organizar os estudos encontrados para as próximas etapas da pesquisa.

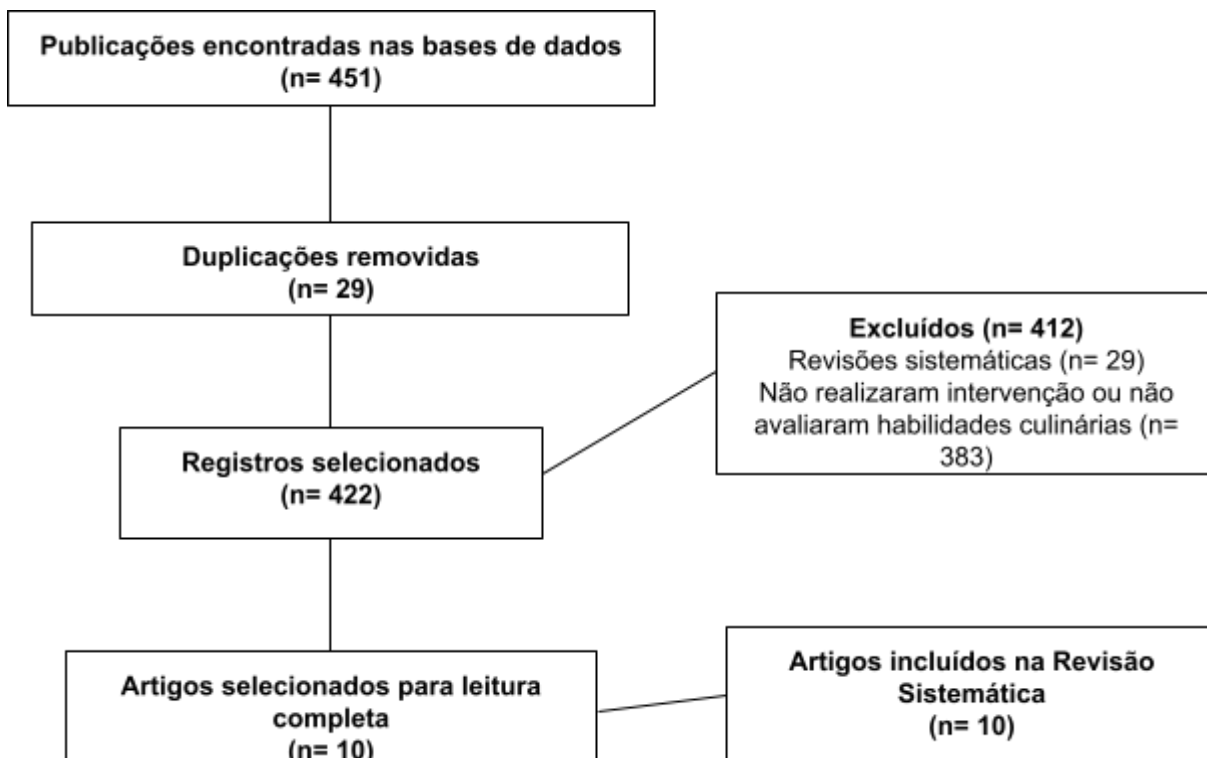
Os critérios de inclusão do estudo foram artigos científicos completos em língua portuguesa e inglesa em que tenham sido realizadas intervenções nutricionais com a finalidade de avaliar se os participantes desenvolveram ou não habilidades culinárias e/ou melhoraram o consumo alimentar. Os critérios de exclusão incluem artigos de revisões sistemáticas, artigos que não realizaram intervenções ou não avaliaram habilidades culinárias.

Os artigos foram revisados em duas etapas. A primeira foi através da análise dos títulos e resumos dos artigos, realizada por dois revisores (A.B.V. e F.A.M.) e selecionados aqueles que continham os critérios de elegibilidade. Não houve discordância entre os revisores. Posteriormente, os artigos que não forneceram informações suficientes no título e resumo, foram incluídos para uma avaliação posterior, onde a leitura foi realizada em todo o artigo.

Por fim, foi realizada a leitura completa dos artigos e extraídos os dados para a análise, sendo eles: autor e data de publicação, público participante e idade, caracterização da intervenção, método de avaliação de habilidades culinárias e desfecho.

## RESULTADOS

Como resultado da busca nas plataformas, foram encontrados 451 artigos publicados nas bases de dados. Inicialmente foram identificados os artigos duplicados (n= 29), resultando em 422 artigos selecionados para as próximas análises. Posteriormente, foram aplicados os critérios de elegibilidade do estudo, sendo excluídos 412 artigos. Assim, resultou um total de 10 artigos selecionados que seguiram para a leitura completa, onde destes, não foram excluídos nenhum artigo. A seleção dos artigos está ilustrada na Figura 1.



**Figura 1.** Fluxograma de seleção de artigos.

Fonte: Autor.

Os artigos incluídos no presente estudo estão representados no Quadro 1. Os artigos selecionados tinham participantes com faixa etária entre 8 e 57 anos de idade, crianças, jovens e adultos de ambos os sexos. O público variou, bem como o tamanho da amostra, dos 10 estudos, quatro deles realizaram a intervenção com famílias (pais e crianças), dois somente com crianças, um somente com adultos e três estudos com estudantes universitários. O tamanho da amostra variou entre o mínimo de 10 participantes e máximo de 202 indivíduos.

Em geral, as intervenções basearam-se em aulas de educação culinária, educação alimentar e nutricional e alimentação saudável, seguidas de atividades práticas de culinária com preparações de receitas. Aulas sobre preparo de alimentos e/ou sobre habilidades culinárias e/ou sobre práticas culinárias foram realizadas em todos os estudos analisados. O tempo das intervenções variou entre 7 dias e 2 anos. Dentre os 10 estudos, cinco apresentaram grupo controle e grupo intervenção para a metodologia, enquanto a outra metade teve apenas grupo intervenção.

Todos os estudos usaram o método de avaliação de habilidades e alimentação através de questionário de pesquisa em diferentes momentos, basicamente pré e pós intervenção. Alguns usaram ainda outros métodos como registros através de fotos e vídeos, almoço com os participantes para avaliar os efeitos da intervenção e discussões em grupos focais.

Nos desfechos encontrados, 80% dos estudos avaliados foram efetivos na melhora das habilidades culinárias, bem como na autoeficácia culinária, os participantes demonstraram aumento na competência e confiança em cozinhar. Ainda, observou-se que 70% dos estudos apresentaram melhora na alimentação dos indivíduos, aumentando a disponibilidade e consumo de alimentos saudáveis em casa, como frutas, verduras e legumes e na preparação de refeições caseiras e saudáveis. Destaca-se também que em 50% dos estudos aumentaram as atitudes e conhecimentos culinários dos indivíduos.

**Quadro 1.** Estudos selecionados com a realização de intervenções nutricionais para melhorar habilidades culinárias e alimentação.

Referência	Amostra Público Idade		Caracterização da intervenção	Avaliação das habilidades culinárias e alimentação	Desfecho
Bernardo et al (2018) <sup>7</sup>	Total = 80 estudantes universitários divididos em:  Grupo controle (n=40)  Grupo intervenção (n=40)	≥ 16 anos (média: 19 anos)	- Realizado em um período de 6 meses; - Grupo controle continuou sua rotina habitual; - Grupo Intervenção: Participou do Programa Nutrition and Culinary in the Kitchen (NCK), por 6 semanas, 3 horas semanais, baseados em 5 aulas práticas de culinária e visita ao mercado de alimentos; - Oficina de seleção e compra de alimentos.	- Os participantes preencheram uma pesquisa online em três momentos diferentes: linha de base (após a primeira aula de culinária); após a intervenção (depois da última aula de culinária) e seis meses após a intervenção; - A pesquisa continha questões sobre habilidades culinárias e práticas alimentares saudáveis.	- Melhorou as habilidades culinárias dos estudantes; - Melhorou a confiança em cozinhar e no consumo de frutas e vegetais; - Melhorou atitudes e conhecimentos culinários; - Aumentou a acessibilidade e disponibilidade de frutas e vegetais em casa; - Diminuiu o consumo de alimentos em lanchonetes e fast food.
Burrington et al (2020) <sup>8</sup>	Total = 10 famílias de comunidades rurais de baixa renda que tivessem um ou mais crianças em risco de doença crônica associada à obesidade; O número de filhos variou entre 1 e 5.	Filhos com idade entre 9 meses e 20 anos	- Realizado em um período de 5 meses; - Programa de Prescrição de Frutas e Vegetais; - Cada família recebeu uma variedade de temperos, utensílios de cozinha e folhetos informativos culinários; - Oferta de aulas sobre planejamento de refeições, alfabetização alimentar e habilidades culinárias para promover o uso de frutas e vegetais; - Crédito semanal para a compra de frutas e vegetais.	- Pesquisas pré e pós intervenção com questões sobre confiança em cozinhar e para avaliar a insegurança alimentar familiar; - Photovoice: ao final da intervenção, os participantes foram convidados a fotografar as respostas à pergunta: "Como o programa de prescrição de frutas e vegetais afetou minha família?". Os materiais coletados foram apresentados e discutidos com todo o grupo de famílias.	- Aumento do consumo de frutas e vegetais; - Aumento no consumo de porções diárias de frutas e vegetais pelas crianças; - Os pais mostraram um ligeiro aumento na confiança sobre suas habilidades culinárias e atitudes em relação a experimentar novos alimentos, cozinhar novas receitas com frutas e vegetais e a seguir uma receita simples.
Dean et al	Total = 32	Crianças com	- Realizado durante um período	- Pesquisa pré-intervenção para	- Aumento significativo de

(2022) <sup>9</sup>	crianças  Grupo controle (n=16)  Grupo intervenção (n=16)	idade entre 10 e 12 anos	de 1 semana, 3 horas por dia; - Intervenção no estilo acampamento de culinária; - Aulas de culinária para crianças, conduzidas por um chef apoiado por facilitadores; - Crianças cozinhavam 2 pratos em cada sessão; - Ambos os grupos receberam a intervenção, porém, no grupo controle ela foi realizada após a finalização da atividade com o grupo intervenção.	grupo controle e grupo intervenção (duas semanas antes) - Pesquisa pós-intervenção: grupo intervenção preencheu após a conclusão das aulas, enquanto o grupo controle preencheu antes do início do primeiro dia de aula de culinária e após completar todas as aulas; - As pesquisas eram compostas de questões sobre: competência culinária percebida, exposição alimentar, vontade de experimentar, prazer em cozinhar e passar tempo com os pais.	competência culinária percebida pelas crianças; - Aumento significativo a exposição alimentar; - Reduziu o prazer das crianças em passar um tempo com os pais enquanto cozinham.
Gandhi et al (2021) <sup>10</sup>	Total = 35 estudantes de medicina divididos em 5 grupos (n=7).	Não consta.	- Realizado em um período de 9 dias; - Alunos foram treinados pela Técnica de "Demonstração da Dieta": princípios básicos de nutrição e culinária, dieta balanceada, práticas de cozimento e tratamento de matérias-primas, leitura de rótulos e cozinhar os alimentos em casa; - Um cenário/caso para cada grupo, com diferentes condições de saúde; - Elaboração de um cardápio alimentar de 24h para cada caso; - Preparação do cardápio elaborado.	- Registro através de fotos e vídeos das atividades culinárias, que foram apresentadas posteriormente para o corpo docente; - Feedback anônimo dos estudantes sobre a intervenção e seu papel em seus conhecimentos e práticas nutricionais.	- Melhora no entendimento de conselhos nutricionais e a absorver práticas saudáveis de culinária; - Melhorou a compreensão das dificuldades práticas associadas a preparação de uma alimentação equilibrada; - 100% da amostra diz sentir-se seguro em prescrever/aconselhar o público sobre uma alimentação saudável e balanceada.
Lavelle et al	Total = 32	Crianças com	- Realizado durante um período	- Pesquisas pré e pós	- Aumentou a percepção de

(2022) <sup>11</sup>	famílias com filhos de 8 a 12 anos de idade  Pais (n=32) Filhos (n=42)	idade de 8 a 12 anos; Pais com idade entre 38 e 55 anos (média de 46,39 anos).	de 4 semanas; - Intervenção culinária comunitária com pais e filhos: "Fun with food"; - Curso incluiu receitas práticas, rápidas, simples e saudáveis; - Cada aula teve duração de 120 minutos; - Os pais e os filhos cozinhavam juntos 2 pratos em cada aula.	intervenção online com as crianças sobre como percebiam suas habilidades culinárias, como cortar, descascar, pesar ingredientes e usar um forno. - Pesquisa pré e pós intervenção com os pais medindo a confiança de suas habilidades culinárias; - Discussão em 4 grupos focais com os pais, antes e depois da intervenção.	competência culinária das crianças - Reduziu o medo dos pais em envolver as crianças em atividades como utilizar a faca, realizar cortes, picar, etc.; - Tanto as crianças quanto os pais acharam uma experiência agradável e apreciaram o tempo que passaram juntos; - As crianças se envolveram mais ativamente na culinária desde a intervenção.
Maiz et al (2021) <sup>12</sup>	Total = 202 crianças  Grupo Educação Nutricional (NE) (n=99)  Grupo Intervenção (HO) (n=103)	Crianças com idade entre 8 e 9 anos	- Realizado durante um período de 3 semanas - 3 workshops com duração de uma hora, uma vez por semana - Três oficinas realizadas no grupo HO com o objetivo de aumentar a vontade das crianças em aceitar um legume pouco apetecível (brócolis ou espinafre); - workshops com o grupo HO consistiram em: escolha de receitas, compra de ingredientes e cozinhar as receitas escolhidas; - Grupo NE realizou oficinas de educação nutricional que promoviam alimentação saudável e adequada.	- Antes da intervenção os pais responderam um questionário sobre neofobia alimentar e hábitos alimentares das crianças; - Após a realização das intervenções os alunos participaram de um almoço para avaliar os efeitos da intervenção (foram avaliados a escolha dos alimentos, a ingestão alimentar, a preferência alimentar e o comportamento); - Um mês após a intervenção, foi realizado um segundo almoço experimental, sendo realizadas as mesmas avaliações do almoço anterior, e aplicado um questionário para verificar se as crianças tinham realizado a receita em casa; - Questionários aplicados às crianças antes e após a intervenção: sobre preferências vegetais, adesão à dieta	- Redução da neofobia alimentar; - Melhora na qualidade da dieta; - Aumento na autoeficácia culinária.

				mediterrânea, neofobia alimentar e autoeficácia culinária e atitude em relação à culinária.	
Matias, Jordan, McCoin, (2021) <sup>13</sup>	Total = 171 estudantes universitários	Maioria dos alunos com idade entre 18 e 24 anos	<ul style="list-style-type: none"> <li>- Curso eletivo com princípios da Teoria Social Cognitiva para abordar o conhecimento, atitudes, autoeficácia, habilidades e comportamentos dos alunos em relação à aquisição e preparação de alimentos;</li> <li>- Realizado durante um período de 14 semanas</li> <li>- Palestra semanal de 50 minutos sobre conceitos básicos de nutrição e culinária, planejamento de refeições e orçamento alimentar;</li> <li>- Laboratório de culinária de 2 horas;</li> <li>- Alunos trabalhavam em pares seguindo diferentes receitas e solucionando problemas e minimizando as barreiras percebidas para cozinhar e experimentar novas técnicas;</li> <li>- Atividade de compras, plano de refeições de 7 dias e análise de nutrientes.</li> </ul>	<ul style="list-style-type: none"> <li>- Pesquisas online pré e pós intervenção com questionário pré-validado de atitudes e autoeficácia sobre o consumo de frutas e hortaliças, auto-relato de consumo habitual de frutas e hortaliças e comportamentos de preparação de refeições.</li> </ul>	<ul style="list-style-type: none"> <li>- Aumentou a autoeficácia em cozinhar;</li> <li>- Aumento no consumo de vegetais, frutas e grãos integrais;</li> <li>- Aumento no consumo autorrelatado de frutas e vegetais;</li> <li>- Aumento na frequência de cozinhar;</li> <li>- Diminuição na frequência de pular refeições.</li> </ul>
Mendez et al (2021) <sup>14</sup>	Total = 10 participantes (adultos saudáveis membros de um centro fitness.	Idade 46 ± 11 anos	<ul style="list-style-type: none"> <li>- Realizado durante um período de 6 semanas;</li> <li>- Programa AQMP - Preparação antecipada de refeições em quantidade;</li> <li>- Participantes se reuniram em 6 domingos consecutivos, por 4 horas em uma cozinha</li> </ul>	<ul style="list-style-type: none"> <li>- Aplicação de questionário via web pré-programa (T1), pós-programa (T2) e 3 meses após o programa (T3) sobre frequência de consumo de refeições caseiras e comportamentos culinários (atitudes culinárias, autoeficácia</li> </ul>	<ul style="list-style-type: none"> <li>- Aumentou autoeficácia, habilidades e atitudes culinárias;</li> <li>- Aumento no consumo de refeições caseiras.</li> </ul>



			<p>comercial;</p> <ul style="list-style-type: none"> <li>- Educação culinária verbal, demonstração e técnicas de economia de tempo;</li> <li>- A cada encontro, os participantes elaboravam, porcionavam e embalavam preparações para consumir no decorrer da semana: 10 refeições e 5 lanches;</li> </ul>	<p>culinária e aceitação do AQMP).</p>	
Ng et al (2022) <sup>15</sup>	<p>- Total = 83 alunos de escolas públicas e seus pais.</p> <p>Grupo Intervenção (n= 41 alunos)</p> <p>Grupo Controle (n= 42 alunos)</p>	Crianças de 10 a 11 anos.	<ul style="list-style-type: none"> <li>- 12 semanas de intervenção;</li> <li>- Módulo introdutório de 1 hora com as crianças e os pais sobre ambiente alimentar doméstico;</li> <li>- 5 módulos práticos de preparação de refeições saudáveis de duração de 1 hora a cada 2 semanas;</li> <li>- Os módulos consistiram em educação nutricional através de histórias, cozinha prática de educação culinária e degustação das preparações realizadas.</li> </ul>	<ul style="list-style-type: none"> <li>- Questionários pré-intervenção (2 semanas antes), pós-intervenção (2 semanas depois) e após 3 meses da intervenção;</li> <li>- Fatores psicossociais da criança (conhecimento, atitude, prática e autoeficácia) relacionados à preparação de refeições saudáveis foram avaliados por meio de um questionário guiado aplicado às crianças;</li> <li>- Os pais responderam um questionário sobre a disponibilidade de vários tipos de frutas, vegetais, alimentos saudáveis e alimentos menos saudáveis em casa durante a última semana.</li> </ul>	<ul style="list-style-type: none"> <li>- Aumento no conhecimento, atitude, prática e autoeficácia culinária;</li> <li>- Foram observadas melhorias na disponibilidade de frutas, vegetais, alimentos saudáveis e alimentos menos saudáveis favorecendo o grupo de intervenção.</li> </ul>
White et al (2019) <sup>16</sup>	- Crianças e o adulto responsável pela preparação das suas refeições, n =	Crianças de 9 a 10 anos.	<ul style="list-style-type: none"> <li>- Intervenção de 2 anos e estudo de disseminação de 4 meses.</li> <li>- Os referenciais teóricos foram a Teoria Social Cognitiva e o modelo de aprendizagem experiencial <i>iCook 4-H</i>;</li> <li>- Intervenção: cada uma das 6</li> </ul>	<ul style="list-style-type: none"> <li>- As avaliações foram realizadas aos 0, 4, 12 e 24 meses de intervenção;</li> <li>- O instrumento para as crianças era composto por questões sobre habilidades culinárias, abertura a novos alimentos,</li> </ul>	Na fase de disseminação as crianças aumentaram as habilidades culinárias e os adultos aumentaram a prática de cozinhar e comer juntos no grupo tratamento.

	<p>158;</p> <p>Grupo controle: (n=35 crianças)</p> <p>Grupo tratamento (n= 90 crianças)</p> <p>Adultos (n= 33)</p>		<p>sessões incluiu tempo para díades jovens-adultos cozinhare, comerem, serem fisicamente ativos, modelar a comunicação durante as refeições e estabelecer metas para uma alimentação saudável.</p> <p>- Estudo de disseminação: 8 sessões quinzenais de 2 horas.</p>	<p>autoeficácia culinária, alimentação em família, atividade física e estabelecimento de metas.</p> <p>- O instrumento para os adultos era composto por questões sobre cozinhar junto, comer junto e atividade física.</p>	
--	--	--	---	--	--

Fonte: Autor.

## DISCUSSÃO

O presente estudo realizou uma revisão sistemática relacionada a intervenções nutricionais, as quais tinham por objetivo desenvolver/melhorar as habilidades culinárias dos participantes. Em todos os estudos observou-se a utilização de atividades práticas de culinária e cozinha, sendo a maioria associadas com atividades de educação alimentar e nutricional. Segundo Murimi<sup>17</sup>, intervenções nutricionais práticas guiadas por uma teoria, possuem maior chance de alcançar seu propósito. Ainda, segundo Reicks<sup>18</sup>, as intervenções baseadas em culinária devem possuir, de forma integrada, uma base teórica para a intervenção, de forma a garantir o sucesso da mesma e fortalecer a avaliação.

Nos estudos analisados, percebe-se diferentes públicos nas intervenções, quatro artigos tiveram como público pais e filhos<sup>8,11,15-16</sup> e dois artigos<sup>9,12</sup> relataram a realização de intervenções com crianças. Envolver as crianças em atividades culinárias e ensinar as habilidades que envolvem essa tarefa, está associado à manutenção desses hábitos na vida adulta, bem como, desperta confiança culinária nos jovens e melhora a qualidade da alimentação<sup>19</sup>. Além disso, segundo Lavelle<sup>11</sup>, incluir as crianças em intervenções práticas de culinária melhora a confiança e diminui o medo dos pais em envolver as crianças em atividades mais arriscadas, como o uso da faca em tarefas de cortar e picar alimentos.

Os estudos de educação alimentar e culinária com crianças têm tomado força nos últimos anos, principalmente pela baixa oferta de alimentos saudáveis em casa e pela falta de oportunidade das crianças em aprender habilidades culinárias<sup>19</sup>.

De forma geral, todos os estudos analisados nesta revisão sistemática, desenvolveram/melhoraram habilidades culinárias e/ou alimentação dos participantes, assim, mostrando os benefícios de aplicar intervenções nutricionais. Ainda, alguns estudos destacam outras mudanças positivas, como aumento da disponibilidade de alimentos saudáveis em casa, melhora na qualidade da dieta, aumento da frequência de cozinhar, aumento do consumo de frutas e vegetais e aumento no consumo de refeições caseiras<sup>7,8,12-15</sup>. Esses são aspectos importantes para favorecer a passagem de conhecimentos culinários de geração para geração e desenvolvimento de hábitos saudáveis com impacto na saúde, bem-estar e qualidade de vida<sup>20</sup>.

Ainda, Jomori<sup>1</sup> diz que as habilidades culinárias dos indivíduos vão depender de características pessoais, como confiança, atitude e conhecimento para preparar os alimentos, que vão influenciar diretamente no comportamento de cozinhar.

No entanto, segundo Jomori<sup>21</sup>, a relação entre habilidades culinárias e alimentação saudável ainda é tratada de maneira distinta nos estudos, pois avaliam a alimentação

saudável apenas através do consumo de frutas e vegetais. Vale destacar que, a definição para alimentos marcadores de uma alimentação saudável deve se dar pelo consumo de feijão, frutas frescas, verduras e/ou legumes, enquanto os alimentos marcadores de uma alimentação não saudável definem-se pelo consumo de hambúrgueres e/ou embutidos, bebidas adoçadas, macarrão instantâneo, salgadinho de pacote e/ou biscoitos salgados, biscoitos recheados, doces e/ou guloseimas<sup>22</sup>.

Como um dos resultados, observa-se três estudos<sup>7,10,13</sup> que realizaram intervenções com estudantes universitários. Diversos estudos presentes na literatura, demonstram a modificação do modo de vida e alimentação do universitário ao ingressar na universidade, e um dos grandes obstáculos referidos é a falta de habilidades culinárias<sup>23</sup>. Nos estudos analisados nesta revisão, dois<sup>7,13</sup> apresentaram melhorias tanto no consumo de alimentos saudáveis quanto nas habilidades culinárias, porém, no estudo de Gandhi<sup>10</sup> os alunos demonstraram apenas entendimento e compreensão no que diz respeito a práticas saudáveis e sentem-se seguros a aconselhar o público sobre uma alimentação saudável, assim, destaca-se o curto período (9 dias) de intervenção nesse estudo, o que pode ter sido um aspecto importante para não modificar os hábitos alimentares da população intervida.

O tempo das intervenções, o tamanho da amostra e a falta de utilizar um grupo controle (presente em apenas 50% dos estudos analisados) foram pontos limitantes nesta revisão, pois apresentaram grande variação. Segundo Murimi<sup>17</sup>, as mudanças de comportamento demandam tempo e prática, assim, intervenções com tempo de duração >5 meses têm maiores chances de apresentarem sucesso. Reicks<sup>18</sup>, destaca a importância de ter um grupo controle presente na intervenção e cálculos que determinem o tamanho da amostra, para assim, obter-se um melhor resultado e avaliação do estudo empregado. No entanto, mesmo com menor tempo de duração, as atividades de intervenção nutricional podem surtir efeitos positivos<sup>9</sup>.

Como citado nos resultados, todos os estudos avaliaram a intervenção através de questionários de pesquisa em diferentes momentos. Segundo Jomori<sup>24</sup>, parâmetros que avaliam habilidades culinárias relacionadas aos hábitos alimentares ainda são escassos na literatura. Os questionários utilizados nos artigos revisados variaram em todas as intervenções, a maioria utilizou questionários com perguntas fechadas e/ou escalas em números para medir as atitudes e/ou percepções (ex: Escala Likert de 5 pontos)<sup>7,9,12-16</sup>. Entretanto, alguns estudos utilizaram de perguntas abertas para facilitar uma discussão

guiada em grupos focais juntamente com os questionários com perguntas fechadas<sup>8,11</sup> e apenas um estudo utilizou somente o método de avaliação de feedback anônimo<sup>10</sup>.

No geral, as perguntas mais frequentes presentes nas avaliações englobam questões sociodemográficas, autoeficácia culinária e/ou atitude culinária e/ou disponibilidade de frutas, legumes e hortaliças em casa e/ou consumo alimentar/hábitos alimentares. Todos os questionários foram auto relatados, o que, segundo alguns autores, permite viés de informação<sup>7,13</sup>.

Por fim, destaca-se a dificuldade de compreender o efeito das intervenções em públicos específicos, sobre tempo de duração da atividade, carga horária e frequência de realização, bem como no tamanho da amostra, visto que todos os estudos variaram nesses aspectos.

## **CONCLUSÕES E IMPLICAÇÕES**

A partir da análise realizada nesta revisão sistemática, foi possível concluir que as intervenções nutricionais parecem ser eficazes em desenvolver e/ou aperfeiçoar as habilidades culinárias dos indivíduos, bem como melhorar sua alimentação. As intervenções com estes objetivos envolvem basicamente aulas práticas de culinária, na maioria das vezes acompanhadas por atividades de educação alimentar e nutricional. Os efeitos positivos destas atividades foram percebidos em diferentes públicos (crianças, jovens e adultos), mesmo em atividades com menor tempo de duração (uma semana). Porém, destaca-se a necessidade de novos estudos que envolvam estes objetivos, visto que há poucos estudos presentes na literatura para assim, obter-se resultados concretos.

## REFERÊNCIAS

1. Jomori MM, et al. O conceito de habilidades culinárias: uma revisão com contribuições ao debate científico. **Revista de Nutrição**, 2018;1:119-135.
2. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. **Guia alimentar para a população brasileira**. 2. ed., 1. reimpr. – Brasília : Ministério da Saúde, 2014.
3. Menegassi B, et al. A nova classificação de alimentos: teoria, prática e dificuldades. **Ciência & Saúde Coletiva**, 2018; 23:4165-4176.
4. Muzaffar H, Metcalfe JJ, Fiese B. Narrative Review of Culinary Interventions with Children in Schools to Promote Healthy Eating: Directions for Future Research and Practice. **Current Developments in Nutrition**, 2018; 1-10.
5. Metcalfe JJ, Leonardo D. Reprint of “The relationship between culinary skills and eating behaviors: Challenges and opportunities for parents and families”. **Physiology & Behavior**, 2018; 193:302-306.
6. Galvão TF, Pansani TSA. Principais itens para relatar Revisões sistemáticas e Meta-análises: A recomendação PRISMA. **Epidemiologia e Serviços de Saúde**, 2015; v: 2.
7. Bernardo GL et al. Positive impact of a cooking skills intervention among Brazilian university students: Six months follow-up of a randomized controlled trial. **Appetite**, 2018; 130: 247–255.
8. Burrington CM et al. A pilot study of an online produce market combined with a fruit and vegetable prescription program for rural families. **Preventive Medicine Reports** 17, 2020.
9. Dean M et al. Cook Like A Boss: An effective co-created multidisciplinary approach to improving children’s cooking competence. **Appetite**, 2022; 168.
10. Gandhi PA et al. An initiative to improve nutritional education among medical students. **Medical Journal Armed Forces India**, 2021; 77: 190-194.
11. Lavelle F et al. Fun with food - A parent-child community cooking intervention reduces parental fear and increases children’s perceived competence. **Appetite**, 2022; 180.

12. Maiz E et al. Child Involvement in Choosing a Recipe, Purchasing Ingredients, and Cooking at School Increases Willingness to Try New Foods and Reduces Food Neophobia. **Journal of Nutrition Education and Behavior**, 2021; 53: 4.
13. Matias SL, Jordan JR, McCain M. Evaluation of a College-Level Nutrition Course With a Teaching Kitchen Lab. **Journal of Nutrition Education and Behavior**, 2021; 53: 9.
14. Mendez S, et al. Advance Quantity Meal Preparation Pilot Program Improves Home-Cooked Meal Consumption, Cooking Attitudes, and Self-Efficacy. **Journal of Nutrition Education and Behavior**, 2021; 53:7.
15. NG CM et al. Culinary Nutrition Education Improves Home Food Availability and Psychosocial Factors Related to Healthy Meal Preparation Among Children. **Journal of Nutrition Education and Behavior**, 2022;54:2.
16. White AA et al. The iCook 4-H Study: An Intervention and Dissemination Test of a Youth/Adult Out-of-School Program. **Journal of Nutrition Education and Behavior**, 2019;51:3.
17. Murimi WM et al. Factors Influencing Efficacy of Nutrition Education Interventions: A Systematic Review. **Journal of Nutrition Education and Behavior**, 2017;49:2.
18. Reicks M, Kocher M, Reeder J. Impact of Cooking and Home Food Preparation Interventions Among Adults: A Systematic Review (2011–2016). **Journal of Nutrition Education and Behavior**, 2018;50:2.
19. Lavelle F et al. Modern Transference of Domestic Cooking Skills. **Nutrients**, 2019.
20. Lavelle F. A critical review of children's culinary nutrition interventions, the methodologies used and their impact on dietary, psychosocial and wellbeing outcomes. **Nutrition Bulletin**, 2023;48: 6-27.
21. Jomori MM. **Adaptação transcultural e validação de um instrumento de identificação das habilidades culinárias e alimentação saudável em estudantes ingressantes de uma universidade brasileira**. Tese (Doutorado) - Universidade Federal de Santa Catarina, Centro de Ciências da Saúde, Programa de Pós Graduação da Nutrição, Florianópolis, 2017.
22. Brasil. Ministério da Saúde. **Guia para a organização da Vigilância Alimentar e Nutricional na Atenção Primária à Saúde** [recurso eletrônico] / Ministério da Saúde. Universidade Federal de Sergipe. – Brasília: Ministério da Saúde, 2022.

51 p. : il.

23. Lopes DL. **Avaliação Das Habilidades Culinárias E Alimentação Saudável Dos Estudantes De Nutrição Da Universidade Federal Do Rio Grande Do Sul.** Trabalho de Conclusão de Curso (Graduação) - Universidade Federal do Rio Grande do Sul, Faculdade de Medicina, Curso de Nutrição, Porto Alegre - RS, 2019.

24. Jomori MM et al. How was the cooking skills and healthy eating evaluation questionnaire culturally adapted to Brazil?. **Ciência & Saúde Coletiva**, 2021;26: 2379-2393.



## **ANEXO A - Diretrizes para autores do Journal of Nutrition Education and Behavior**

### **Author Information**

The Journal of Nutrition Education and Behavior (JNEB), the official journal of the Society for Nutrition Education and Behavior, is a refereed, scientific periodical that serves as a global resource for all professionals with an interest in nutrition education; nutrition and physical activity behavior theories and intervention outcomes; complementary and alternative medicine related to nutrition behaviors; food environment; food, nutrition, and physical activity communication strategies including technology; nutrition-related economics; food safety education; and scholarship of learning related to these areas. The purpose of JNEB is to document and disseminate original research and emerging issues and practices relevant to these areas worldwide. The Journal of Nutrition Education and Behavior welcomes evidence-based manuscripts that provide new insights and useful findings related to nutrition education research, practice and policy. The content areas of JNEB reflect the diverse interests in nutrition and physical activity related to public health, nutritional sciences, education, behavioral economics, family and consumer sciences, and eHealth, including the interests of community-based nutrition-practitioners. As the Society's official journal, JNEB also includes policy statements, issue perspectives, position papers, and member communications.

### **Fees and Policies**

Articles are made available to *JNEB* subscribers, as well as developing countries and patient groups, through our access programs. There is no fee to publish an article, and your publication choice—subscription or OA—will have no effect on the peer-review process or acceptance of submitted articles.

### **Authorship Guidelines**

The *Journal of Nutrition Education and Behavior* follows the guidelines for authorship from the International Committee for Medical Journal Editors (<http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>). As such, the journal recommends that authorship be based on the following 4 criteria:

1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
2. Drafting the work or revising it critically for important intellectual content; AND
3. Final approval of the version to be published; AND
4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

To satisfy the requirement for authorship, each contributor must meet all 4 criteria above. Contributors meeting fewer than the 4 criteria listed here should be listed in the Acknowledgments section of an article.

### **Conflict of Interest**

*JNEB* is committed to preserving objectivity by identifying and acknowledging potential conflicts of interest, both real and perceived, among all persons involved in the publication process, including authors. This ethics policy is in keeping with current standards in the scientific literature, supported by the International Committee of Medical Journal Editors, and recommended in the *American Medical Association Manual of Style*, 11th edition. Examples of financial interests include employment, consultancies, stock ownership, honoraria, expert testimony, royalties, patents, grants, and material or financial support from industry, government, or private agencies. Nonfinancial interests include personal or professional relationships, knowledge, or beliefs that might reduce one's objectivity.

When submitting a manuscript, please disclose all potential conflicts in the space provided for that purpose. When citing the sources of funding for your research, please include the date and source. All information regarding conflict of interest will be available online as part of the published manuscript.

### **Copyright**

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see more information on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete a 'License Agreement' (more information). Permitted third party reuse of gold open access articles is determined by the author's choice of user license.

### **Author rights**

As an author you (or your employer or institution) have certain rights to reuse **Author rights**

As an author you (or your employer or institution) have certain rights to reuse your work. More information.

### **Ethics in publishing**

Please see our information on Ethics in publishing.

### **Funding Source and Funding Body Policies**

Elsevier has established agreements with funding bodies and developed policies to allow authors to comply with funding body OA/manuscript archiving requirements as specified as conditions of their grant awards, including specific user licenses, such as a Creative

Commons Attribution (CC BY) license. To learn more about existing agreements and policies, please visit <https://www.elsevier.com/fundingbodies>. Some authors may be reimbursed for associated publication fees. If you need to comply with your funding body policy, you can apply for the CC BY license after your manuscript is accepted for publication.

## **JNEB Preprint Policy and Procedures**

Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.

Preprints are manuscripts that are shared by authors for the purposes of inviting comment from the research community and for the purposes of establishing that innovations have been made by the researchers. Authors may post their work on preprint servers and websites; however, these papers have not been through the peer-review process.

JNEB will consider manuscripts that have been posted as preprints on servers or other websites as long as these sites do not require authors to transfer copyright or sign a closed license. Authors should read and understand the conditions of the site where the preprint is posted before agreeing to post the preprint.

Upon submission of a manuscript to JNEB, authors will be asked whether the manuscript has been uploaded to a preprint server or website and whether copyright or licensure has been assigned. It is the author's responsibility to determine and report this information. In the submission process for JNEB, if the authors state that copyright has not been assigned, the manuscript may be considered for review. Authors are responsible for providing a direct link to the preprint site upon submission.

If the preprint has been copyrighted by another entity, the manuscript will not be accepted for peer review at JNEB, with exceptions made for dissertations and theses that have been posted and copyrighted. Each manuscript undergoes processing by CrossCheck (iThenticate) to verify the originality of the manuscript. In this process, preprints are often detected. If JNEB editors determine that a preprint exists and there is significant overlap between the manuscript submitted and a copyrighted or licensed preprint, we will decline further interest in the manuscript.

After submission of a manuscript to JNEB, no additional versions of the manuscript may be posted as a preprint.

Once a final version of a preprint paper is peer-reviewed and published by JNEB and becomes part of the scientific evidence as the version of record, authors are required to link the preprint to the published paper.

## Citations

Preprints have not been through the formal peer-review and editorial processes and thus are not citable publications.

### *Notes on Submissions Considered*

In general, manuscripts with data that are older than 10 years are not received favorably unless a case is made that these historical data present some novel perspective for current researchers.

JNEB accepts systematic reviews, but not scoping reviews.

### **Open Access**

Please visit our Open Access page for more information.

### **ORCID Instructions**

The use of ORCID - Open Researcher and Contributor ID is important for *JNEB* authors and reviewers. By registering with ORCID, users receive a unique digital identifier, also called ORCID, to which they can link their published articles and other professional activities. Authors then have a single record of all their research. This can reduce or eliminate confusion when the same person's name appears in different ways in various publications, when people have the same or similar names, or when people change their name.

Upon submission, the corresponding author must enter their ORCID; for co-authors, this is optional. Please enter the numerals only and not the link.

*JNEB* encourages all authors and reviewers to register with ORCID to facilitate consolidation of their publication records. If you have authored or reviewed for *JNEB* previously, go to <https://www.editorialmanager.com/JNEB>. Log in. Click on Update My Information. Click on find ORCID under Personal Information.

### *Plagiarism*

Please refer to the Plagiarism Factsheet for information on plagiarism.

### **Declaration of generative AI in scientific writing**

The below guidance only refers to the writing process, and not to the use of AI tools to analyse and draw insights from data as part of the research process.

Where authors use generative artificial intelligence (AI) and AI-assisted technologies in the writing process, authors should only use these technologies to improve readability and language. Applying the technology should be done with human oversight and control, and authors should carefully review and edit the result, as AI can generate authoritative-sounding output that can be incorrect, incomplete or biased. AI and AI-assisted technologies should not be listed as an author or co-author, or be cited as an author. Authorship implies responsibilities and tasks that can only be attributed to and performed by humans, as outlined in Elsevier's AI policy for authors.

Authors should disclose in their manuscript the use of AI and AI-assisted technologies in the writing process by following the instructions below. A statement will appear in the published work. Please note that authors are ultimately responsible and accountable for the contents of the work.

### **Disclosure instructions**

Authors must disclose the use of generative AI and AI-assisted technologies in the writing process by adding a statement at the end of their manuscript in the core manuscript file, before the References list. The statement should be placed in a new section entitled 'Declaration of Generative AI and AI-assisted technologies in the writing process'.

*Statement: During the preparation of this work the author(s) used [NAME TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.*

This declaration does not apply to the use of basic tools for checking grammar, spelling, references etc. If there is nothing to disclose, there is no need to add a statement.

By submitting a manuscript, authors certify that if the paper is accepted for publication in *JNEB*, the copyright will be transferred to the Society for Nutrition Education and Behavior. Copyright exceptions are made as required for manuscripts submitted by employees of the US government.

### **Reporting sex- and gender-based analyses**

#### **Reporting guidance**

For research involving or pertaining to humans, animals or eukaryotic cells, investigators should integrate sex and gender-based analyses (SGBA) into their research design according to funder/sponsor requirements and best practices within a field. Authors should address the sex and/or gender dimensions of their research in their article. In cases where they cannot, they should discuss this as a limitation to their research's generalizability. Importantly, authors should explicitly state what definitions of sex and/or gender they are applying to enhance the precision, rigor and reproducibility of their research and to avoid ambiguity or conflation of terms and the constructs to which they refer (see Definitions section below). Authors can refer to the Sex and Gender Equity in Research (SAGER) guidelines and the SAGER guidelines checklist. These offer systematic approaches to the use and editorial review of sex and gender information in study design, data analysis, outcome reporting and research interpretation - however, please note there is no single, universally agreed- upon set of guidelines for defining sex and gender.

#### **Definitions**

Sex generally refers to a set of biological attributes that are associated with physical and physiological features (e.g., chromosomal genotype, hormonal levels, internal and external anatomy). A binary sex categorization (male/female) is usually designated at birth ("sex assigned at birth"), most often based solely on the visible external anatomy of a newborn. Gender generally refers to socially constructed roles, behaviors, and identities of women, men and gender-diverse people that occur in a historical and cultural context and may vary

across societies and over time. Gender influences how people view themselves and each other, how they behave and interact and how power is distributed in society. Sex and gender are often incorrectly portrayed as binary (female/male or woman/man) and unchanging whereas these constructs actually exist along a spectrum and include additional sex categorizations and gender identities such as people who are intersex/have differences of sex development (DSD) or identify as non-binary. Moreover, the terms "sex" and "gender" can be ambiguous—thus it is important for authors to define the manner in which they are used. In addition to this definition guidance and the SAGER guidelines, the resources on this page offer further insight around sex and gender in research studies.

### *Elsevier supports responsible sharing*

Find out how you can share your research published in Elsevier journals.

## **Manuscript Preparation**

### *General manuscript preparation*

The primary responsibility for preparing the manuscript in a form suitable for publication lies with the authors. Manuscripts (including the main text, references, and figure legends) should be saved without a title page as a single file and should be prepared in a 12-point typeface, double-spaced, and in a single column with 1-inch margins throughout. Keep the layout of the text as simple as possible. Most formatting codes will be removed upon initial processing of the article. Do not use the software's options to justify text or to hyphenate words. Use the software's bold, italic, subscript, and superscript functions. Use the software's table function to create tables, using rows and columns, not tabs and spaces, to align data.

Beginning with the Introduction, each manuscript page is numbered in the upper right-hand corner and each line of text is numbered consecutively. First-level headings are centered on the page, typed in uppercase, bolded letters, and followed by two blank lines. Second-level headings begin flush with the left margin, have each word capitalized and bolded, and are followed by one blank line. Third-level headings begin flush with the left margin, are written sentence style with a period at the end, and are bolded. Text follows immediately on the same line. (Third-level headings are only used in *Research Articles*.)

Page limits are noted below. Page limits exclude the abstract **but include all other text, acknowledgments, tables, figures, and references**. Manuscripts must not exceed page limits without editors' permission.

- *Research Article*: 30 double-spaced pages
- *Research Brief*: 21 double-spaced pages
- *Research Methods*: 25 double-spaced pages
- *Report*: 25 double-spaced pages
- *Systematic Review*: 33 double-spaced pages
- *Perspective*: 21 double-spaced pages
- *GEMs*: 12 double-spaced pages

- *Letter to the Editor*: 2 double-spaced pages

Slightly longer articles (up to approximately 5 additional pages) may be considered in the case of qualitative research owing to the nature of findings (words versus numbers), which require more space to report. Deviation from page guidelines may result in a request to shorten a manuscript before it is sent to reviewers or in a decision to decline further consideration of a manuscript.

**Please note:**

Scientific manuscripts (RA, RB) should have internal and external validity and move the field of nutrition education and behavior forward. The study objectives and result should hold significance for a larger audience than the one in the study. Threats to internal validity should be carefully explained in the limitations, such as selection bias and uncontrolled confounding variables. Threats to external validity include all situational specifics which may be conditions of the study or attributes of when and where the study is conducted. These also should be explained in the limitations. The extent to which these threats overwhelm the study results' internal and external validity will be evaluated by the editor when considering decisions about the manuscript. Those with higher internal and external validity are more likely to be moved by the editor to external review and evaluation for publication.

**Institutional Review Board.** It also specifies that the project was reviewed and approved by an Institutional Review Board (IRB) or similar human studies review board, with a full, expedited, or limited review and that written, oral, or implied consent and/or assent was obtained. For all projects with IRB approval other than exempt, authors should include how consent was obtained. Alternately, if no IRB approval was necessary for this research, please add a statement explaining why. In this statement, include which institution reviewed the study and decided that it was exempt from IRB review (institution should be blinded for review). If it was not reviewed by your university or institution, please provide the documentation that pertains to this type of study, deeming it unnecessary to be reviewed. An example of this may be:

"Review by the IRB was not required for this study because human subjects were not involved, as per US Department of Health and Human Services guidelines (<http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html#c1>)."

The DHHS regulations may also allow projects to be exempt if they have agency or unit head approval and the data are unidentifiable. In these cases, the Methods section should state: The heads of xx agency/organization do not require IRB approval and this work is exempt through DHHS 46.101 (b) relating to **unidentifiable survey or interview** data (reference: DHHS, Code of Federal Regulations TITLE 45, 2009, available at <https://www.hhs.gov/ohrp/regulations-and-policy/regulations/45-cfr-46/#46.101>). The bolded section may also be an abbreviated version of: (5) Research and demonstration projects that are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) Public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

**International Research:** Research conducted by US university investigators in foreign

countries remains under the researchers' university purview and guidelines. Research conducted by non-US investigators is under the purview of that country's human studies guidelines, or international guidelines to which the particular country might adhere.

### *Author Guidelines for Manuscript Titles*

**Short:** Try to keep to 12 words or less

- Instead of "A School-based Intervention for 5 to 7 Year Olds to Improve General Nutrition Knowledge, Self-Efficacy for Choosing Healthy Snacks, Fruit and Vegetable Intake, and Minutes Spent in Active Play in 2 Counties in Texas with Head Start"
- Suggest "Head Start Program Focusing on Diet and Active Play"
- Instead of "Development and Internal and Test-Retest Reliability, Content Validity and Construct Validity of a Questionnaire to Determine General Nutrition Knowledge, Self-efficacy for Choosing Healthy Snacks, Fruit and Vegetable Intake, and Minutes Spent in Active Play for 14 to 16 year old Boys in Michigan"
- Suggest "Diet and Active Play Questionnaire Development for Teens"

**Active voice:**

- Instead of "Total Fiber Improved with Whole Grain Program"
- Suggest "Whole Grain Program Improves Total Fiber Intake"

**Professional, not trite:**

- Instead of "LB/FB Increases Shares for EFNEP Programs"
- Suggest "Social Media Strategies in EFNEP"
- Instead of "Snacking and Yacking: Social Interaction to Promote Healthy Choices"
- Suggest "Conversation Improves Healthy Snack Choices"

**Statement, not question"**

- Instead of "Will a Three Week Afterschool Program Improve Low Fat Food Choices?"
- Suggest "Impact of an Afterschool Low Fat Food Program"

### **Research Articles**

*Research Articles* are concise reports of original research on any aspect of nutrition education and/or behavior. Papers based on the results of preliminary research are not acceptable.

In *Research Articles*, a structured abstract of 200 words or less organizes information with descriptive headings that begin flush with the left margin. Incomplete sentences are acceptable in a structured abstract for the sake of brevity. To facilitate selective electronic searches, structured abstracts include the following subheadings (verbatim), bolded and presented in the order shown here:

- **Objective:** Specifies the primary purpose or objective(s) of the study and/or hypotheses tested.
- **Design:** Describes the basic research design, methods used to collect data, timing and sequence of intervention, and data collection.
- **Setting:** Describes the study setting. This subheading may not be appropriate for secondary data analyses and can be omitted.



- **Participants:** States the number of participants or subjects/objects of observation by group and subgroup, describes how they were selected, specifies the response rate for participants, summarizes key demographic characteristics for each study group and subgroup, and describes the extent to which they represent the population from which they were drawn (may not be appropriate for secondary data analyses). More or less information relating to participants may be included, depending on word count limits and the need for more space in the "Results" section.
- **Intervention(s):** Describes the essential features of the intervention(s), including setting, methods, and duration. If no intervention was conducted, omit this subheading from the abstract.
- **Main Outcome Measure(s):** Specifies dependent and independent variables and describes how each variable was measured. In the case of descriptive research, replace this subheading with "Variables Measured." In the case of qualitative research, replace this subheading with "Phenomenon of Interest."
- **Analysis:** Summarizes how data were analyzed quantitatively and/or qualitatively and specifies the level used to determine statistical significance of quantitative results.
- **Results:** Summarizes primary results reported in the manuscript, including the number of participants (if it differs from what was described in the "Participants" section), direction of change, and variance and level of statistical significance for each quantitative result, as well as confidence intervals or effect sizes wherever appropriate. Qualitative themes should be reported.
- **Conclusions and Implications:** Specifies study conclusions directly supported by results reported in the abstract and specifies implications for research and practice or policy, when appropriate.

*Research Articles* include the following major sections:

- **Introduction:** Concisely describes the issue addressed in the manuscript, explains its importance in relation to existing literature, describes the theoretical or conceptual foundation on which the study is based, states the objectives of the article, and specifies the hypotheses tested.
  - **Methods:** Describes the research design, sampling methods, recruitment strategies, measurement instruments, methods used to test instruments for validity and reliability, data collection procedures, and statistical analyses in enough detail for replication. The Methods section specifies the level used to determine statistical significance for each test. Confidence intervals and standard errors of the mean, effect sizes, or other statistical results that may be used for post hoc analyses comparing program results are encouraged. For general statistical guidelines, go to Guidelines for Statistical Methods for *JNEB*. However, if authors are using *t* tests and more than 2 *t* tests are being conducted with a data set, in addition to testing for normality, they should also use a Bonferroni adjustment or other adjustment that is supported with reference. For example, if authors used *t* tests to measure pre-post differences after an intervention for calcium knowledge, calcium-related behavior, sodium knowledge, self-efficacy to lower sodium, and fruit and vegetable intake, then they have used 5 *t* tests and should use the Bonferroni adjustment or other adjustment, which is available in both SPSS and SAS software packages. This adjustment will decrease the probability that authors find a significant effect by chance. There are exceptions to this, but authors must justify such an exception within their methods.
- The Methods section provides rationale for analyzing data by race or ethnicity (if applicable). **Results:** Outlines results clearly and systematically, mentioning or

highlighting—but not duplicating—information displayed in tables, and specifies the direction and magnitude of each statistically significant difference reported. Carefully designed tables and figures are encouraged to showcase results.

- **Discussion:** Provides an in-depth interpretation of results reported, compares and discusses results in relation to those from similar studies reported in the literature and in relation to theory, outlines limitations of the study, describes how study limitations influence interpretation of results, and offers alternative explanations for the findings. The Discussion section should not represent a summary of results.
- **Implications for Research and Practice:** Specifies how researchers and practitioners, and policy makers when appropriate, could apply results to future work.

*Research Articles* may include second-level sections to clarify or enhance readability within major sections. At times, *Research Articles* may require second-level sections that are specific to the research being reported. The following second-level sections are generally recommended, if necessary, for these major sections:

- **Methods:** Study Design, Participants and Recruitment (includes descriptions of sampling methodology and ethical approval/human subjects consent), Instruments, Measures, Procedures, and/or Data Analysis
- **Discussion:** Limitations

## Research Briefs

*Research Briefs* are articles that satisfy all criteria for a *Research Article* but report results from a small or non-representative sample or report on a topic that is considered low priority but would be of interest to some readers of *JNEB*. Secondary or ancillary results from a larger study or cross-sectional studies could be a *Research Article* or *Research Brief*, depending on the research question and complexity of data analysis.

Structured abstracts for *Research Briefs* of 150 words or less include the following subheadings (verbatim), bolded and presented in the order shown here:

- **Objective:** Specifies the primary purpose or objective(s) of the study and/or hypotheses tested.
- **Methods:** Describes the basic research design, methods used to collect data, timing and sequence of intervention, and data collection.
- **Results:** Summarizes primary results reported in the manuscript, including the number of participants, direction of change, and variance and level of statistical significance for each quantitative result, as well as confidence intervals or effect sizes wherever appropriate.
- **Conclusions and Implications:** Specifies study conclusions directly supported by results reported in the abstract and specifies implications for research and practice or policy making when appropriate.

*Research Briefs* include the same major sections as *Research Articles*. Use of second-level sections is allowed, but overuse is discouraged. Third-level sections are not permitted in *Research Briefs*.

## Research Methods

*Research Methods* are manuscripts that describe the 1) objectives and methodologies for interventions whose aims are to change nutrition and/or physical activity behavior and/or related physiological outcomes, such as BMI or blood glucose; 2) development and

validation of questionnaires.

Intervention Research Methods are expected to have protocols that have already undergone review external to the author's institution (federal or national agencies) prior to funding. Although Results are not included in *Research Methods* papers, a Discussion should include a brief summary of potential limitations and expected benefits or outcomes.

A structured abstract of 200 words or less organizes information as below:

Intervention Research Methods

**Objective:** Specifies the primary purpose or objective(s) of the study and/or hypotheses tested.

**Design:** Describes the basic research design, methods used to collect data, timing and sequence of intervention, and data collection.

**Setting:** Describes the study setting.

**Participants:** States the number of participants or subjects/objects of observation by group and subgroup, rationale for number of participants, and describes how they will be selected.

**Intervention(s):** Describes the essential features of the intervention(s), including setting, methods, and duration.

**Main Outcome Measure(s):** Specifies dependent and independent variables and describes how each variable will be measured.

**Analysis:** Summarizes how data will be analyzed quantitatively and/or qualitatively and specifies the level used to determine statistical significance of quantitative results.

Questionnaire Development Research Methods manuscripts are expected to include formative testing, such as cognitive interviews or pilot-testing; reliability analyses; and content analysis either by expert panel or statistical testing. Higher level statistical evaluation is preferred. Description of the choice of target population, recruitment, and rationale for sample size are to be included.

A structured abstract of 200 words or less organizes information as below:

Questionnaire Development Research Methods

**Objective:** Specifies the primary purpose or objective(s) of the study and/or hypotheses tested.

**Design:** Describes the methods used to design the instrument, including underlying theory and data collection.

**Setting:** Describes the study setting and recruitment.

**Participants:** States the number of participants or subjects/objects of observation by group and subgroup and why this target sample and number of participants was chosen.

**Variables Measured:** Specifies variables and describes how each variable was measured, including item development.

**Analysis:** Summarizes how data were analyzed and specifies the level used to determine statistical significance.

**Results:** Summarizes the main findings.

**Conclusions and Implications:** Specifies study conclusions directly supported by results reported in the abstract and specifies implications for research and practice or policy, when

appropriate.

Both types of *Research Methods* narratives should follow the major sections of the abstracts.

## Reports

*Reports* are (1) articles that discuss policy issues relevant to nutrition education and behavior, or (2) articles that review emerging topics as they relate to nutrition education and behavior. *Reports* reflect newly proposed models or processes with relevance to policy or research methodology. *Reports* are not reviews of the literature without critical evaluation and interpretation. To decide whether your manuscript is a *Report*, *Research Brief*, or *Research Article*, consider the topic itself and whether it reflects the prior definitions. It may be helpful to read some *Reports* as you decide.

Examples of *Reports* include:

- Vending Machines in Australian Hospitals: Are They Meeting the Needs of the Consumer? Jennifer Utter, PhD, RD; Sally McCray, BSc, GradDip, Nut and Diet, APD. (*J Nutr Educ Behav.* 2021;53:183-186). This *Report* describes how well vending machines are meeting the needs of health care organizations and their staff and visitors in Australia and can serve as a framework for other evaluations.
- Implementation of a Healthy Food and Beverage Policy at a Public University. Rickrode-Fernandez et al. (*J Nutr Educ Behav.* 2021;53:891-899).
- Development of a Dissemination and Implementation Framework for an Early Childhood Obesity Prevention Program. Bergling et al. (*J Nutr Educ Behav.* 2020;52:1160-1165).
- Kindergarten to 12th Grade School-Based Nutrition Interventions: Putting Past Recommendations Into Practice. Roseman et al. (*J Nutr Educ Behav.* 2020;52:808- 820).

*Reports* have an unstructured abstract (100-word limit) written in paragraph form. The unstructured abstract should provide a brief overview of all key aspects of the manuscript. Topics covered in a conventional abstract depend on whether the manuscript describes a program and its evaluation, a new research method, or a review of literature or policy issues. All abstracts begin with a clearly defined purpose or objective and end with conclusions and implications for research, practice, and policy making.

*Reports* include the following major sections: Introduction, Discussion, and Implications for Research and Practice. They should not include sections for Methods or Results. Instead, they should employ alternately titled headings that distinguish them from *Research Articles* and *Research Briefs*. Examples include Description of the Intervention, Description of the Evaluation, and Lessons Learned. *Reports* that develop new concepts or review topics may include additional major sections as needed. Second-level sections are allowed, but overuse is discouraged. Third-level sections are not permitted in *Reports*.

## Systematic Reviews

Unsolicited *Systematic Reviews* are accepted for consideration for peer review, provided they represent a topic area of interest to *JNEB* readers, follow accepted methodology, and no similar reviews have been published on the topic in the last 5 years.

A *Systematic Review* attempts to identify, appraise, and synthesize all the empirical

evidence that meets pre-specified eligibility criteria to answer a given research question. Researchers conducting systematic reviews use explicit methods aimed at minimizing bias in order to produce more reliable findings that can be used to inform decision making (Cochrane Collaboration).

Several guidelines are available for conducting systematic reviews, including those of the Institute of Medicine,<sup>1</sup> Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA),<sup>2</sup> Methodological Expectations of Cochrane Intervention Reviews (MECIR),<sup>3</sup> Agency for Healthcare Research and Quality,<sup>4</sup> and United States Department of Agriculture.<sup>5</sup> The guideline that you choose to follow should be mentioned in the Methods section and referenced. More information can also be found in the SR reviewer guidelines.

**Title:** Should be clear, concise yet descriptive and accurate.

A *Systematic Review* should have a structured abstract as for *Research Articles*, have 200 words or less, and contain the following sections in the abstract and main body of the paper: Introduction, Methods, Results, Discussion, Implications for Research and Practice.

The body of the manuscript should contain the following sections:

- **Introduction:** Presents the topic and background and states why a systematic review is needed. The clearly stated objective should be linked to the specified research question. Of note, there should be information on whether other SR on this topic have been published in the preceding 5 years and, if so, what this new SR will add to these previous efforts.
- **Methods:** Should state how the research questions were developed, the kinds of interventions included, the participants targeted in these studies and the outcomes of focus. This may include the PICO process (patient problem or population [P], intervention [I], comparison [C], and outcomes [O]) or another citable research question development process. Briefly describes the members of the research team, their areas of expertise (content, systematic review methods, meta-analysis), and their roles in the systematic review. Detailed information should be provided on inclusion/exclusion criteria, search strategies and syntax, databases, and other search engines or manual methods for identifying articles, data abstraction, article quality evaluation schema (e.g., the Nutrition Evidence Library quality checklist<sup>6</sup> or GRADE guidelines<sup>7</sup>), type of comparative analysis across articles, summary, and synthesis strategies, a description of who made these decisions, how they were made, and the rationale for the final decision. This section should also include a diagram that contains the number of all articles found by the initial search, how many were excluded, and why. The Methods should also examine areas where potential bias may have formed and how that was managed in the SR process. Refer to the JNEB SR Reviewer guidelines.
- **Results:** Outlines results clearly and systematically, mentioning or highlighting—but not duplicating—information displayed in tables, and specifies the quality evaluation of articles selected and the synthesis or summary of each outcome. Carefully designed tables and figures are encouraged to showcase results which include sample sizes, study design, intervention characteristics, evaluation tools/method, outcomes, results for each outcome reported (main findings, effect sizes, missingness analyses), assessment of bias and quality rating.

- **Discussion:** Compares the results of findings for each outcome specified in the Methods to any previous reviews on this topic. If other reviews are not available, the Discussion should compare key findings to those already reported in the literature. The Discussion should identify which findings are notable additions to the existing literature. The Discussion should include any limitations of the systematic review, such as publication bias or limitations of the studies themselves (e.g., samples of studies included). Further, limitations in the SR process should be presented with how these might affect the findings of the SR.
- **Implications for Research and Practice:** Concisely states how these findings or major conclusions could be applied to best practices, if they can, and what additional research would strengthen the conclusions or extend the results to larger audiences. Consideration of the magnitude of the effect and the quality of the articles included are considered with regard to conclusions of the SR. Any policy implications can also be included in this section.

Note: Systematic reviews that conclude there is not enough quality research to draw any results are not generally accepted as *Systematic Reviews*. Occasionally these manuscripts may be rewritten as *Perspectives*.

#### References:

1. Institute of Medicine of the National Academies. Finding What Works in Health Care. Standards for Systematic Reviews. March, 2011. <http://www.iom.edu/Reports/2011/Finding-What-Works-in-Health-Care-Standards-for-Systematic-Reviews/Standards.aspx>. Accessed October 31, 2013.
2. Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med*. 2009;6: e1000097. <https://doi.org/10.1371/journal.pmed1000097>.
3. Chandler J, Churchill R, Higgins J, Lasserson T, Tovey D. Methodological standards for the conduct of new Cochrane intervention reviews (MECIR). <http://www.editorial-unit.cochrane.org/mecir>. Accessed October 31, 2013.
4. Agency for Healthcare Research and Quality. Methods Guide for Effectiveness and Comparative Effectiveness Reviews. Rockville, MD: Agency for Healthcare Research and Quality. <http://www.effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productid=318>. Accessed October 31, 2013.
5. United States Department of Agriculture. Nutrition Education Systematic Review Project: Methodology. <http://www.nel.gov/topic.cfm?cat=3319>. Accessed October 31, 2013.
6. United States Department of Agriculture. Nutrition Evidence Library. Research design and implementation checklists. <http://www.nel.gov/topic.cfm?cat=3232>. Accessed October 31, 2013.
7. Balshem H, Helfand M, Schunemann et al. GRADE guidelines: 3. Rating the quality of evidence. *J Clin Epidemiol*. 2011;64:401-406.

#### Perspectives

*Perspectives* are articles communicating opinions on current issues and controversies in the field. Opinions expressed in *Perspectives* are supported by references. Opposing perspectives are acknowledged. For controversial issues, the Editor-in-Chief may invite articles from others holding alternative opinions for simultaneous or sequential publication.

*Perspectives* have an unstructured abstract written in paragraph form of 100 words or less. The unstructured abstract provides a brief overview of all key aspects of the manuscript. Topics covered in a conventional abstract depend on whether the manuscript describes a program and its evaluation, a new research method, or a review of literature or policy issues. All abstracts begin with a clearly defined purpose or objective and end with conclusions and implications for research, practice, and policy making.

*Perspectives* include the following major sections: Introduction, Discussion, and Implications for Research and Practice. They should not include sections for Methods or Results. Instead, they should employ alternately titled headings that distinguish them from *Research Articles* and *Research Briefs*. Examples include those headings that would present the viewpoint, premise, or argument beyond an introduction—that is, these headings reflect the concept, program, model, or topic about which the authors have a perspective.

The manuscript reviewers are instructed to evaluate the breadth and depth that the authors address the topic, and the appropriateness of the Implications for Research and Practice section, as well as the preceding guidelines.

## **GEMs**

*Great Educational Materials (GEMs)* are brief descriptions of innovative and useful approaches to nutrition education and behavior. Innovative approaches are novel, creative, and thoughtful, generally not having been published before. *GEMs* describe educational material, including brochures, curricula, videos, websites, apps, materials, or something tangible that teaches to change behavior. *GEMs* may also be an educational process (teaching style or venue). The material or process should be described in enough detail to be replicated, or available (links or sources to be included in NOTES).

A *GEM* describes settings, events, participant recruitment, or key players and behavior change theory. A *GEM* includes some evaluation and should describe the evaluation materials and process as well as outcomes. This evaluation must be more than liking the educational material or process. The evaluation should have a statistical significance but statistics may be less rigorous than for RA or RB. Photographs or other visual materials may be included to enhance the description.

*GEMs* do not require abstracts. However, please provide 2 to 3 sentences summarizing the educational program or tool being evaluated and the results of the evaluation (50-word limit). This summary will be sent to reviewers and will not be part of the *GEM's* publication. *GEMs* include an Introduction, which describes why the program or activity is worth reading about. The body or content of a *GEM* states the target audience and notes the adaptability of the program to different audiences. It also states the purpose/objective of the program/activity, describes how one would implement the program/activity, and explains how the program/activity has been evaluated and with what results. If applicable, it also describes plans for future refinement/use and the application or use of theory and/or models to program design and/or evaluation.

*GEMs* are required to have review by institutional review board (IRB) when data from humans is collected. If no IRB approval was necessary for this research, please add a statement explaining why. In this statement, include which institution reviewed the study and decided that it was exempt from IRB review (institution should be blinded for review).

If it was not reviewed by your university or institution, please provide the documentation that pertains to this type of study, deeming it unnecessary to be reviewed. An example of this may be:

"Review by the institutional review board was not required for this study because human subjects were not involved, as per US Department of Health and Human Services guidelines (<http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html#c1>)."

Examples of Best *GEMs* include:

Savoie-Roskos MR, Coombs C, Neid-Avila J, Chipman J, Nelson S, Rowley L, LeBlanc H. Create Better Health: a practical approach to improving cooking skills and food security. *J Nutr Educ Behav*. 2019;51:116-120. <https://doi.org/10.1016/j.jneb.2018.10.006>.

Wylie A, Pierson S, Goto K, Giampaoli J. Evaluation of a mindful eating intervention curriculum among elementary school children and their parents. *J Nutr Educ Behav*. 2018;50:206-208.e1. <https://doi.org/10.1016/j.jneb.2017.09.017>.

## Letters to the Editor

*Letters to the Editor* are timely and succinct expressions of responsible criticism or reaction to material published in recent issues. A *Letter to the Editor* may also call attention to topics of general interest to readers. Submission of a *Letter to the Editor* constitutes permission for *JNEB* to publish it with or without editing and abridgment. Authors of *Letters to the Editor* must acknowledge financial and other conflicts of interest within the letter. Authors of the articles referred to in *Letters to the Editor* will be given an opportunity to respond in a letter for simultaneous publication.

## JNEB Style and Form

### *General style and form and writing style*

*JNEB* adheres to the style recommendations outlined in the *American Medical Association Manual of Style*, 11th edition (<http://www.amamanualofstyle.com/>).

Manuscripts should be written in good scientific English. Authors who feel their manuscript may not conform to correct scientific English may wish to use the English Language Editing service available from Elsevier (<https://webshop.elsevier.com/language-editing-services/language-editing/>) or use another science editing service.

Please note the following additional style requirements and format manuscripts accordingly before submission:

- Abbreviations, acronyms, and initialisms should be spelled out on first use, with the shortened versions immediately following in parentheses. Example: Supplemental Nutrition Assistance Program (SNAP). Manuscripts should be limited to a total of five acronyms, abbreviations, and initialisms to limit reader confusion. Beyond this, all terms must be spelled out. A list of approved terms that may be used in their abbreviated forms on first use is available here.
- Behavior theories or models mentioned frequently in a manuscript should be abbreviated whenever possible. Example: Social Cognitive Theory (SCT).
- "N" and "n" should be used as follows: "N" indicates a whole population or an epidemiological study; "n" indicates a sample or subpopulation.



- Sentences in unstructured abstracts or in the body of a manuscript may not begin with a numeral. Example: “Four hundred thirty-five parents were surveyed [...]” not “435 parents were surveyed [...]” Sentences in structured abstracts may begin with a numeral (as structured abstracts often contain sentence fragments).
- Decimals should be used only to 1 degree more than the unit of measurement. For

whole numbers, decimals need to be rounded to tenths; if precision of measurement is in the tenths, you may use hundredths (eg, with weight measured to the tenth of a pound, means may be expressed as hundredths). Please be sure of your precision: while most software will express results greater than the precision, it is not appropriate to use these figures in tables (eg, 34.1 mg niacin).

The exception to this is percentages concerning people. For fewer than 100 people, please round to the nearest whole percentage, eg, 95% of participants (n = 80), rather than 95.3% of participants (n = 80).

The past tense of verbs is used to discuss methods and results, as well as existing literature, with the exception of *Research Methods*, where the future tense should be used. Present tense is only used to refer to general truths and to state conclusions. Active voice is preferred. The use of first-person pronouns is recommended. For instance, "we conducted?" rather than "The researchers conducted?". Jargon and sexist language should be avoided.

## **Gender, Race, Ethnicity**

### *General Guidelines*

JNEB supports gender neutrality by using plural nouns (clinicians, educators, participants) as default wherever possible and avoids using "he, she," or "he/she" but rather "they." According to the AMA, "sex refers to the biological characteristics of males and females. *Gender* includes more than sex and serves as a cultural indicator of a person's personal and social identity." Recognition of the diversity within gender self-identity is important for researchers and practitioners in nutrition education and behavior.

### *Collecting Data*

Methodology for collecting data related to gender and sex should be transparent within the Methods section, including but not limited to data that is: self-reported in an open-ended response option, or a choice format that allows for multiple selections, a single selection, or no response. Observational methods (looking at someone) for assigning race, ethnicity, or gender are not acceptable.

"Specifying persons' race or ethnicity can provide information about the generalizability of the results of a specific study. However, because many people in ethnically diverse countries such as the United States, Canada, and some European, South American, and Asian nations have mixed heritage, a racial or ethnic distinction should not be considered absolute, and it is often based on a person's self-designation" (*American Medical Association Manual of Style*). It is suggested that authors consider including the category options provided to participants to self-classify (example):

*"Race or ethnicity was self-reported by the parents of the children from a list including*

*non-Hispanic White, non-Hispanic Black, Hispanic, Asian, Native Hawaiian or other Pacific Islander, American Indian or Native Alaskan, or multiracial (specify), or other (specify)."*

The researcher should defer to the community's preference in situations where multiple descriptors could be used, such as Latino/a/x rather than Hispanic; African American rather than Black, or by tribal or native names.

Training of research staff in the collection of race, ethnicity, and/or gender should optimally be specified within the manuscript and include acknowledgment of their positionality and engagement in reflexivity processes.

### *Study Design and Analyses*

A rationale for data analyses for sex or gender should be clear in the study design and objectives. The precision of the definition of the descriptor is most important when the research question or hypothesis is anchored in the race, ethnicity, or gender similarity or difference. The research should be powered on these groups in these cases. A rationale for assuming a group as the reference in analyses should be provided.

The definition of the descriptor may be less precise if the demographics are only descriptive of the participants. If sex and gender data are collected only for the description of the sample and are not part of the design, this should also be clear in the methods and results. Analyses of race, ethnicity, or gender similarities or differences that are not primary outcomes but exploratory in nature only should be interpreted within the constraints of the study design and with consideration for the potential limitations of statistical power for subgroup analyses. However, these studies could provide formative data to inform future studies of racial, ethnic, and gender differences.

### *Use of Inclusive Language and Person-First Language*

JNEB supports using inclusive language; that is language that does not offend and is sensitive to diversity, conveys respect to all people, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader and contain nothing that might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability, education, income, or health condition. Authors should ensure that writing is free from bias, stereotypes, slang, a reference to a dominant culture, and/or cultural assumptions.

Person-first language refers to writing in which the person is first rather than identity- first (participants with diabetes rather than diabetic; a person with obesity rather than obese people). This is usually preferred for any health condition although some groups may prefer identity-first language (autistic children). JNEB asks authors to use person-first language unless they offer a rationale for using identity-first (the target group prefers identity-first). JNEB also prefers person-first for descriptors of income (participants from low-income environments) and education (participants with college degrees).

Concerning age, the point is to not offend and also to communicate age-defined groups accurately. So, whereas preschoolers may not be offensive, "the elderly" may be. When possible, use age as the descriptor instead of the label (children aged 4 to 5 years; adults aged 55 to 65 years).

## References

Christiansen S, Iverson C, Flanagin A, et al. *AMA Manual of Style: A Guide for Authors and Editors*. 11th ed. Oxford University Press; 2020.

Diaz Rios LK, Stage VC, Leak TM, Taylor CA, Reicks M. Collecting, Using, and Reporting Race and Ethnicity Information: Implications for Research in Nutrition Education, Practice, and Policy to Promote Health Equity. *J Nutr Educ Behav*. 2022;54:582-593. <https://doi.org/10.1016/j.jneb.2022.01.006>.

## Statistical Methods

For general statistical guidelines, please read Guidelines for Statistical Methods for *JNEB*.

When presenting *P* values in text, tables, or figures, *P* values greater than 0.01 should be reported to 2 decimal places (eg,  $P = 0.03$ ,  $P = 0.02$ ,  $P = 0.07$ ) and those between 0.01 and 0.001 to 3 decimal places (eg,  $P = 0.002$ ,  $P = 0.007$ ).

*P* values less than 0.001 should be reported as  $P < 0.001$ .

While a significance level can be set at a value (eg,  $P < 0.05$ ), the significance of data should not be stated as  $P < 0.05$ , but rather the exact *P* value. All *P* values (whether significant or not) should be listed in narrative, tables, and figures. For example, authors may have significance set at  $P < 0.05$  in their methodology; when expressing the data for vegetable intake between two samples, for example, write "group A mean intake was  $2.0 \pm 0.3$  vs group B mean intake of  $0.5 \pm 0.7$ ,  $P = 0.02$ ". The *P* values for all predictor variables in regression should be listed in tables.

The rationale for this decision is derived from input from our statistical reviewers, who believe that the *P* value is a continuous measure that expresses the compatibility between the study hypothesis and the observed data. Reporting or interpreting  $P$  value  $< 0.05$  as statistical significance with individual data represents a loss of information.

Abstract should include significant values as described above but may reflect nonsignificant data as nonsignificant without a *P*-value.

## Quantitative and Qualitative Research

Authors have access to reviewer guidelines for both quantitative and qualitative research.

### Key words

All structured and unstructured abstracts are accompanied by a list of 3 to 5 key words for indexing. Key words are selected from the listing of Medical Subject Headings (MeSH) outlined by MEDLINE (<http://www.nlm.nih.gov/mesh/MBrowser.html>) that are used for indexing in PubMed. To maximize the likelihood that your paper will be identified appropriately by other researchers, educators, and administrators, it is important to choose MeSH key words whenever possible. Choosing non-MeSH terms will make it more difficult for your article to be appropriately cited.

## Tables

For submission, each table should be saved and uploaded as a separate file. Number tables consecutively in accordance with their appearance in the text. If there is only one table, then no number is assigned (eg, "Table"). Format tables as follows:

**Title:** Provide a table number and a descriptive title. Words in the title are capitalized. The title should describe the type of data included and give the sample size (n) unless it varies by measure/variable (in which case, n should be included within the table content).

Example of unacceptable table title: "Descriptive Demographics"

Example of acceptable table title: "Anthropometric and Socioeconomic Data for Adults Enrolled in Healthy Eating Programs (n = 40)"

**Content:** Not all data included in tables needs to be reported within the text of the manuscript. The most important results should be included in the narrative (text), but repeating results that will not be discussed further is discouraged. Bullets should not be used within a table. For qualitative tables, indentation of text may also be used within a section.

**Footnotes:** The order of items within the footnote is as follows: abbreviations, then statistical significance, then statistical test used. Any abbreviation used in the table should be spelled out in the footnote. If not included in the table content, statistical significance should be identified with an asterisk (eg,  $*P < 0.05$ ;  $P < 0.01$ ;  $P < 0.001$ ; or \*Significance based on 95% CI). Statistical test used (eg, chi-square, logistic regression) and statistical adjustments made to models should also be identified.

The table title, data/content, and footnotes should be complete enough to understand without referring to related text.

**Statistics:** Report means and standard deviations if the data have a normal distribution; report the interquartile range (IQR) and the median if the data are not normally distributed. Standard error of the mean (SEM) should only be used if multiple samples are gathered (eg, groups of schools). Confidence intervals (CIs) should be included if relative risk or odds ratios are given in the table. The statistical significance

( $P$ ) may be included as the number (eg,  $P < 0.05$ ) or indicated by an asterisk and footnote (see Footnotes section, above). Superscripted lowercase letters may be used if differences among several groups are to be shown. Differences between 2 or more groups should include a column for  $P$  or an asterisk to indicate significance, where appropriate.

Refer to the "General style and form and writing style" section above for guidance on the number of decimal places or significant digits to show in tables.

## Figures and artwork

For submission, each figure should be saved and uploaded as a separate file. Number figures consecutively in accordance with their appearance in the text. If there is only one figure, then no number is assigned (eg, "Figure"). Format figures as follows:

**Caption:** Figure captions should be presented at the end of the manuscript just after the references (captions should not be attached to the figures themselves). Captions constitute a distinct section of the manuscript and should start on a new page. Ensure that each illustration has a caption. A caption should consist of a brief title and a description of the illustration. Figure captions should be written in sentence format. Example of unacceptable caption: "Body Mass Index (BMI) versus calories." Example of acceptable caption: "Body Mass Index (BMI) versus calories consumed after 3-month intervention with

10- to 12-year-olds.”

Figure captions should also explain any abbreviations or statistical tests (eg, chi-square, logistic regression). Keep text in figures to a minimum; instead, use figure captions to explain all symbols and abbreviations used.

**Content:** Lettering and data symbols must be clear and consistent on each figure. Use uniform lettering and size your original artwork consistently. Only use the following fonts in illustrations: Arial, Courier, Helvetica, Times New Roman, and Symbol. Titles, explanations, and definitions of abbreviations must be noted in the legends, not on the figures themselves.

A detailed guide on electronic artwork is available at <https://www.elsevier.com/artworkinstructions>. If figures do not meet these guidelines and do not appear to be clearly reproducible, they will be returned to authors with a request for new figures at any stage of publication.

Consort diagrams should be used to explain recruitment/enrollment/retention of subjects for any intervention (see Williams-Piehota et al. JNEB 2009;41:398-405). Other appropriate figures include maps (see Stone. JNEB 2011;43:S148-S151), scatter grams for continuous data, bar graphs for categorical data (eg, body mass index by gender), and diagrams for spatial and conceptual relationships, such as the Social Ecological Model.

For *GEMs*, it is preferred that authors use 1 to 2 figures that enhance the *GEM* description (photos should meet this requirement and not simply show authors or participants). Figures must also be referred to within the text. For recognizable photo(s), you must have release form(s) from the subject(s).

In order to maintain a clear separation between the author and any other agency, the editors require that all figures, tables, and photographs be submitted directly by the contributing author and no other source.

### *Preprint references*

Where a preprint has subsequently become available as a peer-reviewed publication, the formal publication should be used as the reference. If there are preprints that are central to your work or that cover crucial developments in the topic, but are not yet formally published, these may be referenced. Preprints should be clearly marked as such, for example by including the word preprint, or the name of the preprint server, as part of the reference. The preprint DOI should also be provided.

### *References*

Each new reference introduced in the text is numbered sequentially. The reference number appears superscripted immediately following related text. The reference list is double-spaced and numbered to correspond with citations in text. Reference style follows the system described in the *American Medical Association Manual of Style*, 11th edition, except that issue numbers are not included in journal references.

MEDLINE abbreviations are used for periodical titles. If a standard abbreviation is not available on MEDLINE, cite the full title. Note that the format of *journal references* is flexible if authors include a DOI within the citation in the references section. Examples of different reference types follow:

*Journal Article*

Olson CM. Tracking of food choices across the transition to motherhood. *J Nutr Educ Behav.* 2005;37:129-136.

*Book*

Glanz K, Rimer BK, Lewis FM, eds. *Health Behavior and Health Education: Theory, Research, and Practice.* 3rd ed. San Francisco, CA: Jossey-Bass Publishers; 2002.

*Book Chapter*

Baranowski T, Perry CL, Parcel GS. How individuals, environments, and health behavior interact. In: Glanz K, Rimer BK, Lewis FM, eds. *Health Behavior and Health Education: Theory, Research, and Practice.* 3rd ed. San Francisco, CA: Jossey-Bass Publishers; 2002:165-184.

*Government Documents*

Government documents are referenced no matter how well-known they may be to readers (eg, Dietary Guidelines for Americans). To cite a government document, provide the following information in this order and format: Name(s) of author(s) if specified in the document. Title of document. Place of publication: name of the issuing bureau, agency, or department; date of publication. Publication number (if any) and series number (if any).

Published, peer-reviewed sources are always preferred, but Internet (web) resources may be used, especially in cases in which government documents are more readily available online than in print. All web links and URLs, including links to the authors' own websites, should be given a reference number and included in the reference list rather than within the text of the manuscript. To cite an online source, provide the following information in this order and format: Name of author/agency. Title of document. URL. Accessed month and date, year. Abstracts are not suitable as references, even if they have been published, since they do not contain enough information to provide suitable support as a reference.

*Web site*

National Cancer Institute. Cancer Health Disparities. <http://www.cancer.gov/cancertopics/types/disparities>. Accessed September 15, 2008.

If the URL links to a PDF owned by the author(s), the PDF may be submitted as supplementary material (see the "Supplementary Data" section, below).

Unpublished material and personal communications are cited in text only with the source and date indicated in parentheses immediately following related material. Examples: (J. A. Doe, unpublished data, 2007); (J. A. Doe, oral communication, 2007).

Dissertations and theses are not to be included in reference lists; they may be managed within text (J.A. Doe, dissertation, 2007).

Software used for data analysis should be cited in text only. Citations should include the software's name and developer, the developer's location, and the year the version used was released. Example: (SPSS version 15.0, SPSS Inc., Chicago, IL, 2007) or SurveyMonkey Pro (SurveyMonkey.com, LLC, Palo Alto, CA).

Likewise, equipment used in data collection should be cited in text only. Citations should include the equipment's model name and developer, the developer's location, and the year the model used was released. Example: stadiometer (SECA model 222, SECA Corp., Hamburg, Germany, 2008).

For non-English references, the original language is left in the reference and the English translation is after it in brackets. If the original language cannot be included (eg, because it is in a symbol-based language), the reference should use the English translation and then state the reference's original language in brackets after the English translation. Example: [in Japanese]. Authors are responsible for the accuracy of references. References should be up to date (with the exception of older, seminal sources) and readily available to readers. Avoid secondary sources.

The Digital Object Identifier (DOI) may be used to cite and link to electronic documents. The DOI consists of a unique alpha-numeric character string that is

assigned to a document by the publisher upon the initial electronic publication. The assigned DOI never changes. Therefore, it is an ideal medium for citing a document, particularly "articles in press" because they have not yet received their full bibliographic information. A correctly formatted DOI takes the form <http://dx.doi.org/10.1016/j.jneb.2013.01.025>, where the prefix "10.1016/" identifies the publisher (in this case, the Society for Nutrition Education and Behavior) and the suffix "j.jneb.2013.01.025" is the unique article identifier. The prefix is preceded by <http://dx.doi.org> to make the complete DOI into a permanent URL to locate the document online. When you use a DOI to create links to documents on the web, the DOI is guaranteed to never change.

Relevant *JNEB* references should be included in citations. Search <http://www.jneb.org> for specific topics.

### *Footnotes*

Footnotes are not permitted except in tables. In tables, footnotes are superscripted; lowercase letters (or other common designators) are used to indicate significant differences within rows (see the "Tables" section, above).

### *Video and audio files*

*JNEB* accepts video and animation sequences to support and enhance your research. Authors who have video or animation files as part of their manuscript are encouraged to include links to these files within the body of their article. All submitted files should be properly labeled so that they directly relate to the video file's content. Please provide files in one of our recommended file formats, with a maximum file size of 150 MB. Video and animation files will be published online in the electronic version of your article (eg, on ScienceDirect). Please provide a "still" image (any frame) from your video to use instead of the standard video icon, which will personalize the link to your video data. For detailed instructions, please visit our video instruction page at <https://www.elsevier.com/artworkinstructions>. Note: Because video and animation cannot be embedded in the print version of your article, please provide text for both the electronic and print versions for the portions of the manuscript that refer to the video content.

### *Ancillary and supplementary data*

Data collection instruments such as tests, surveys, interview scripts, and observation forms used in the study may be included with submissions along with overlapping or related manuscripts in review, in press, or published. Including these materials with the original submission will expedite review of the manuscript. Reviewers will have access to data collection materials (ie, ancillary materials) but not to related or overlapping manuscripts included in the submission. It should be noted that ancillary materials are for the review process only; they will not be published.

*JNEB* accepts electronic supplementary material to support and enhance your scientific research. Supplementary files offer the author additional possibilities to publish tests, surveys, or interview scripts, as well as supporting applications, movies, animation sequences, high-resolution images, background datasets, sound clips, and more. Supplementary files supplied will be published online alongside the electronic version of your article online, including ScienceDirect (<http://www.sciencedirect.com>). To ensure that your submitted material is directly usable, please prepare supplementary data in one of our recommended file formats. Supplemental materials will not be copyedited, but published as the authors submitted them. Authors should submit the material in electronic format together with the article and supply a concise and descriptive caption for each file. It should be noted that this material will be reviewed and published online, but it will not be copyedited or typeset. Therefore, authors must provide a reference to the supplementary material within the manuscript text. For more detailed instructions, please visit our artwork instruction pages at <https://www.elsevier.com/artworkinstructions>.

### *Practice Points*

Practice Points present the practical implications of the research reported in the article—the "take home" message—that readers can put to use in their own practice. Examples include:

- Increasing physical activity may contribute to cancer survivors' feelings of control over health and ability to cope with stress (see Maley et al. *JNEB* 2013;45:232-239)
- Avoid "you should" and "you need to" in messages for teens (see Hingle et al. *JNEB* 2013;45:12-19)

Authors may submit up to 3 Practice Points for consideration, of no more than 140 characters each. Within the manuscript, the Practice Point is identified by enlarged text. During submission, the Practice Points should be in a separate file labeled Practice Points. Please include the character count of each Practice Point on the submitted file, as well as the location where each Practice Point should be placed within the manuscript text. Practice Points are not required as part of the submission and may or may not be published.

## **Submission, Peer-Review, and Publication Process**

### *Submission checklist*

Submission to this journal proceeds online at <https://www.editorialmanager.com/JNEB/>, and you will be guided stepwise through the creation and uploading of your files. The system automatically converts source files to a single PDF file of the article, which is used



in the peer-review process. Please note that even though manuscript source files are converted to PDF files at submission for the review process, these source files are needed for further processing after acceptance, and PDF files cannot be uploaded. All correspondence, including notification of the Editor's decision and requests for revision, takes place by e-mail, removing the need for a paper trail.

If companion manuscripts are submitted for consideration for publication in the same issue, authors may request in their cover letter that the companion manuscripts be linked for the review process. This means that the same reviewers will be asked to review each submission, but decisions will be made independently.

*JNEB* uses a double-blind review system. Therefore, authors should blind all authors' names and corresponding institutions from the manuscript, including references to their institutions' Institutional Review Boards, if applicable. If an author's name appears within a reference, all authors' names should be blinded from that reference (all other information within the reference should remain as is). Authors may blind additional areas, such as program titles or cities/countries of reference, but are not required to do so. *JNEB* recommends blinding by omission, using "x" or "blinded" rather than a black highlight over words. *JNEB* accepts most word processing formats, although Microsoft Word is preferred. Always keep a backup copy of the electronic file for reference and safety. Save your files using the default extension of the program used.

**Information to help prepare the Blinded Manuscript:** Besides the obvious need to remove names and affiliations under the title within the manuscript, there are other steps that need to be taken to ensure the manuscript is correctly prepared for double-blind peer review. To assist with this process the key items that need to be observed are as follows:

Do not eliminate essential self-references or other references but limit self-references only to papers that are relevant for those reviewing the submitted paper.

Do not use the phrase "additional details on methods can be found?". Your paper should contain all the necessary methodological components so that it can

"stand alone". If the authors feel this is not possible due to page and word constraints, authors should include [Additional details on methods can be found in ancillary materials as blinded PDF]. This blinded PDF should not be the publication the authors would like to refer to, but a non-published description of the methods. If the manuscript is accepted, the appropriate reference can be inserted. If the authors would like to save that reference space, [Additional details on methods can be found in ancillary materials as blinded PDF currently and to be reference (numeral) upon publication].

For blinding in the reference list: '[Anonymous 2007] Details omitted for double-blind reviewing.'

For in-text citations such as "?has been shown before?[reference numeral]", mentions of these naturally referenced papers do not need to be blinded.

Before submitting, please ensure that one author has been designated the corresponding author (include his or her e-mail address, full postal address, and phone and fax numbers). Additionally, check that all necessary files have been uploaded and that they contain key words, figure captions, and tables. Ensure that references are formatted correctly for *JNEB* and that permission has been obtained for use of copyrighted material from other sources (print or online).

Items (and the preferred order of files) when submitting a manuscript for review include:

- cover letter (save as a separate file) suggested reviewers (include in cover letter)
- reviewers who should not be assigned to the manuscript due to potential conflicts of interest (include in cover letter)
- title page (save as a separate file)
- abstract (save as a separate file)
- manuscript (main text, references, and figure legends; save as a separate file)
- tables (save as individual files)
- figures (save as individual files)
- ancillary materials (eg, tests, surveys, interview scripts, observation forms; must be blinded for review)
- supplementary material (eg, any of the above, as well as supporting applications, movies, animation sequences, high-resolution images, background datasets)

Revised manuscripts also should be accompanied by a unique file type titled Detailed Response to Reviewers (separate from the cover letter). This file should include a tabular format of all editor and reviewer comments; each comment should be followed by your response, along with the line number where it appears in the revised manuscript. The changes in the revised manuscript should be highlighted. If there are exceptionally long or detailed changes, this can be indicated in the response to reviewers instead of highlighting if authors feel it has become confusing.

Files should be labeled with appropriate and descriptive file names (eg, Manuscript.doc, Fig1.eps, Table3.doc). Upload text, tables, and graphics (figures) as separate files. You can compress multiple figure files into a ZIP file and upload it in one step; the system will then unpack the files and prompt you to name each figure. Do not import figures or tables into the text document, and do not upload your text as a PDF. Complete instructions for electronic artwork are available at <https://www.editorialmanager.com/JNEB/>.

Authors who are unable to provide an electronic version or have other circumstances that prevent online transmission of manuscripts must contact the editorial office prior to submission to discuss alternate options. The publisher and editors regret that they are not able to consider submissions that do not follow these procedures.

### *Submission items*

**Cover letter:** The cover letter (save as a separate file for submission) indicates the type of manuscript being submitted (see the categories described above); describes why the manuscript would be of interest to *JNEB* readers; specifies that the manuscript, or parts of it, have not been and will not be submitted elsewhere for publication; notes overlapping or related manuscripts under review, in press, or published; identifies the corresponding author; states that all authors have reviewed and approved the complete manuscript (including tables, figures, and ancillary material, where applicable); indicates the manuscript's complete page count and word count (including text, acknowledgments, references, tables, figures, and other illustrations); lists suggested reviewers with expertise in the subject matter (but who would not present a conflict of interest with the authors).

**Title page:** The title page includes the title of the manuscript (good titles are short, use the active voice, and capture key findings; avoid trite titles and question marks); the section of the journal for which the manuscript is intended; the names of all authors, their academic

degree (eg, PhD, listing only the highest degree), professional credentials (eg, RD), and affiliations; the name, full postal address, telephone number, fax number, and e-mail address of the corresponding author;

the name and address of the institution at which the work was conducted if it differs from the present affiliation of the first author; and then the Acknowledgments section (for *Research Articles, Research Briefs, Research Methods, Reports, Systematic Reviews, and Perspectives* only).

Title "Acknowledgments" on the title page: Acknowledgments identify sources of financial support for the work reported in the manuscript, sources of substantial technical assistance, and sources from which some or all of the data were taken (eg, a thesis, dissertation, presentation, or report). Acknowledgments should not be numbered or referred to in the text.

Title "Notes" on the title page (*GEMs* only): The "Notes" on the title page must include approval from a human subjects committee if the *GEM* report evaluation results involve subjects. For all projects with IRB approval other than exempt, authors should include how consent was obtained. If no institutional review board (IRB) approval was necessary for this research, please add a statement explaining why. In this statement, include which institution reviewed the study and decided that it was exempt from IRB review (institution should be blinded for review). If it was not reviewed by your university or institution, please provide the documentation that pertains to this type of study, deeming it unnecessary to be reviewed. An example of this may be:

"Review by the institutional review board was not required for this study because human subjects were not involved, as per US Department of Health and Human Services guidelines (<http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html#c1>)."

Notes may also include information on how to obtain materials, acknowledgment of technical assistance, sources of financial support, and collaborators.

Note: Because *JNEB* employs a double-blinded review process, please include author information and acknowledgments only on the title page of your manuscript. Save the title page as a separate file. You will be asked to upload the title page file when you submit your manuscript online.

**Abstract page:** The abstract page should contain the abstract, abstract word count, and key words (saved as a separate file). All manuscripts must include an abstract word count, which should be written in parentheses immediately following the abstract's last line.

### *Manuscript review*

When a manuscript is uploaded to the online peer-review system, an e-mail confirming receipt is sent to authors. The handling editor may return a manuscript to the author without review if it does not conform to the guidelines presented here, is outside the scope of the journal, or overlaps substantially with related manuscripts in review, in press, or published.

Manuscripts meeting basic requirements are distributed to a panel of 2 to 3 reviewers. Replacement reviewers are assigned as needed.

The review process takes approximately 5 weeks, depending on the availability of reviewers. Authors receive blinded reviewer comments, along with a letter from the handling editor. The reviewers may submit confidential comments to the editor, which are not available for review by the author. The editor may accept or reject a manuscript or request that it be revised before a final decision is made.

## **Proofs**

One set of page proofs (as PDF files) will be sent by e-mail to the corresponding author, or a link will be provided in the e-mail so that authors can download the files themselves. Elsevier now provides authors with PDF proofs that can be annotated using a full version of Acrobat or the free Adobe Reader version 7 (<http://get.adobe.com/reader>). Instructions on how to annotate PDF files will accompany the proofs. If you do not wish to use the PDF annotations function, you may list the corrections (including replies to the Query Form) and return them to Elsevier in an e-mail. Please list your corrections quoting line number. If for any reason this is not possible, then mark the corrections and any other comments (including replies to the Query Form) on a printout of your proof and return by fax, e-mail (with scanned pages as an attachment), or regular mail. Please use this proof only for checking the typesetting, editing, and completeness and correctness of the text, tables, and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. We will do everything possible to publish your article quickly and accurately, so please return corrections within 48 hours. Proofreading is solely your responsibility. Journal staff also review typeset pages and return corrections to the publisher.

Manuscripts ready for publication are released as articles in press online and enter a queue for print publication. The Editor-in-Chief draws on this queue to assemble each new issue. Typically, manuscripts are published in the approximate order in which they enter the queue, but this is not guaranteed. The Editor-in-Chief may delay publication of a manuscript because of practical considerations or move a manuscript up in the queue if it is particularly timely or fits the theme of a special issue.

## **Publication**

Enquiries concerning manuscripts that arise after acceptance of the manuscript, especially those related to proofs, should be directed to the Managing Editor. Authors can track the progress of their accepted article and request e-mail alerts informing them of changes to their manuscript's status by using the "Track a Paper" feature of Elsevier's Author Home at <https://www.elsevier.com/authors>.

## **Offprints**

The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication.

Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch. You can also check the status of your submitted article or find out when your accepted article will be published.

### **Contact JNEB**

Thank you for considering the *Journal of Nutrition Education and Behavior* for potential publication of your work. We look forward to receiving your manuscript.

For more information, contact: Managing Editor

E-mail: [managingeditor@jneb.org](mailto:managingeditor@jneb.org)

Web site: <http://www.jne>