

Review of: "Biological Components in Cucumbers (*Cucumis Sativus* L.): Implications for Pickle Manufacturing and Health Benefits in Fresh and Processed Varieties"

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Potential competing interests: No potential competing interests to declare.

In general, the content of the text seems to be well-structured and covers several important aspects about cucumbers, including their origin, nutritional characteristics, health benefits, and uses in medicine and cosmetics. However, there are some points that could be improved or expanded upon:

Updated references: Consider including more recent references to support claims about the health benefits and medicinal uses of cucumbers. This would help maintain the relevance and accuracy of the information provided.

Details about pickling: The text briefly mentions the process of pickling cucumbers but could benefit from a more detailed explanation of this process, including information about the types of vinegar used, fermentation times, and preservation methods. More references about materials and methods.

Overall, the content of the text is solid and provides a comprehensive overview of cucumbers and their various applications. However, these suggestions could further improve the quality and relevance of the content.

Next, I am going to make some more specific suggestions to improve the text.

Introduction:

Original: "Belonging to the herbaceous vines family, cucumbers encompass 118 subgroups and 825 types [1][2][3]. While originating in Asia, members of the herbaceous vines family are widely distributed across hot and semitropical regions globally."

Improvement: "Cucumbers, belonging to the herbaceous vines family, comprise 118 subgroups and 825 types [1][2][3]. Originating in Asia, they are widely distributed across hot and semitropical regions globally."

Contribution of cucumbers in Europe:

Original: "Cucumbers have extensive growth in Europe, contributing significantly with an annual growth that constitutes 26.7% of the total vegetable production in the region [2][7][8]."

Improvement: "Cucumbers have extensive cultivation in Europe, contributing significantly to the region's vegetable production with an annual growth rate of 26.7% [2][7][8]."

Nutritional properties and benefits of cucumber:

Original: "True, cucumber is characterized by its high water percentage and low calorie count, making it a hydrating and low-energy addition to dietary choices [11]. Indeed, cucumbers, classified as a vegetable crop, are abundant in phenolic acids and various phytonutrients, contributing to their nutritional profile [12]."

Improvement: "Indeed, cucumbers are characterized by their high water content and low calorie count, making them hydrating and low-energy additions to dietary choices [11]. Classified as a vegetable crop, cucumbers are abundant in phenolic acids and various phytonutrients, enhancing their nutritional profile [12]."

Varieties and characteristics of cucumbers:

Original: "Cucumber fruits vary in size, ranging from 3 cm to over 30 cm long. Typically slightly rounded and porous, they become smooth and shiny when young. While most fruits are green, some may be white or yellow, and the pulp is characterized by a pale green or white color [13]. The shape of cucumbers is influenced by factors like cultivation, production area, and processing methods."

Improvement: "Cucumbers vary in size, ranging from 3 cm to over 30 cm long, and are typically slightly rounded and porous, becoming smooth and shiny when young. While most fruits are green, some may be white or yellow, and the pulp is characterized by a pale green or white color [13]. The shape of cucumbers is influenced by factors such as cultivation, production area, and processing methods."

Pickle formation and health benefits:

Original: "In pickle formation, cucumbers are preserved by immersing them in a mixture of sodium chloride or acetic acid, undergoing a fermentation process [3][14][15]. Pickling not only enhances the taste and appearance but also preserves the nutritive values of cucumbers. Its attraction extends to nutritive and medically gained aspects, including possible advantages against diabetes problems, heart problems (attributed to monounsaturated fats), and the availability of special small parts such as phenolics [9][11][16][14]."

Improvement: "During pickle formation, cucumbers are preserved by immersing them in a mixture of sodium chloride or acetic acid, undergoing a fermentation process [3][14][15]. Pickling not only enhances the taste and appearance but also preserves the nutritional value of cucumbers. Its appeal extends to nutritive and medicinal aspects, including potential benefits against diabetes and heart problems (attributed to monounsaturated fats), as well as the presence of special compounds such as phenolics [9][11][16][14]."

Cosmetic and medical benefits:

Original: "Use of cucumber is advised for brain diseases, dementia treatment, and stopping different allergies such as under-eye pimples and hyperpigmentation. Additionally, cucumbers are believed to enhance chilling, alleviating, relaxing, moisturizing, and abirritant effects on annoying skin."

Improvement: "Cucumber use is recommended for brain diseases, dementia treatment, and alleviating various allergies such as under-eye pimples and hyperpigmentation. Additionally, cucumbers are believed to have chilling, relaxing, moisturizing, and soothing effects on irritated skin."

Conclusion:

Original: "This review exclusively delves into the nutritional and highly effective biological combination view, along with the healthcare and working characteristics of both fresh and prepared cucumbers. Subsequent sections elaborate on various antioxidant and nutritive benefits associated with this versatile food."

Improvement: "This review exclusively explores the nutritional and highly effective biological aspects, as well as the healthcare and culinary characteristics, of both fresh and prepared cucumbers. Subsequent sections delve into the various antioxidant and nutritional benefits associated with this versatile food."

Regarding grammar, "Et al." is indeed a Latin phrase meaning "and others," and according to standard formatting conventions in academic writing, it should be italicized. So, in your text, when referring to authors as "et al.," it should be italicized to adhere to proper formatting. For example:

Original: "Gao et al. found that cucumbers exhibit antioxidant properties."

Corrected: "Gao *et al.* found that cucumbers exhibit antioxidant properties."

These revisions aim to improve clarity, coherence, and conciseness in conveying the intended information.