

## LITERATURE REVIEW: EFFECTIVENESS OF HONEY, CURCUMA AND TURMERIC FOR CHILD HEALTH

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### ABSTRACT

**Introduction:** Malnutrition causes children to experience health problems in the short and long term. **The research method** used is a literature review. Checklist Prisma has been used for registration of titles, abstracts, full texts and methodologies with the keywords Honey AND Turmeric AND Curcuma AND Child Health. The computerized databases that have been used to search for articles in this study are Science Direct, Pubmed, ProQuest and Google Scholar. The journals published in the period 2013 to 2023.

**Result:** There were 8 articles that were relevant to the search keywords used. Foods that contain lots of bioactive compounds such as Curcuma Zanthorrhiza, turmeric / Curcuma longa, honey are very beneficial for health, especially for children's growth and development, preventing infections, preventing various diseases.

**Conclusion:** Curcuma Zanthorrhiza, turmeric / Curcuma longa, honey improve health, increase body weight, prolong life, prevent infection, prevent various diseases, increase nutrients such as carbohydrates, protein, fat.

### KEYWORDS

Children, Honey, Turmeric / Curcuma longa, Curcuma Zanthorrhiza



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### INTRODUCTION

Malnutrition in children has a negative impact, so it is a concern for all countries in the world. Body weight is the main indicator for a child to show his nutritional adequacy. Malnutrition causes children to experience health problems in the short and long term. In general, malnutrition contributes to morbidity and mortality rates in children every year (Khan, Zaheer, & Safdar, 2019). Malnutrition is a lack of energy or protein intake which results in nutritional deficiencies. In developing countries, children often experience

primary acute malnutrition as a result of social, economic and environmental factors. Secondary acute malnutrition is caused by diseases that result in loss of nutrition, increased energy or decreased food intake (Yirga, Mwambi, Ayele, & Melesse, 2019).

Malnutrition is caused by multifactors such as food insecurity in the household, social and cultural life in the community, poverty, poor nutrition in pregnant women, obstacles to fetal growth in the womb, poor breastfeeding and inappropriate complementary feeding and poor environmental sanitation. The intervention that has been carried out by previous researchers is a special nutritional intervention, namely counseling parents, ensuring household food security and treating major diseases (Dipasquale, Cucinotta, & Romano, 2020).

One way to overcome the existing problem of malnutrition is by giving a concoction of honey, ginger and turmeric. Previous research has discussed a lot about giving honey and ginger or turmeric and meniran, but no one has discussed the combination of honey with ginger and turmeric. Giving a concoction of ginger, turmeric and meniran was efficacious in improving cardiovascular fitness ( $p < 0.05$ ) compared to the group given placebo. The combination of ginger, turmeric and meniran is safe for blood, liver and kidney profiles and can help improve physical fitness, namely cardiovascular fitness after 42 days of administration. The dose given to teenage respondents (SMA) was 5 grams of ginger rhizome, 4 grams of turmeric rhizome and 3 grams meniran herb (Novianto, Zulkarnain, Triyono, Ardiyanto, & Fitriani, 2020).

Prof. Dr. H. Muhilal, nutrition experts from the Bogor nutritional research and development center, West Java, said that honey contains organic acids consisting of amino acids for making body protein (non-essential amino acids) and essential amino acids (lysine, histadine and tryptophan). Honey does contain a chemical that has a collogemic effect, namely acetylcholine. Aceticoline functions to improve blood circulation and reduce blood pressure. Honey has an anti-bacterial effect on intestinal bacteria that cause diarrhea, such as Salmonella, Shigella, Ecoli, and Vibrio Cholerae (Al-Masaudi et al., 2020). Several studies show that giving honey can reduce the period of acute diarrhea in children (Putu & Putriyanti, 2022).

Curcuma Zanthorrhiza, is a plant native to Indonesia which is useful for antioxidants (strengthening the body's immune system), preventing and treating infections, treating digestive disorders, maintaining healthy liver function, controlling blood sugar levels and reducing the risk of cancer. (Xu et al., 2018).

Turmeric with the scientific name *Curcuma longa* comes from Southeast Asia which has antioxidant, anticancer, antimicrobial and anti-toxic benefits so it can cure various digestive disorders such as diarrhea and constipation, liver disorders and respiratory disorders such as asthma (Kotra, Satyabanta, & Goswami, 2019). Its benefits are almost the same as ginger and turmeric, namely as an antioxidant, anti-cancer, treating diabetes, anti-inflammatory, anti-bacterial and anti-viral. Meniran (*P. niruri*) is one of the medicinal plants that is empirically used by people in Indonesia as a treatment for fever. (Faizah, Kundarto, & Sasongko, 2021).

## **RESEARCH METHOD**

The research method used is a literature review. The research stage was carried out by identifying research articles with the keywords honey and turmeric and curcuma, and Child Health. The main focus of this literature review is to identify herbal plants that contain compounds that are beneficial for increasing children's weight. In conducting scientific research, researchers used several sources, namely Pubmed, Google Scholar, Proquest, and Science Direct. Next, the articles found are selected using predetermined

research criteria. The criteria in this research are articles published in the last 10 years, open access, the method used has been tested on human subjects, and is a complementary therapy. The articles obtained were then analyzed based on PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) guidelines. From the initial search results carried out using the keywords honey and turmeric and curcuma, and Child Health, 11,562 articles appeared. In the data based Proquest with the keywords honey and turmeric and curcuma and increased weight, 8 articles were obtained.

To further focus the results of the research carried out, the researchers then added the keyword health to the search keywords carried out. This is because researchers aim to obtain information about the potential of plants that can be utilized and health assessments have been carried out. From the results of the search for scientific articles, 8 articles were obtained that were relevant to the search keywords used.

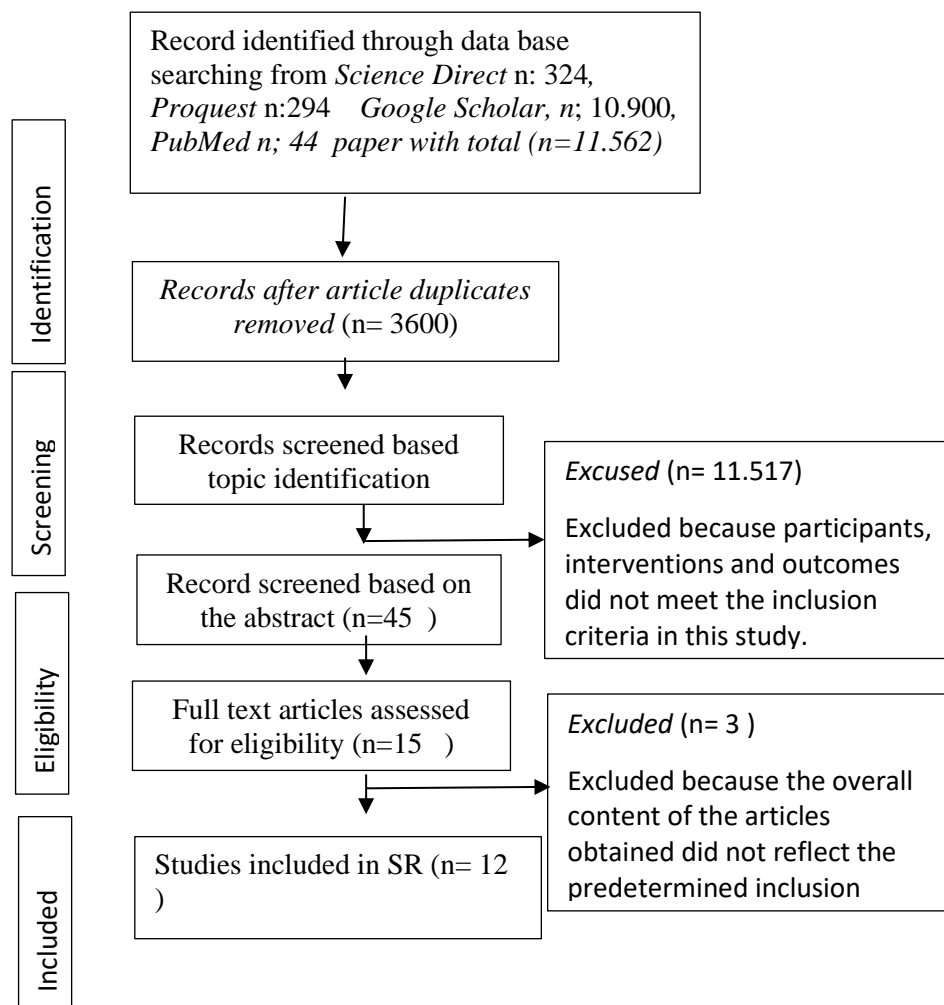


Figure 1. Diagram of PR ISMA

## RESULT AND DISCUSSION

Makanan yang banyak mengandung senyawa bioaktif seperti curcumin, turmeric, honey terbukti secara ilmiah memberi manfaat yang banyak untuk kesehatan tubuh. Kesehatan pada anak ditandai dengan adanya kenaikan berat badan. Terdapat 8 referensi

yang sesuai dengan kriteria untuk selanjutnya dilakukan meta analisis. Berikut ini adalah hasil analisis terhadap artikel yang sesuai dengan kriteria.

Tabel 1. Result of the literature for literature review

No	Penulis	Judul Jurnal	Hasil penelitian
1.	Normando, AGC et.al (2019)	Effects of turmeric and curcumin on oral mucositis: A systematic review	Turmeric/curcumin is applied topically as a gel or as a mouthwash. Patients treated with turmeric/curcumin experienced a reduction in the degree of mucositis, pain, intensity of erythema, and ulcerative areas. Current evidence suggests that topical use of turmeric or curcumin is effective in controlling the signs and symptoms of oral mucositis (Gabriela et al., 2019).
2.	Darsini et.al (2022)	Potensi herbal indonesia sebagai imunomodulator booster selama pandemi covid-19	The part of ginger that is used as herbal raw material is the rhizome. Temulawak rhizomes contain curcuminoids, essential oil minerals and fatty oils. Flour is the main content, the amount varies between 48-54% depending on the altitude where it is grown, the higher the place where it is grown, the lower the flour content. Apart from flour, ginger also contains nutrients including carbohydrates, protein and fat as well as crude mineral fiber such as potassium (K), sodium (Na), magnesium (Mg), iron (Fe), manganese (Mn) and Cadmium (Cd). . The main components of the substances contained in ginger rhizomes are a yellow substance called curcumin and also protein, starch and essential oils. Temulawak has been proven to have the potential to be used as an immunomodulator booster during the Covid-19 pandemic (Darsini & Aryani, 2022)
3.	Parasusan., I.S, et al (2022)	The Effect of Forest Honey for Appetite of Stunting Toddlers in Ranah Singkuang Village, Kampar Regency	Honey has high levels of sugar and levulose so it is easily absorbed by the intestines along with other organic substances so that it can function as a stimulant for digestion and improves appetite (Paramita, Rahayu, & Atasasih, 2022).
4.	Harjuna. A, (2019)	Efektivitas pemberian madu terhadap peningkatan kadar hemoglobin (hb) pada pekerja wanita di pt. Maruki international indonesia	There is a significant effect of giving honey on increasing Hemoglobin (Hb) levels of female workers at PT. Maruki International Indonesia. A woman who is anemic and consumes high doses of honey (3 tablespoons of honey) will increase her Hb levels. It is recommended that female workers regularly consume honey.
5.	Ojo. B, Et al. (2022)	Effects of a formulated herbal mixture from Sorghum bicolor L., Curcuma longa L, Bridelia ferruginea B. in honey on weight, biochemical profile and hematological indices of apparently healthy Wistar rats	This study assessed the effect of a herbal mixture formulation of Sorghum bicolor (7.74g/kg BW), Curcuma Longa/turmeric 2.4 g/kg BW, local honey (2.5g/kg BW to form 13 g/lg BW. 40 Wistar rats Healthy males, Wistar rats given honey showed the highest weight gain (50.55%) (Bamikole A Ojo, Adebolu TT, 2022)
6.	Navarro. Et.al. 2022.	Molecular based for the use of functional	Foods that contain bioactive compounds that act as anti-aging agents include berries, curcumin, olive oil

		foods in the management of healthy aging: Berries, curcumin, virgin olive oil and honey: three realities and a promise	and honey. Honey is also considered to be a food that is very beneficial for improving health (Navarro-Hortal et al., 2022)
7.	El Kutry, et.al. 2020.	Potential Protection Effect of Using Honey, Ginger, and Turmeric as a Natural Treatment against Chemotherapy of Intestinal Toxicity	This study evaluated the potential of honey, ginger and turmeric against methotrexate (MTX)-induced intestinal toxicity. treatment with ginger, turmeric and honey extracts resulted in lower toxicity than treatment with MTX alone (El Kutry, 2020).
8.	(Rasmussen et al., 2021)	Screening Bioactive Food Compounds In Honey Bees Suggests Curcumin Blocks Alcohol-Induced Damage To Longevity And DNA Methylation	This research was conducted to prove that bioactive foods can provide health benefits and longevity. These foods are honey bees and curcumin (Rasmussen et al., 2021)

## DISCUSSION

The results of the analysis above show that foods that contain lots of bioactive compounds such as Curcuma Zanthorrhiza, turmeric / Curcuma Longa, honey are very beneficial for health, especially for children's growth and development.

Turmeric / Curcuma Longa: can be efficacious as a topical medicine / mouthwash for mucositis, reducing and healing wounds and pain. Other studies also report that Curcuma longa can treat various digestive disorders such as diarrhea, constipation, liver problems, and respiratory problems such as asthma.(Kotra et al., 2019). Curcuma Zanthorrhiza / ginger: contains lots of nutrients such as carbohydrates, protein and fat, potassium (K), sodium (Na), magnesium (Mg), iron (Fe), manganese (Mn) and Cadmium (Cd). Temulawak functions as an immunomodulator. Other studies report that Temulawak is also useful for antioxidants, anticancer, preventing and treating infections and many other benefits. Honey: contains high levels of sugar and levulose so it is easily absorbed by the intestines along with other organic substances so that it functions as a digestive stimulant and improves appetite. Honey has also been proven to increase hemoglobin levels in women who suffer from anemia at a dose of 3 spoons / day. The combination of turmeric, curcuma, and honey has been proven to increase body weight, anti-aging / prevent aging, overcome toxicity in the intestines, and increase longevity as in previous research. This is in line with previous research which reported that honey contains a lot of organic acids consisting of amino acids for making body protein (non-essential amino acids) and essential amino acids (lysine, histadine and tryptophan) which are really needed for body health. Other studies also report that honey can reduce the incidence of diarrhea in children (Putu & Putriyanti, 2022).

## CONCLUSION

This research is in the form of a literature review of articles published in 2013-2023 with the research variables Honey, Turmeric, Curcuma and children's health. The results of this literature review detected that foods rich in bioactive compounds are useful for: improving health, increasing body weight, prolonging life, preventing infections,

preventing various diseases, increasing nutrients such as carbohydrates, proteins, fats and many other benefits.

It is necessary to carry out experimental research on children to prove that these foods are very useful for maintaining health and improving growth and development and of course also for preventing stunting.

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