The Effectiveness of Using Herbal Packages (VCO, Honey, Black Seed) as Alternative Treatment for Covid-19 in the Community

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Track Record Article

Accepted: 5 February 2023
Revised: 25 July 2023
Published: 31 July 2023

How to cite : Annisa, B., Rosyid, F. N. (2023). The Effectiveness of Using Herbal Packages (VCO, Honey, Black Seed) as Alternative Treatment for Covid-19 in the Community. *Contagion : Scientific Periodical of Public Health and Coastal Health*, 5(3), 788–798.

Abstract

Covid-19 is an infectious disease that can cause death. Herbal medicines have anti-inflammatory properties associated with cytokine storm development. This means it prevents increases in inflammatory mediators, erythrocyte sedimentation rate (ESR), interleukin (IL)-6, and C-reactive protein (CRP). This study aimed to determine the effectiveness of using herbal packages (VCO, honey, Black Seed) as an alternative treatment for Covid-19 in the community. This research is a Quasi-experimental quantitative study with a control group design (control group design) Pretest-Posttest Control Group Design design. This research was conducted in Boyolali Regency. This research was conducted from October 2022 - January 2023. The population in this study were individuals with a history of Covid-19 disease in Boyolali Regency, 82 in December 2022. The research sampling technique was simple random sampling. The research sample consisted of 46 people consisting of the intervention group of 23 respondents and the control group of 23 respondents. The research instruments were questionnaires, observation forms, and other forms, and measurements were made using a sphygmomanometer, oxymeter, and thermometer. Analysis of bivariate analysis research data using the Paired Sample t-test, Independent Sample t-test, and the help of the SPSS software computer application. The analysis results obtained the p-value for saturation measurement in the treatment group, namely p = 0.024 <0.05, and for temperature measurements, p = 0.014 <0.05, so it can be concluded that herbal packages are effective as an alternative treatment for the Covid-19 virus in the community. It is known that most respondents in the treatment group felt better after consuming the herbal package. Herbal packages have proven effective in dealing with the sequelae caused by Covid-19 and are effective as a companion to the treatment of Covid-19 patients.

Keywords: Black Seed, Covid-19, Effectiveness, Honey, Virgin Coconut Oil

INTRODUCTION

Coronavirus Disease 19 can cause a wide range of illnesses, from the common cold to the more serious illness that is causing the current pandemic severe acute respiratory coronavirus 2 (SARS-Cov-2) (SARS-Cov-2) (WHO, 2020). Covid-19 developed into a global public health emergency in December 2019 when it first appeared in Wuhan (Leng et al., 2020). Until December 2022, Covid-19 cases continued to increase, reaching 651.918.402 confirmed cases and 6.656.601 deaths. (WHO, 2022). The most common symptoms of Covid-19 include fever (83%), shortness of breath (31%), and cough (82%) (Ciotti et al., 2020).

The S protein of the SARS-Cov-2 virus is airborne and binds with high affinity to angiotensin-converting enzyme 2 (ACE2), a transmembrane receptor located on the apical membrane of airway epithelial cells, particularly type II pneumocytes (Parisi et al., 2020). Many of them died even though they had recovered and tested negative. This is due to the existence *of Syndrome Cytokine Release* (CRS), or a cytokine storm which is a protein

produced by the body where the immune system will appear is formed when a foreign compound or antigen (virus, bacteria, fungus) enters the body (Megha et al., 2021).

Patients with chronic MERS coronavirus disease, who have elevated serum levels of IFN-α, IL-6, CCL 5, CXCL 10, CXCL 8, similar to SARS, can attack the host body stimulated by immune cytokine storm. system, which then leads to multiple organ failure ARDS. They can cause death in chronic cases of Covid-19, similar to cases of MERS and SARS (Rauf et al., 2020).

The production of large amounts of cytokines can cause inflammation in several organs in the body. The inflammatory response begins with the initial recognition of the pathogen and then recruits immune cells that will eliminate the pathogen and lead to the restoration of homeostasis and tissue repair (Ye et al., 2020). The Covid-19 virus no longer grows after 14 days in mild to moderate cases. However, in severe to critical cases, the Covid-19 virus will disappear, but the inflammation caused by the cytokine storm will be permanent or permanent (Mehta et al., 2021).

The conventional treatment strategy currently being reapplied is corticosteroid therapy or other drugs such as *remsedivir, ribavirin*, *interferon*, *hidroksiklorokuin,* and it's kind (Long et al., 2020). However, using corticosteroids during SARS-Cov-2 infection will cause an increase *in viral load* plasma in non-ICU patients, resulting in aggravation of the disease (Ye et al., 2020).

Recent research results confirm that traditional Chinese and conventional medicine can reduce the side effects of drugs used to manage the disease and increase the disappearance of clinical manifestations (Setayesh et al., 2022). Herbal medicines have anti-inflammatory properties which are related to the occurrence of cytokine storms, namely preventing an increase in Erythrocyte sedimentation rate (ESR), interleukin (IL)-6, and C-reactive protein (CRP), inflammatory mediators that influence patient condition (Al-kuraishy et al., 2022).

Virgin Coconut Oil (VCO) has antiviral and anti-inflammatory properties. In research by Varma et al., (2019) showed that virgin coconut oil (VCO) is anti-inflammatory by inhibiting several cytokine levels, including TNF, IFNγ, IL-6, IL-5 and IL-8. He said it works. According to research conducted by Angeles-agdeppa et al., (2020) the VCO group showed faster relief of Covid-19 symptoms and a significantly higher reduction in average CRP. *Nigella Sativa,* or black cumin (*habbatussauda*) can regulate inflammatory cytokines during obstructive respiratory disorders (Kulyar et al., 2021). In his book Zia-Ul-Haq et al., (2021) stated that the active components in black cumin, such as thymoquinone, are medically very effective in treating various diseases, one of which is inflammatory conditions and diseases

caused by viral, bacterial, and fungal infections. According to Kulyar et al., (2021) the active component of black cumin is *Thymoquinone, Nigellidine, and Hederin* can strengthen the immune system on a molecular basis. Black cumin can be an adjuvant therapy with conventional drugs to reduce the side effects of conventional drugs by helping to reduce the dose because black cumin has antiviral, anti-inflammatory, antioxidant, antihistamine, antitussive, bronchodilator, and immunomodulatory activities (Maideen, 2020).

The potential in honey can inhibit the stimulation of molecular signaling pathways that underlie inflammation and coagulation and can increase cytokine cascades in Covid-19 patients (Abedi et al., 2021). Honey can quickly heal wounds by increasing immunity, repairing damaged tissue, and fighting viruses, bacteria, and fungi (Hossain et al., 2020).

Honey is a sweet liquid substance produced by honey bees from the grains of plant flowers. Honey has several compositions, consisting of sugars (81.3%), water (17.2%), amino acids, and various minerals such as phosphorus, iron, magnesium, sodium, aluminum, calcium and potassium. A large number of studies on the benefits of honey have been carried out and it is explained that honey has antioxidant, antibacterial, antiviral, anti-inflammatory, anti-ulcer, hypo-allergenic properties and helps relieve sore throats (Fonna, 2022).

Honey is thought to inhibit systemic inflammation associated with kidney, lung and cardiovascular damage in COVID-19 patients. Honey is also antithrombotic in which the formation of blood clots in COVID-19 patients is thought to cause organ damage and eventually death by inhibiting the stimulation of molecular signaling pathways that underlie coagulation and inflammation (Abedi et al., 2021).

Based on the above background, researchers are interested in conducting this research, which aims to find out how effective herbal packages (VCO, honey, Black Seed) are as an alternative treatment for Covid-19 in the community.

METHOD

This study is a quasi-experimental quantitative study with a control group design (control group design) pretest-posttest control group design. Quasi-experimental, namely intervention research, aims to determine the effect of an intervention on one person or group, which is then compared to the control group.

The intervention offered in this study is by providing herbal products or packages (VCO, honey, and Black Seed) to patients who have a history of Covid-19 who have just been discharged from the hospital which is divided into 2 groups of 46 respondents, namely the

treatment group and the control group. The intervention offered in this study is by providing herbal products or packages (VCO, honey, and Black Seed) to the treatment group respondents.

This research was conducted in Boyolali Regency. This research was conducted from October 2022 - January 2023. The population in this study were individuals with a history of Covid-19 disease in Boyolali Regency, 82, in December 2022. Sampling used a simple random sampling technique with data collection in measuring oxygen saturation and temperature before (post) intervention and after (pre) intervention for the treatment group and the control group.

Calculation of study samples using the Slovin formula. The result is her sample of 46 consisting of an intervention group of 23 respondents and her control group of 23 respondents.

The sampling for this study was based on certain criteria. In contrast, the inclusion criteria in this study were people with a history of Covid-19 aged 20-90 years who were willing to become respondents, people with a history of Covid-19 who received care at home or self-isolation for ± 2 weeks, and people with a history of Covid-19 who can read and write. In contrast, the exclusion criteria for this study were people with a history of Covid-19 who died during the research, people with a history of diabetes mellitus, people with a history of Covid-19 who moved their domicile before the completion of the study, and people with a history of Covid-19 who were not willing to become respondents in research.

The research instrument is a questionnaire observation form, other forms related to recording, and instruments related to the physical examination of Covid-19 sufferers, namely measurements using a sphygmomanometer, oxymeter, and thermometer.

This study used bivariate analysis to identify the effectiveness of herbal packages (VCO, honey, Black Seed) for people with a history of Covid-19 using the Paired Sample t-test, Independent Sample t-test, and the help of the computer application Statistics software Statistical Program for Social Science (SPSS) because the data distribution is not normal with a confidence level of 95% or a confidence interval of $p < 0.05$.

RESULTS

In this study, 46 respondents were divided into two groups, namely 23 control group respondents and 23 treatment groups where the treatment group was given treatment, namely consuming herbal packages (VCO, honey, and Black Seed) for a week. On examination of characteristic data obtained, gender, age, education, education, occupation, signs and symptoms, comorbidities, measurement of blood pressure, and pulse.

Table 1. Distribution of Respondent Characteristics for the Treatment and the Control Group

Variable	Treatment Group		Control Group		P-value
Gender					**0,770**
Female	12	52,2	13	56,5	
Male	11	47,8	10	43,5	
Age	**53,83 ± 19,033**		**52,74 ± 19,664**		**0,859**
Adults 20 – 60 years	12	52,2	13	56,5	
Elderly > 60 years	11	47,8	10	43,5	
Education					**0,119**
Elementary School	8	34,8	3	13	
Junior High School	3	13	4	17,4	
Senior High School	3	13	2	8,7	
Associate degree	2	8,7	1	4,3	
Bachelor's degree	6	26,1	4	17,4	
No school	1	4,3	9	39,1	
Work					**0,183**
Teachers/Civil Servants	2	8,7	4	17,4	
Entrepreneur	3	13	9	39,1	
Private	1	4,3	0	0	
Laborer	2	8,7	2	8,7	
Farmer	4	17,4	3	13	
etc	11	47,8	5	21,7	
Symptoms Signs					**1**
Congested	6	26,1	7	30,4	
Fever	8	34,8	7	30,4	
Cough	4	17,4	4	17,4	
Fatigue	4	17,4	3	13	
Dizzy	1	4,3	2	8,7	
Concomitant Diseases					**0,575**
No Disease	8	34,8	11	47,8	
Heart Disease	2	8,7	2	8,7	
Hypertension Disease	12	52,2	8	34,8	
Stroke Disease	1	4,3	1	4,3	
Diabetes Mellitus Disease	0	0	1	4,3	
Blood pressure	**129,57 ± 21,842**		**122,17 ± 14,758**		**0,250**
80/60 – 120/80 mmHg	9	39,1	14	60,9	
< 80/60 mmHg	0	0	0	0	
>120/80 mmHg	14	60,9	9	39,1	
Pulse	**86,91 ± 12,180**		**83,65 ± 11,336**		**0,237**
60 – 100 bpm	22	95,7	23	100	
<60 bpm	0	0	0	0	
>100 bpm	1	4,3	0	0	

Based on Table 1 in the intervention group, it was found that the gender distribution of female respondents was more than that of male respondents, namely 12 respondents (52.2%),

and for female respondents, there were 11 respondents (47.8%). There were 12 adult respondents (52.2%), and 11 elderly respondents (47.8%). Based on the education level of respondents with elementary education, 8 respondents (34.8%), not attending school, namely one respondent (4.3%), junior high and high school there were 3 respondents (13%), diploma was 2 respondents (8.7%), and Bachelors totaling 6 respondents (246.1%). The distribution of respondents based on work found that other jobs (pensioners and homemakers) were 11 respondents (47.8%), the private sector was 1 respondent (4.3%), teachers/ civil servants and laborers were 2 respondents (8, 7%), self-employed 3 respondents (13%), workers 2 respondents (8.7), and farmers 4 respondents (17.4%). The distribution of symptoms that appeared showed symptoms of fever, namely as many as 8 respondents (34.8%), dizziness as many as 1 respondents (4.3%), shortness experienced by 6 respondents (26.1%), coughing by as many as 4 respondents (17, 4%), and fatigue as many as 4 respondents (17.4%). Respondents with comorbid hypertension 12 respondents (52.2%), diabetes mellitus namely 0 respondents (0%), heart disease 2 respondents (8.7%), stroke 1 respondent (4.3%), and respondents who did not had comorbidities there were 8 respondents (34.8%). In the distribution of blood pressure measurements, it was found that in the normal category, there were 9 respondents (39.1%), hypertension as many as 14 respondents (60.9%), and hypotension as many as 0 respondents (0%). In the distribution of pulse measurements, it was found that in the normal category, there were 22 respondents (95.7%), tachycardia was 1 respondent (4.3%), and bradycardia was 0 respondents (0%).

In the analysis of the control group, the gender distribution of the male respondents was 13 respondents (56.5%) and the female sex was 10 respondents (43.5%). Based on the distribution analysis above, it was found that there were 13 adult respondents (56.5%) and 10 elderly respondents (43.5%). Distribution of respondents based on education level, including respondents who did not attend school, namely there were 9 respondents (39.1%), diploma namely as many as 1 respondents (4.3%), elementary school there were three respondents (13%), junior high school and undergraduate there were 4 respondents (17.4%), and high school there were 2 respondents (8.7%). The distribution of respondents based on occupation found that there were 9 respondents (39.1%) self-employed, private sector namely 0 respondents (0%), Teachers/Civil Servants there were 4 respondents (17.4%), laborers 2 respondents (8.7%)), others (pensioners and homemakers) namely 5 respondents (21.7%), and farmers there were 3 respondents (13%). According to the symptoms that appeared in the respondents, it was found that 7 respondents (30.4%) had symptoms of tightness and fever, 2 respondents (8.7%) experienced dizziness, 4 respondents (17.4%) experienced cough, and

fatigue as many as 3 respondents (13%). In the distribution of the characteristics of respondents according to comorbidities, it is known that respondents who did not have comorbidities/comorbidities, namely 11 respondents (47.8%), stroke and diabetes mellitus, namely 1 respondent (4.3%), heart disease, 2 respondents (8.7%)), and hypertension as many as 8 respondents (34.8%). In the distribution of blood pressure measurements, it was found that in the normal category there were 14 respondents (60.9%), hypertension as many as 9 respondents (39.1%), and hypotension as many as 0 respondents (0%). In the distribution of pulse measurements, it was found that in the normal category, there were 23 respondents (91.3%), tachycardia and bradycardia were 0 respondents (0%).

Table 2. Analysis of the Effectiveness of Using Pretest Posttest Herbal Packages on Oxygen Saturation and Temperature as Alternative Treatment for Covid-19 in the Community

Variable	*Pretest*	*Posttest*	Δ	p	P-values between groups
Oxygen Saturation					
Treatment Group	97,59 ± 1,860	96,98 ± 1,501	0,488 ± 2,313	0,024	0,036
Control Group	97,37 ± 1,392	97,75 ± 1,192	0,340 ± 1,706	0,052	
Temperature					
Treatment Group	36,50 ± 0,65889	36,10 ± 0,57257	0,352 ± 0,539	0,014	0,053
Control Group	36,57 ± 0,51231	36,48 ± 0,40246	0,225 ± 0,619	0,052	

Based on Table 2. This study's results indicate significant differences between the treatment group and the control group in measuring oxygen saturation and temperature. In the treatment group (n = 23), oxygen saturation measurements showed a value of p = 0.024 < 0.05 and temperature with p = 0,014 < 0,05. It can be concluded that herbal packages (VCO, honey, and Black Seed) are effective as alternative treatments for the Covid-19 virus in the community. While in the control group (n = 23), which is not given the herbal package, oxygen saturation measurement shows the value p = 0,052 > 0,05, and temperature by value p = 0,052 > 0,05. From these results, it can be concluded that there is no significant change in the measurement values of oxygen saturation and temperature before (pretest) and after (posttest) measurements.

DISCUSSION

Based on the results of data analysis in Table 2, it shows that the herbal packages (VCO, honey, and Black Seed) given to the treatment group had a significant effect on changes in the measurement of oxygen saturation values and temperature compared to the control group. Herbal packages were given to all respondents in the treatment group and consumed for a week as a treatment companion in addition to taking conventional medicines. Sequelae in the treatment group are known to heal faster than in the control group.

Using complementary herbal supplements/herbal packages (VCO, honey, and Black Seed) can make a difference and significantly increase oxygen saturation and decrease the temperature in the treatment group. The research conducted by Muhtadi et al., (2022) who stated that giving herbal supplements in the form of VCO, honey, and Black Seed had a significant effect on increasing oxygen saturation levels and decreasing body temperature in Covid-19 patients. In research Yu et al., (2020) stated that using herbal medicines to prevent and treat the Covid-19 virus can repair existing damage by reducing apoptosis and suppressing viral replication in the body.

According to research Angeles-agdeppa et al., (2020) showed a significant decrease in the C-reactive protein level with the average CRP level on the 14th day after consuming VCO. CRP, or C-reactive, is a protein in the acute phase as an early marker of infection or inflammation (Ahnach et al., 2020). Honey may also be considered against Covid-19 infection to suppress systemic inflammation, one of the main threats to Covid-19 patients. That is, the ability to modulate molecular targets involved in the development of Covid-19. Viruses and their host cells involved in RNA replication (Abedi et al., 2021).

Research result in Ali et al., (2021) showed that honey and black cumin (habbatussauda) was associated with a decrease in symptom recovery time in moderate and severe Covid-19 patients for 4 and 7 days with a p-value = 0.001, placebo for 6 and 13 days with a p-value = 0.029 which can be concluded that Viral clearance was faster in patients who received honey and black cumin (habbatussauda) compared to the placebo group. Clinical studies support the efficacy of black cumin in healing the Covid-19 virus with a faster recovery rate due to its antiviral, antioxidant, anti-inflammatory, and immunomodulatory effects (Imran et al., 2022). Consumption of VCO, honey, and black cumin (habbatussauda) has a real effect on increasing oxygen saturation due to the high content of vitamin E, which can help treat infections of the respiratory tract caused by viruses as in research by Fatimah et al., (2023) which shows that there is a change in oxygen saturation levels from 93% to 97%.

CONCLUSION

Administration of herbal packages (VCO, honey, and Black Seed) significantly increased oxygen saturation and decreased temperature compared to the control group. This proves that giving herbal packages to patients infected with Covid-19, especially those who still have sequelae, can have a very good effect in supporting the recovery of Covid-19 patients. This research needs to be increased to prove further the effectiveness of herbal packages to help cure the Covid-19 virus and eliminate the remaining symptoms because researchers cannot control confounding variables such as genetic factors, lifestyle, age, obesity, stress, diet, and physical activity, respectively. Respondent, it is hoped that future researchers can control for these confounding variables to generalize this research.

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