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Original Research Article

Comparison of the Effectiveness of Administering Boiled Coriander Seed Water and Young Coconut Water to Reduce Triglyceride Levels

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Abstract: ***Introduction*:** Modern lifestyles characterized by unhealthy diets and physical inactivity increase the risk of coronary heart disease. Atherosclerosis, the primary underlying cause, can be mitigated through non-pharmacological interventions. Although coriander and young coconut water have been shown to reduce cholesterol levels, their comparative effects on triglyceride levels remain unclear. ***Aims*:** This study aims to evaluate and compare the effectiveness of boiled coriander seed water and young coconut water in reducing triglyceride levels. ***Method*:** This study employed a quantitative quasi-experimental pretest–posttest control group design. The population comprised 484 educators and educational staff at Nusa Cendana University, with 48 participants selected through purposive sampling based on inclusion and exclusion criteria. Data analysis included paired t-tests to compare pretest and posttest values within groups, followed by one-way ANOVA and Tukey HSD tests to compare posttest outcomes between groups. ***Results*:** In this study, the coriander seeds boiled water group showed a significant reduction in triglyceride levels from 139.5 mg/dL to 120.8 mg/dL ($p=0.037$) after 1 week of intervention. In contrast, the young coconut water group showed an insignificant decrease from 98 to 90 ($p=0.386$). The control group, without intervention, did not experience significant changes ($p=0.75$). These results show the potential of coriander seeds as a triglyceride lowering agent, while young coconut water shows more variable results. ***Conclusion*:** Boiled coriander seed water is more effective in reducing triglyceride levels than young coconut water.

Keywords: Triglycerides, Coriander Seeds, Coconut Water, Nusa Cendana University, Non-Pharmacological Intervention, Quasi-Experimental Study.

INTRODUCTION

Modern lifestyles characterized by instant convenience are accompanied by changes in societal living patterns, including frequent consumption of high-fat and high-calorie fast foods and insufficient physical activity. A lack of physical activity has a substantial impact on health, particularly when combined with poor dietary habits. High-calorie diets that exceed daily energy requirements and diets high in fat significantly influence blood levels of low-density lipoprotein (LDL) and triglycerides. When excess calories and fat are not expended through physical activity, accumulation occurs within blood vessels, leading to the formation of atherosclerotic plaques. These plaques subsequently contribute to more severe cardiovascular complications, such as coronary heart disease.

Coronary heart disease caused by atherosclerosis and thrombosis remains a leading cause of premature mortality. Nearly all deaths in the United States and Europe are attributed to vascular diseases, with approximately two-thirds of deaths resulting from thrombosis in one or more coronary arteries. The remaining one-third is caused by thrombosis in other regions, including the brain, liver, kidneys, gastrointestinal tract, extremities, and other organs. (Guyton, 2013)

According to a World Health Organization (WHO) Cardiovascular diseases remain the leading cause of death worldwide, accounting for an estimated 19.8 million deaths in 2022, representing approximately 32% of all global deaths. Of these, heart attack and stroke are responsible for the majority of fatalities, with over

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three-quarters of CVD deaths occurring in low and middle income countries. (World Health Organization, 2025)

Based on the 2018 Basic Health Research (Riskesdas) report, the prevalence of cardiovascular disease in Indonesia is approximately 1.5%, with the highest prevalence observed in North Kalimantan Province at 2.2% and the lowest in East Nusa Tenggara Province at 0.7%. By age group, the prevalence of coronary heart disease in Indonesia is highest among individuals aged 75 years and older, reaching 4.7%, with a prevalence of 1.3% in men and 1.6% in women, and a comparison of 1.6% in urban populations versus 1.3% in rural populations.(Kementerian Kesehatan RI, 2018)

The development of atherosclerosis can be inhibited through both pharmacological and non-pharmacological approaches. Non-pharmacological therapies may serve as alternative and complementary strategies in the management of atherosclerosis. Among such therapies, the use of coriander and young coconut water has been shown to reduce blood cholesterol levels.

A study conducted by Rosmiati (2020) demonstrated that coriander extract, used as an antihypercholesterolemic agent, effectively reduced cholesterol levels in mice with hypercholesterolemia. (Rosmiati, 2020) Similarly, research by Kodariah (2020) reported a reduction in serum triglyceride levels in rats before and after administration of coriander seed extract. (Kodariah & Wahid, 2020) In contrast, a study by Suzan (2022) involving individuals with obesity found no significant differences in lipid profile parameters, including total cholesterol, HDL, LDL, and triglycerides, following coriander seed consumption. (Suzan & Halim, 2022)

Several studies have also investigated the use of young coconut water in reducing blood cholesterol and triglyceride levels. Research by Prasetyo *et al*., (2022) demonstrated a significant effect of young coconut consumption on lowering blood cholesterol levels in healthy individuals. (Prasetyo *et al*., 2022) Another study by Suharto (2022) concluded that young coconut water significantly influenced lipid profile levels in mice with metabolic disorders. (Suharto, 2022)

Based on the above findings, this study is the first to directly compare the effects of boiled coriander seed water and young coconut water on triglyceride levels within a controlled experimental framework. By evaluating these two widely used non-pharmacological interventions simultaneously, this research offers novel and clinically relevant insights into their comparative efficacy for triglyceride reduction and atherosclerosis prevention.

METHODS

This study was conducted in Nusa Cendana University from October 10 to October 20, 2023. The study was conducted among 48 employees of Nusa Cendana University. Ethical approval was obtained from the Health Research Ethics Committee of the Faculty of Medicine and Veterinary Medicine, Nusa Cendana University (No. 103/UN15.16/KEPK/2023).

The inclusion criteria were educators or educational staff of Nusa Cendana University aged 18–59 years who agreed to participate and provided written informed consent. The exclusion criteria included active smoking, alcohol consumption, ongoing anti-cholesterol therapy, and the presence of chronic diseases such as heart disease, liver disease, or chronic kidney disease.

Experimental Procedure

This study employed a quasi-experimental pretest–posttest control group design. Participants were allocated into three groups: treatment group I (boiled coriander seed water), treatment group II (young coconut water), and a control group (no intervention). Two observations were conducted for all groups. Baseline triglyceride levels were measured prior to the intervention through venous blood sampling, which was performed by trained laboratory personnel and analyzed using standard laboratory procedures.

The intervention for treatment group I consisted of boiled coriander seed water. The preparation involved heating 10 L of clean water in a pot, followed by the addition of 75 g of coriander seeds. The mixture was heated to 100 °C until boiling, then removed from heat and allowed to cool. After cooling, the solution was filtered to remove the seeds. Participants consumed 250 mL of the boiled coriander seed water once daily for seven consecutive days.

Treatment group II received young coconut water as the intervention. Fresh young coconuts were opened, and the coconut water was collected into a clean container and portioned into 250 mL servings. Participants consumed one serving (250 mL) of young coconut water once daily for seven consecutive days.

Following the one-week intervention period, posttest venous blood samples were collected from all participants by laboratory personnel to determine post-intervention triglyceride levels. Before collecting blood samples, participants were told to fast 10 hours before testing. Blood samples were transported to the laboratory for analysis using the same procedures as those applied for baseline measurements.

Data Analysis

Data analysis was performed was performed using IBM SPSS Statistics software with univariate and bivariate approaches. Univariate analysis was conducted to describe participant characteristics, including sex, age, faculty or institutional affiliation, and occupational status. Prior to bivariate analysis, data normality and homogeneity were assessed using the Kolmogorov–Smirnov test and homogeneity of variance testing, respectively, and the results indicated that the data were normally distributed and homogeneous ($p > 0.05$). Accordingly, paired t-tests were applied to compare pretest and posttest triglyceride levels within each group, while one-way analysis of variance (ANOVA) was used to compare posttest values among groups. As the one-way ANOVA demonstrated statistically significant differences, post hoc analysis using Tukey's Honestly Significant Difference (HSD) test was subsequently performed to identify specific between-group differences.

RESULTS

Characteristics of Respondents

The study sample comprised educators and educational staff from the Faculty of Medicine and Veterinary Medicine (FKKH), the Faculty of Science and Engineering (FST), the Institute for Research and Community Service (LP2M), and the Rectorate of Nusa Cendana University, with a total of 48 participants. The characteristics of the participants are presented as follows.

Table 1 : Characteristics of Respondents

Variable	Intervention group coriander seed water		Intervention group coconut water		Control	
	Freq n=16	Percentage (%)	Freq n=16	Percentage (%)	Freq n=16	Percentage (%)
Gender						
Male	9	56,25	6	37,5	4	25
Female	7	43,75	10	62,5	12	75
Age (Years)						
20-29	0	0	0	0	3	18,75
30-39	9	56,25	10	62,5	8	50
40-49	4	25	4	25	4	25
50-59	3	18,75	2	12,5	1	6,25
Faculty/Institution						
FKKH	4	25	7	43,75	3	18,75
FST	3	18,75	1	6,25	2	12,5
LP2M	1	6,25	2	12,5	1	6,25
Rektorat	8	50	6	37,5	10	62,5
Occupation						
Educators	1	6,25	3	18,75	0	0
Educational Staff	15	93,75	13	81,25	16	100

The descriptive analysis shows that each study group consisted of 16 participants. In the coriander seed water intervention group, male participants predominated (56.25%), whereas female participants were more prevalent in the coconut water intervention group (62.5%) and the control group (75%).

In terms of age distribution, the majority of participants across all groups were within the 30–39-year age category. This age group accounted for 56.25% of participants in the coriander seed water group, 62.5% in the coconut water group, and 50% in the control group. Participants aged 40–49 years constituted 25% of each group, while those aged 50–59 years represented a smaller proportion, particularly in the control group (6.25%). Participants aged 20–29 years were present only in the control group (18.75%).

Regarding institutional affiliation, most participants in all groups were from the Rectorate, comprising 50% of the coriander seed water group, 37.5% of the coconut water group, and 62.5% of the control group. Participants from the Faculty of Medicine and Veterinary Medicine (FKKH) were more represented in the coconut water group (43.75%) compared with the coriander seed water group (25%) and the control group (18.75%). Representation from the Faculty of Science and Engineering (FST) and LP2M was relatively limited across all groups.

With respect to occupation, educational staff constituted the majority of participants in all groups, accounting for 93.75% in the coriander seed water group, 81.25% in the coconut water group, and 100% in the control group. Educators were present only in the intervention groups, with a higher proportion observed in the coconut water group (18.75%) compared with the coriander seed water group (6.25%), and none in the control group.

Univariate Analysis

Univariate analysis was conducted to describe the characteristics of the study sample, including both the intervention groups and the control group, as well as the triglyceride levels measured at the pretest and posttest stages.

Table 2 : Distribution of Triglyceride Levels

Variable	Frequency (n)	Percentage (%)
Triglyceride Levels Pretest		
Normal	42	87,5
Above Normal	6	12,5
Total	48	100
Triglyceride Levels Posttest		
Normal	44	91,67
Above Normal	4	8,33
Total	48	100

In Table 2, the pretest triglyceride assessment showed that 42 samples had normal triglyceride levels, while 6 samples had levels above the normal range. The lowest triglyceride level obtained at pretest was 54 mg/dL, and the highest was 243 mg/dL. At the posttest assessment, 44 samples exhibited normal triglyceride levels, whereas 4 samples remained above the normal range. Notably, two samples in the coriander seed decoction intervention group demonstrated a reduction in triglyceride levels from above normal to normal. The lowest triglyceride level obtained at posttest was 41 mg/dL, and the highest was 240 mg/dL.

Table 3 : Distribution of Coriander Water Administration on Triglyceride Levels

Variable	Triglyceride					
	Pretest		Posttest		Notes	
	Normal	Above Normal	Normal	Above Normal	Decreased	Not Decreased
Intervention group: Coriander Water	10	6	12	4	13	3

In Table 3, during the pretest in the coriander water intervention group, 10 samples had normal triglyceride levels, while 6 samples exhibited elevated triglyceride levels. At the posttest assessment, the number of samples with normal triglyceride levels increased to 12, whereas those with elevated levels decreased to 4, indicating that 2 samples experienced a reduction from high to normal triglyceride levels. When comparing pretest and posttest values, a total of 13 samples showed a decrease in triglyceride levels, while 3 samples did not demonstrate any reduction.

Table 4 : Distribution of Triglyceride Levels in the Coriander Water Intervention Group

Variable	Triglyceride			
	High	Above Normal	Mean of High Tryglyceride level	Mean of Low Trygliceride level
Pretest	6	10	208 mg/dL	98,4 mg/dL
Posttest	4	12	209 mg/dL	91,4 mg/dL

The mean pretest triglyceride level in the coriander seed decoction intervention group was 139.5 mg/dL, which decreased to a posttest mean of 120.8 mg/dL after the intervention. The mean triglyceride level within the normal category at pretest was 98.4 mg/dL and declined to 91.4 mg/dL at posttest. In contrast, the mean triglyceride level in the high category was 208 mg/dL at pretest and slightly increased to 209 mg/dL at posttest.

Table 5 : Distribution of Coconut Water Administration on Triglyceride Levels

Variable	Trygliceride					
	Pretest		Posttest		Notes	
	Normal	Above Normal	Normal	Above Normal	Decreased	Not Decreased
Intervention group: Coconut water	16	0	16	0	11	5

In the young coconut water intervention group, all 16 participants had triglyceride levels within the normal range at both pretest and posttest. Despite remaining within normal limits, 11 participants experienced a reduction in triglyceride levels after the intervention, while 5 participants showed no decrease, with some demonstrating slight increases that still remained within the normal range.

Table 6 : Distribution of Triglyceride Levels in the Coconut Water Intervention Group

Variable	Trygliceride			
	Normal	Mean normal	Highest levels	Lowest levels
Pretest	16	98 mg/dL	137 mg/dL	60 mg/dL
Posttest	16	90 mg/dL	135 mg/dL	57 mg/dL

In the young coconut water intervention group, the mean triglyceride level decreased from 98 mg/dL to 90 mg/dL. The lowest triglyceride level during the pretest was 60 mg/dL, which further decreased to 57 mg/dL at posttest. Meanwhile, the highest triglyceride level recorded at pretest was 137 mg/dL and slightly decreased to 135 mg/dL at posttest.

Table 7 : Distribution of the Control Group According to Triglyceride Levels

Variable	Trygliceride					
	Pretest		Posttest		Notes	
	Normal	Above Normal	Normal	Above Normal	Decreased	Not Decreased
Control Group	16	0	16	0	10	6

In the control group, all 16 participants also exhibited normal triglyceride levels at both pretest and posttest. A total of 10 participants showed a decrease in triglyceride levels over the study period, whereas 6 participants did not experience a reduction, with several showing increased triglyceride values that nonetheless remained within the normal range.

Table 8 : Distribution of Triglyceride Levels in the Control Group

Variable	Trygliceride			
	Normal	Mean normal levels	Highest levels	Lowest levels
Pretest	16	77,3 mg/dL	113 mg/dL	43 mg/dL
Posttest	16	75,6 mg/dL	123 mg/dL	41 mg/dL

The mean triglyceride level in the control group at pretest was 77.3 mg/dL and slightly decreased to 75.6 mg/dL at posttest. The lowest triglyceride value recorded at pretest was 43 mg/dL and decreased to 41 mg/dL at posttest. Conversely, the highest triglyceride level increased from 113 mg/dL at pretest to 123 mg/dL at posttest.

Bivariate Analysis

Bivariate analysis was conducted to compare the effects of boiled coriander seed water, young coconut water, and the control group on triglyceride levels. Prior to inferential analysis, data normality and homogeneity were assessed to determine the appropriate statistical tests. The normality test indicated that the data were normally distributed ($p > 0.05$), and the homogenity test confirmed equal variances across groups ($p > 0.05$).

Table 9 : Normality Test

	Intervention	Kolmogorov-Smirnov		
		Statistic	df	Sig
Trygliceride Levels Post-test	Coriander Seed Water	.183	16	.156
	Coconut Water	.177	16	.193
	Control	.190	16	.124

Table 10 : Homogenity Test

Trygliceride Levels Post-test				
	Intervention	N	Subset for alpha = 0.05	
			1	2
Tukey HSD	Control	16	75.6250	
	Coconut Water	16	88.3125	88.3125
	Coriander Seed Water	16		120.8750
	Sig		.646	.067

Accordingly, paired t-tests were applied to evaluate differences between pretest and posttest triglyceride levels within each group, while one-way analysis of variance (ANOVA) was used to compare posttest triglyceride levels among the three groups. When the one-way ANOVA yielded statistically significant results, post hoc analysis using Tukey's Honestly Significant Difference (HSD) test was performed to identify specific between-group differences. The results of the bivariate analysis are presented below.

Table 11 : Paired t-Test

Variabel	Mean	Standard Deviation	Total Sample	T Value	*P Value*
Coriander water *pretest - Posttest*	18.62500	32.47743	16	2.294	**.037**
Coconut water *pretest - Posttest*	7.56250	33.86831	16	.893	.386
Control *pretest - Posttest*	1.68750	20.83497	16	.324	.750

***Notes**: p-value < 0.05 was considered statistically significant.

Based on the results of the paired t-test analysis, a statistically significant effect of boiled coriander seed water on triglyceride levels was observed (p = 0.037; p < 0.05). In contrast, the young coconut water group (p = 0.386; p > 0.05) and the control group (p = 0.750; p > 0.05) did not demonstrate statistically significant changes in triglyceride levels.

Table 12 : One-Way ANOVA Test

Variable	Group			*P Value*
	Coriander water n =16	**Coconut water n = 16**	**Control group n = 16**	
Trygliceride levels	120,8	90	75,6	**0,008**

***Notes**: p-value < 0.05 was considered statistically significant.

Based on the results of the one-way ANOVA, a statistically significant difference in posttest triglyceride levels was observed among the intervention groups (p = 0.008, < 0.05).

Table 13 : Tukey HSD Post Hoc Analysis of Effectiveness between Intervention and Control Groups

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	*P Value*	95% CI	
					Lower Bound	**Upper Bound**
Coriander Water Intervention	Coconut Water	11.21053*	3.75907	**.012**	2.1362	20.2848
	Control	13.83882*	3.93133	**.003**	4.3487	23.3290
Coconut Water Intervention	Coriander Water	-11.21053*	3.75907	.012	-20.2848	-2.1362
	Control	2.62829	3.93133	.783	-6.8619	12.1184
Control Group	Coriander Water	-13.83882*	3.93133	.003	-23.3290	-4.3487
	Coconut Water	-2.62829	3.93133	.783	-12.1184	6.8619

***Notes**: p-value < 0.05 was considered statistically significant.

Based on the Tukey HSD post hoc analysis, the boiled coriander seed water intervention group demonstrated a statistically significant reduction in triglyceride levels compared with the young coconut water group (p = 0.012) and the control group (p = 0.003). In contrast, the young coconut water intervention group did not show a statistically significant difference in triglyceride levels when compared with the control group (p = 0.783). These findings indicate that boiled coriander seed water was more effective in reducing triglyceride levels than young coconut water and no intervention.

DISCUSSION

Intervention Group

The intervention groups in this study were divided into two groups: the boiled coriander seed water group and the young coconut water group. Each group received the intervention for one week (7 days) at a dose of 250 mL once daily in the morning.

Based on the results of this study, the boiled coriander seed water intervention group showed that 13 out of 16 samples experienced a reduction in triglyceride levels. The mean pretest triglyceride level in the boiled coriander seed water group was 139.5 mg/dL, which decreased to 120.8 mg/dL after the intervention. The paired t-test analysis demonstrated a statistically significant effect with a p-value of 0.037 (< 0.05), indicating that boiled coriander seed water had a significant effect on reducing triglyceride levels.

This reduction is consistent with a study conducted by Kodariah (2020), which used high-fat diet–induced rats as experimental subjects and found that coriander seed extract significantly reduced serum triglyceride levels in rats. (Kodariah & Wahid, 2020) In addition, a phytochemical study conducted by Rosmiati (2020) on Swiss Webster mice demonstrated that flavonoids present in coriander were capable of lowering blood triglyceride levels. Flavonoids are compounds that reduce total cholesterol levels by inhibiting the activity of the enzyme HMG-CoA reductase, which plays a crucial role in cholesterol synthesis. By inhibiting this enzyme, flavonoids reduce endogenous cholesterol production. (Rosmiati & Aritonang, 2020)

Flavonoids also increase the number of low-density lipoprotein (LDL) receptors located on the membranes of hepatocytes and extrahepatic tissues. LDL receptors function to bind circulating LDL cholesterol particles in the bloodstream. An increase in LDL receptor expression enhances the clearance of cholesterol from the blood, leading to a reduction in total cholesterol levels. As total cholesterol levels decrease, the amount of LDL acting as a lipid transport carrier in the blood is also reduced. Consequently, flavonoids contribute to a decreased risk of cardiovascular disease and other health problems associated with elevated cholesterol levels. (Rosmiati & Aritonang, 2020)

In addition to flavonoids, coriander water also contains saponins. Saponins reduce blood cholesterol levels by inhibiting the absorption of cholesterol and triglycerides. (Shrivastana, 2017) The mechanism of action involves the formation of insoluble complexes with cholesterol in the intestinal lumen. Saponins also bind to bile acids, form micelles, and enhance the binding of cholesterol and triglycerides by dietary fiber. Through these mechanisms, saponins reduce the absorption of cholesterol and triglycerides, thereby potentially lowering the risk of cardiovascular disease, particularly those associated with atherosclerotic plaque formation and other lipid-related health conditions. (Rai & Acharya-Siwakoti, 2021)

In contrast, the young coconut water intervention resulted in a non-significant reduction in triglyceride levels, with the mean value decreasing from 98 mg/dL to 90 mg/dL. This finding was supported by the paired t-test analysis, which showed a non-significant p-value of 0.386 (> 0.05). The lowest triglyceride level recorded during the pretest was 60 mg/dL and 61 mg/dL during the posttest, while the highest triglyceride level decreased slightly from 137 mg/dL at pretest to 135 mg/dL at posttest.

A study conducted by Emmanuel *et al*., (2022), which used carbon tetrachloride–induced rats as experimental subjects and administered coconut water for 14 days at doses of 2 mL/kg, 4 mL/kg, and 6 mL/kg alongside carbon tetrachloride at 1 mL/kg, found no significant effect of coconut water on blood triglyceride levels. This outcome was attributed to the disruption of lipid metabolism caused by carbon tetrachloride, which is associated with atherosclerosis and coronary heart disease. (Emmanuel, 2022) Lipid metabolism disturbances may also be influenced by various factors such as inflammation, smoking, and insufficient physical activity. (Zhang, 2018)

Similarly, a study conducted by Rahmayanti (2016) using alloxan-induced diabetic rats, in which young coconut water was administered at a dose of 4 mL/day for 14 days, found no significant reduction in serum triglyceride levels. This was attributed to alloxan-induced impairment of hepatic insulin activity, leading to increased synthesis of apolipoprotein B-100 and subsequently elevated hepatic lipid production. (Rahmayanti, 2016)

Conversely, a study by Azra *et al*., (2023) reported that coconut water was able to reduce blood triglyceride levels. This effect was attributed to the L-arginine content in coconut water, which may reduce triglyceride accumulation in the bloodstream. (Azra & Setiawan, 2023) Another study by Prasetyo *et al*., (2022), which evaluated the effect of young coconut consumption on cholesterol levels in healthy individuals using a daily dose of 250 g coconut meat and 150 mL coconut water for 14 days, also demonstrated a significant reduction in cholesterol levels among healthy participants. (Prasetyo *et al.,* 2022) The non-significant findings observed in the young coconut water intervention group in this study may be influenced by uncontrolled dietary intake, as well as the time interval between the final day of intervention and posttest measurement, which may have affected the laboratory results and constitute limitations of this study.

Control Group

The control group in this study did not receive any intervention, either boiled coriander seed water or young coconut water, and served as a comparison group for evaluating triglyceride levels in the intervention groups. In the control group, the mean pretest triglyceride level was 77.3 mg/dL, while the mean posttest level was 75.6 mg/dL. Statistical analysis using the paired t-test showed a p-value of 0.75 (> 0.05), indicating that there was no significant change in triglyceride levels in the control group before and after the observation period. The lowest triglyceride value recorded in the control group was 43 mg/dL at pretest and 41 mg/dL at posttest, while the highest value increased from 113 mg/dL at pretest to 123 mg/dL at posttest.

Comparison between the Intervention Groups and the Control Group after Intervention

The results of this study demonstrated a statistically significant difference in triglyceride reduction among the boiled coriander seed water intervention group, the young coconut water intervention group, and the control group, as evidenced by the one-way ANOVA analysis (p = 0.008, < 0.05). Furthermore, differences in intervention effectiveness were confirmed by the Tukey HSD post hoc test, which showed that boiled coriander seed water was significantly more effective in reducing triglyceride levels than young coconut water (p = 0.012, < 0.05). The boiled coriander seed water intervention was also significantly more effective than the control group (p = 0.003). In contrast, the young coconut water intervention did not demonstrate a statistically significant difference compared with the control group (p = 0.783, > 0.05).

CONCLUSION

Based on the findings of this study, it can be concluded that there was a significant difference in effectiveness between the interventions, with boiled coriander seed water being more effective in reducing triglyceride levels than young coconut water. A statistically significant reduction in triglyceride levels was observed before and after the administration of boiled coriander seed water, indicating a clear therapeutic effect of this intervention. In contrast, the administration of young coconut water did not result in a statistically significant change in triglyceride levels before and after the intervention.

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