

Cinnamon Water Extract: for Lowering High Blood Cholesterol Level of Students and Staff Members of Buraydah College of Pharmacy and Dentistry

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ABSTRACT

Hyperlipidemia (high level of cholesterol in blood) may have a negative effect on the overall health including hypertension and platelet adhesions. The use of herbal medicine, like consumption of cinnamon in treating and preventing abnormality in lipid metabolism has gained an important attention. In this study, immediate effect of cinnamon extract on blood cholesterol was observed and determined. In this study thirty individuals were participated from Buraydah Private College, Kingdom of Saudi Arabia. Two blood samples were taken from each participant before and after consumption of cinnamon extract in the duration of ten days. Twenty three participants were observed lower blood cholesterol level in compare to before intervention. This study showed that cinnamon have a positive impact on lowering high blood cholesterol.

Keywords: Cinnamon, Cholesterol, Hyperlipidemia.

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INTRODUCTION

Cinnamon (Cinnomommmzey/oniconmand Sinnomoncossio, Family: Lauraceae) is one of the most common spices used daily by lots of people all over the world.¹ It is the inner bark of a tropical evergreen tree and contains cinnamaldehyde (65- 80%), lesser percentages of other phenols and terpenes.² Cinnamon contains major oils and other derivatives, such as cinnamic acid, cinnamaldehyde, and cinnamate. Cinnamon is a lipid-lowering, antioxidant, anti-inflammatory, antidiabetic, antimicrobial and anticancer activity.³ The use of herbal medicine in addition to diet, as a pharmacologic modality in treating and preventing abnormality in lipid metabolism has gained a wide attention.⁴ Cholesterol is a fatty substance known as lipid cholesterol important for the normal functioning of the human body. However, having an excessively high level of cholesterol in blood (high blood cholesterol or hyperlipidaemia) can have an effect on overall health.⁵ High blood cholesterol is the onset of abnormal lipid metabolism secondary to the progression of the atherosclerotic disease.

MATERIALS AND METHODS:

Location, sample size and criteria for registration of the study

Dried powdered barks of cinnamon (Cinnamomum) were purchased from

Agricultural Herbs at local market of Buraydah. The study was conducted in the Biochemistry Lab, College of Pharmacy, Buraydah Private Colleges after taking the permission from the Institutional Ethics Committee (IEC November 2016) in the month of November 2016. Thirty students and staff members were participated in this study from College of Pharmacy and Dentistry, Buraydah Private Colleges, Al-Qassim.

Protocol of the Study

The study was conducted for ten days. On day zero no cinnamon bark powder was given to the volunteers. The individuals were allowed to take their routine diet and instructed to take 2000 mg/100 ml water extract per day from day one to day ten.

Instrument Analysis

Spectro-photometer 5010, Pipette, Syringe, Test tube, Sample tube and Biochemical kit used were of Human Company centrifuge.

Data Collection

Serum sample was collected and analyzed of every participant in this study at day zero and at day ten.

The results of blood cholesterol before and after intervention were recorded and analyzed.

RESULTS AND DISCUSSION

Out of thirty individuals seven were excluded because they have normal results at the time of intervention. Since normal level of cholesterol is less than mg/dl, 5 the effect of cinnamon extract on twenty three participants was very consistent and lead to lowering blood cholesterol. Eighteen participants have marked blood cholesterol after consumption of cinnamon extract while five participants showed slight effects. The minimum and maximum % cholesterol reduction was 3.06% and 43.75% for the individuals S. No. 15 and 21 respectively (Table 1).

CONCLUSION

In present work the consumption of cinnamon was associated with the decreasing high cholesterol levels in blood. % Change (up to -44%) and % Reduction (up to 43.75%) in cholesterol level clearly indicated the effectiveness of cinnamon extract in the selected individuals.

Table: 1 Cinnamon extract showing low blood cholesterol level.

S. No.	Cholesterol level (mg/dl) day zero	Cholesterol level (mg/dl) after consuming cinnamon water extract on day ten (2000 mg/100 ml given per day to each individual for ten days)	% Change (% Reduction) in cholesterol level
1	199	141	-30% (29.15%)
2	187	130	-29% (30.48%)
3	151	Excluded	-
4	242	137	-44% (43.38%)
5	203	147	-28% (27.58%)
6	199	140	-30% (29.64%)
7	197	138	-30% (29.94%)
8	112	Excluded	-
9	199	140	-30% (29.64%)
10	240	135	-44% (39.58%)
11	209	150	-29% (28.22%)
12	202	153	-25% (24.25%)
13	252	180	-40% (28.57%)
14	123	Excluded	-
15	196	190	-4% (3.06%)
16	161	Excluded	-
17	187	171	-9% (8.55%)
18	196	183	-7% (6.63%)
19	198	190	-6% (4.04%)
20	182	131	-28% (28.02%)
21	240	135	-44% (43.75%)
22	198	184	-7% (7.07%)
23	199	143	-29% (28.14%)
24	215	176	-18% (18.13%)
25	200	150	-25% (25%)
26	161	Excluded	-
27	201	150	-25% (25.37%)
28	177	Excluded	-
29	199	150	-25% (24.62%)
30	141	Excluded	-

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