

\*

( % 0.3 )

(Hypercholesterolemia )

(L) (B)

*Lactobacillus acidophilus*  
*Bifidobacterium spp.*  
 ( P < 0.05 ) L  
 ( P < 0.05 )

.S B L  
 .B L

( P < 0.05 )

.S L

*Lactobacillus acidophilus*

Thompson) ( 1982 Grunewld )  
 ( 1983 ) Rao Pulusani . ( 1982

*Lactobacillus acidophilus*

(1985 ) Robinson ( 2009 Ibeaghu-Awemu )  
 Orotic acid

*Lactococcus* (1997 ) Prasad Beena ( 1992 ) Nakajima  
*Bifidobacterium bifidum lactis ssp . cremoris*  
 (2000 St-Onge )

HDL- ( )

Bifidus yoghurt

. 2011 / 2 / 9

. 2011 / 4 / 3

*Lactobacillus*

*Bifidobacterium spp. acidophilus*  
Hypercholesterolemia

)

(

:

( 1981 )

Bieri

.1

.2

.3

( )

\*

<sup>(1)</sup>AIN

.1

g/kg mixture	Ingredient
500.0	Calcium phosphate
74.0	Sodium chloride
220.0	Potassium citrate monohydrate
52.0	Potassium sulfate
24.0	Magnesium oxide
3.5	Manganous carbonate
6.0	Ferric citrate
1.6	Zinc carbonate
0.3	Cupric carbonate
0.01	Potassium iodate
0.01	Sodium selenite
0.55	Chromium potassium sulfate
To make 1000.0	Sucrose

%3.5

\*

.American Institute of Nutrition(1)

%0.3

.4

Gilliland Buck 1992

Nakajima )

15 20 50 .( 1994  
 1.1 AIN 3.5 5  
 0.3 1.1

*Lactobacillus* %10  
 ATCC *acidophilus* 43121  
 / / *Bifidobacterium* spp.  
 10 °121  
*Lactobacillus acidophilus* 43121 %1  
 °37 *Bifidobacterium* spp.  
 18 *Bifidobacterium* spp. 16  
*Lactobacillus acidophilus*  
 18 7-6  
 (S ,L, B)  
 (S)  
 (Zero day)  
 -16  
 Ferric Chloride / 3000 18  
 )  
 .( 1969 Hanok ) (Method  
 , ( 1957 ) Folch

Rothblat Krichevsky Thin-Layer Chromatography (TLC)  
 ( 1957 ) Folch . ( 1963 )  
 (TLC)  
 Densitometer  
 (UV Light)  
 ( 1978 ) Speck  
 Lactobacilli Lactobacilli  
 CO<sub>2</sub> MRS  
 ( 1980 ) Alford Harigrove .(Kiss, 1983.)

$$Y_{ij} = M + T_i + E_{ij}$$

(C.R.D)

SAS

*Bifidobacterium* spp. *Lactobacillus acidophilus*

( 1982 ) Grunwahd

$10^7$   
*Lactobacillus*

(2)  
*Bifidobacterium* spp. *acidophilus*

( 1981 ) Rao

(1982) Grunwald

*Lactobacillus acidophilus* **43121**  
(B L)

2  
*Bifidobacterium* spp

$62.0 \times 10^7$ a	$10.3 \times 10^7$ a	$17.3 \times 10^7$ a	$11.8 \times 10^7$ a	L <sup>⊕⊗</sup>
$16.9 \times 10^7$ a	$18.5 \times 10^7$ a	$19.6 \times 10^7$ a	$17.8 \times 10^7$ a	B <sup>⊕⊗</sup>

:⊗  
:⊕  
:a

B L S (3)

B L S

( 1976 ) Harris

$10^9$

*Lactobacillus* L (p < 0.01)  
acidophilus 43121 B S

*Lactobacillus acidophilus* 43121

Lactobacilli ( 1987 ) Itoh  
*Lactobacillus acidophilus*  
Lactobacilli (3)  
Aklin (L)  
/ . . . <sup>11</sup>10<sup>-10</sup>10 ( 1997 )

/ . . . **Lactobacilli** .3  
**MRS**

**.B L**

$7.0 \times 10^7$ c	$5.0 \times 10^7$ b	$6.2 \times 10^7$ a	S <sup>⊗</sup>
$26.1 \times 10^{10}$ a	$5.7 \times 10^9$ a	$4.1 \times 10^7$ a	L <sup>⊗</sup>
$8.8 \times 10^8$ b	$11.5 \times 10^7$ b	$3.5 \times 10^7$ a	B <sup>⊗</sup>

(P < 0.01)

\*

⊗

(p < 0.05)

(4)

.%0.3

B L S

B L S

(4)

S  
(p < 0.05)

B L

.4

.B L

	( / )	( / )	( )	( )	
8.8 a	51.16 b	5.81 a	29.83 a	24.02 a	S <sup>⊗</sup>
8.6 a	53.04 a	6.13 a	29.63 a	23.50 a	L <sup>⊗</sup>
7.44 a	49.98 c	6.71 a	29.61 a	22.9 a	B <sup>⊗</sup>

(p < 0.05)

\*

6 ⊗

(p < 0.05)

B

L

*Bifidobacterium*

(4)

.B L S

*Lactobacillus acidophilus*

*Bifidobacterium*

( 1983 )

Hitchins

St-Onge )

LDL-

(2000

%27-20

( )

L

(5)

(p < 0.05)

L

*Lactobacillus acidophilus*

( 1976 Bersntien Brandt )

(5)

L

Walker and )

(Gilliland, 1993

( 1970 ) Sazuki

L

*L. acidophilus*

( 2000 St-Onge )

( p < 0.05 )

( 5 )

S

( 1977 )

Sadzikowski

B L

B

*Bifidobacterium spp.*

.5

.B L

( / )	Cholic + Deoxycholic ( / )	( / )	
7.00 b	0.22 b	96.75 b	S*
11.15 a	29.39 a	118.23 a	L*
11.86 a	0.91 b	87.1 c	B*

( p < 0.05 )

\*

*Lactobacillus acidophilus*

L

Lactobacilli

( 100/ )

.6

.B L

	⊗		
82.24 c	89.75 a	63.81 a	S*
73.31 a	91.48 a	65.25 a	L*
78.93 b	92.65 a	62.37 a	B*

⊗

\*

B

( 5 )

B L S

(6)

14

(p < 0.05)

*Bifidobacterium*

*Lactobacillus acidophilus*

L

(5)

(2000)St-Onge ( 1992 )

Imaizumi

HMG

( 1997 ) Prasad Beena

*Bifidobacterium*

( 1999 )

Nakajima

Ibeagha-Awemu ( 2006 ) Murry FitzGerald

$\alpha$

( 2009 )

(Ile-Ile-Ala-Glu-Lys)

-lactotensin (His-Ile-Arg-Leu)

.(2009

Ibeaghs-Awemu) $\beta$ -lactoglobulin



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**EFFECT OF FERMENTED MILK ON MICE BLOOD CHOLESTEROL LEVEL FEEDING .****Omar A. A. Al-Dorrah****Amir K. A. Al-Darwash****\*Department of Food Science - College of Agriculture - University of Baghdad.****ABSTRACT**

The present study included feeding eighteen mice on cholesterol-enriched diet of 0.3 % for two weeks to increase the blood cholesterol and divided into three groups of six rats. First was fed on cholesterol rich feeds and then on skim milk as control (S) while the second group (L) was fed on skim milk fermented by *Lactobacillus acidophilus*. The third group (B) was fed on skim milk fermented by *Bifidobacterium spp.*

There was an increase ( $p < 0.05$ ) in feed intake for group L<sub>2</sub>, but no significant difference was appeared in feed conversion efficiency. Results showed differences ( $p < 0.05$ ) among treatments in feed lipids and the highest level and lowest levels were in group L and group B , respectively .A significant increase ( $p < 0.05$ ) in group L was found compared with S and B . There was no significant difference between group L<sub>2</sub> and group B<sub>2</sub> in the level of coprostanol in fecal lipids which was low in group S .The high level of cholesterol was decreased (  $p < 0.05$  ) after two weeks of treatment and the highest decrease was in group L and the lowest was in group S .

Key words: Reduction of Blood cholesterol in rat, *Lactobacillus acidophilus*, *Bifidobacterium*.