

(2013 / 8 / 18 2013 / 5 / 30)

Yersinia enterocolitica

.Staphylococcus aureus Listeria monocytogenes

Yersinia

Staphylococcus aureus Listeria monocytogenes enterocolitica
%10,5,0 %0

Listeria Yersinia enterocolitica

%60,30,40

Staphylococcus aureus monocytogenes

:

Bacteriological Study of some Locally Prepared Salads in some Restaurants in Mosul City

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ABSTRACT

The Bacterial contamination of some locally prepared salads in some restaurants in Mosul city was studied. These salads were prepared from vegetables and legumes with souse and flavors. Samples were collected from random restaurants in four different places in Mosul city including: Al-Majmoa Al-Thakafia, Al-Zuhoor, Al-Nabi Younis and Al-Dawasa.

Total plate count, gram negative and spore forming bacteria were detected, as well as some pathogenic bacteria such as *Yersinia enterocolitica*, *Listeria monocytogenes* and *Staphylococcus aureus*.

In general, the results showed contamination of these foods with variable numbers and rates of different types of bacteria in these restaurants under study which comprised harmful on environment and general health.

Al-Majmoa Al-Thakafia restaurants were showed lowest rate of contamination with *Yersinia enterocolitica*, *Listeria monocytogenes* and *Staphylococcus aureus* in cucumber and tomato salad (0%) and in spakety with (0,5,15%), and the percentages of contamination were different in miyones and hommus betahena, while salads collected from Al-Nabi Younis restaurants showed high contamination rate with those three pathogenic bacteria as hommus betahena represent the highest rate of contamination (40,30,60%) for each of *Yersinia enterocolitica*, *Listeria monocytogenes* and *Staphylococcus aureus* respectively.

Keywords: Bacterial contamination, salads, restaurants in Mosul city.

.(WHO 2004)

.(Gorny, 2006)

.(Santos *et al.*, 2012)

.....

(Abdullahi and Abdulkareem, 2010 ; Laniewska, 2003)

.(Taban and Halkman, 2011)

.(Halablab *et al.*, 2011)

.(Uzeh *et al.*, 2009)

%54.3

.(Johannessen, 2002) %45.7

.(Mensah, 2002)

.(Abadias *et al.*, 2008)

.(Aycicek *et al.*, 004)

.(Nogueira *et al.*, 2003)

E. coli

.(Zhao *et al.*, 1997)

4.1-3.7 pH

21-14

4-3

pH 8

31

Vibrio cholera , *E. coli* , *Staph. aureus* ,

(Miller and Kasper, 1994)

.(Francis *et al.*,1999)

Pseudomonas spp.

(1999) Buchanan .(Hwang *et al.*, 2007)
 .(Buchanan *et al.*,1999) *Salmonella*

75

Oxoid

:

MacConkey's Agar

Nutrient Agar

Tryptose Agar Medium with PT

Blood Agar

Samonella

Listeria monocytogenes

Yersinia enterocolitica

Shigella Deoxycholate Citrate Medium (SSDS)

.Staphylococcus aureus

Mannitol Salt Agar

³ 4.5

0.5

(Normal saline)

:

10^{-4}

10^{-1}

.....

:

10^{-4} 10^{-3} ³ 1

48-24 ° 37

.

:

° 37 10^{-3} 10^{-2} ³ 1

. 48

:

30 °80 10^{-2} 10^{-1}
³ 1

. 48 ° 37

Listeria monocytogenes

:

(Tryptose Agar Medium with PT)

° 37 10^{-1} ³ 0.1

. 24

Yersinia enterocolitica

:

SDS

. 24 ° 37 10^{-1} ³ 0.1

Staphylococcus aureus

:

³ 0.1 Mannitol Salt Agar

. 24 ° 37 10^{-1}

: -1

: -2

: -3

(Benson, 2012)

45 4

coagulase

.IMViC

Staph. aureus , *Yersinia enterocolitica* , *Listeria monocytogenes*

.3 , 2 , 1

/ $10^3 \times 32,20,18,10$

(1)

(2)

/ $10^3 \times 29,15,12,8$.(3) / $10^2 \times 14,15,9,11$ *Staph. aureus* , *L. monocytogenes* , *Y. enterocolitica*

%15,5,0

3,1,0

5, 4, 5

%20,15,25

4,3,5

Staph. aureus , *L. monocytogenes* , *Y. enterocolitica*,

%25,20,25

(1)

.(Abadias *et al.*, 2008; Nogueira *et al.*, 2003)

.....

(Valero *et al.*, 2012)

(Saadia and Easa, 2010)

.(Khiyami *et al.*, 2011)

(2011)

Khiyami

/ $10^5 \times 4.5-2$

Elmacioglu

/ $10^4 \times 8-2$

%84.4

/ 10^5-10^2

(2010)

180

.(Viswanathan and Kaur, 2001)

/ $10^{10} - 10^5$

Al-Mohizea

(Al-Mohizea, 1994)

340

/ $10^4 - 10^2$

Proteus Pseudomonas

Uzeh *et al.*, (2009)

Salmonella

Abdullahi and Abdulkareem, (2010)

Staph.

%3.7

%40-0

Yersinia

.(Al-Mohizea, 1994)

%30 - 0

L. monocytogenes

340

%44

Al-Mohizea

(1990)

Tiwari and Aldenrath

%7.8

. Ryu *et al.*, (1992)

103

deSimon *et al.*, (1992)

%30-0

Staph. aureus

Radyko and Trokenheim, (2007)

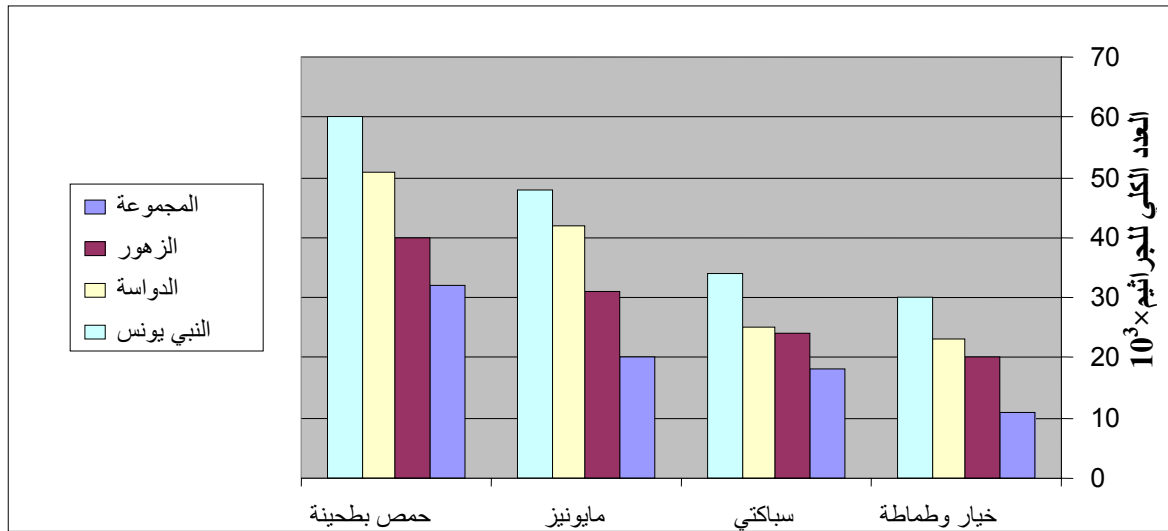
(2010)

Elmacioglu

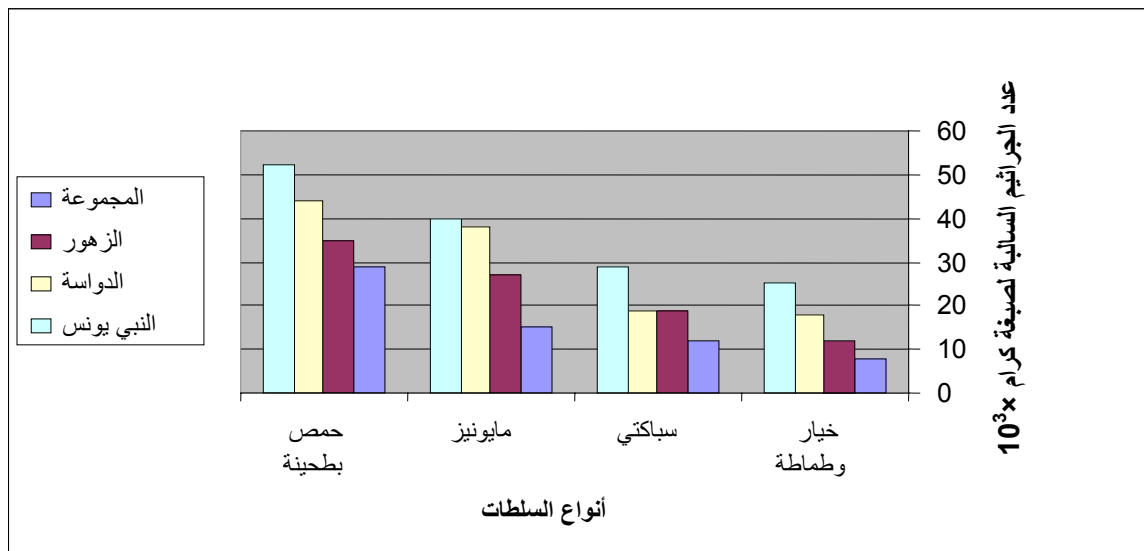
84

180

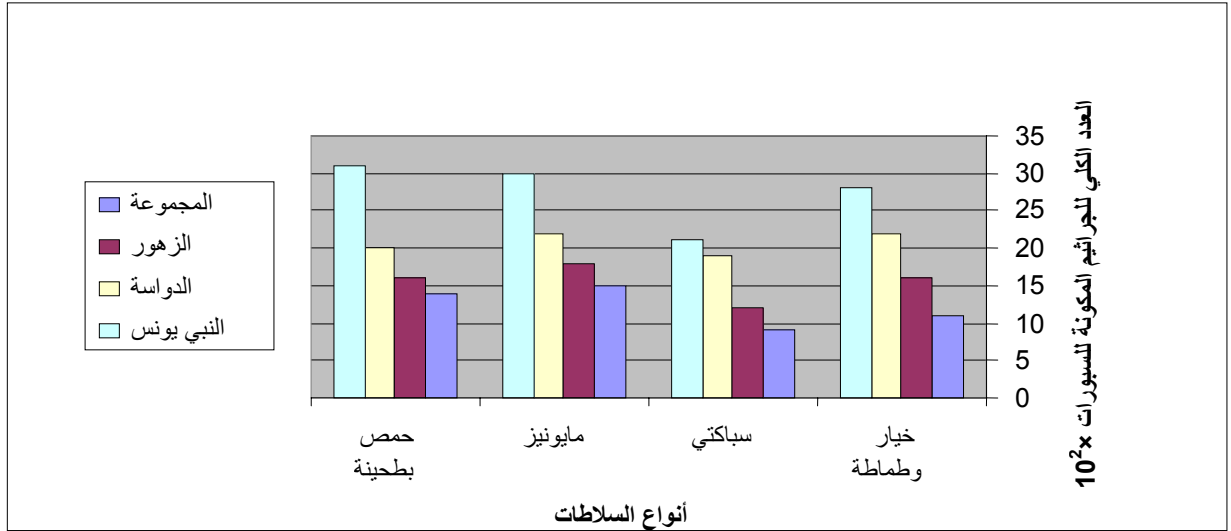
%10



:1



: 2



: 3

:1

<i>Staph.aureus</i>		<i>L.monocytogenes</i>		<i>Y.enterocolitica</i>			
%		%		%			
%0	0	%0	0	%0	0		
%15	3	%5	1	%0	0		
%20	4	%15	3	%25	5		
%25	5	%20	4	%25	5		
%15	3	%10	2	%0	0		
%20	4	%15	3	%10	2		
%30	6	%15	3	%25	5		
%30	6	%20	4	%25	5		
%20	4	%15	3	%10	2		
%30	6	%20	4	%15	3		
%30	6	%20	4	%25	5		
%40	8	%25	5	%30	6		
%20	4	%15	3	%15	3		
%40	8	%20	4	%20	4		
%40	8	%25	5	%30	6		
%60	12	%30	6	%40	8		

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