

2004

. 2004 /7/14

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الاهداء

الى النورين اللذين أنارا دربي بحبهما وعطفهما

الى مثل التضحية والعطاء

الى والديّ الحبيين الاعز على قلبي

الى زوجتي التي تحملت معي الصعاب

الى اولادي وإخوتي الاحباء

اهدي ثمار جهدي

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53		37
54		38
55		39
56		40

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(SPSS)

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%43.9

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(%79.7)

%63.7

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%15.8

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%65

%71

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.(1991)

.(Lyons, 1999; 1995)

.(Kleeven J. W. L., 1966)

.(1997)

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:(Koopman S. 1978)

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.(Hveem *et al.*, 2000)

250

.(1991)

.(Bartram-2001)

.(1998)

(WRAP, 1994) %80

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-1

.(WRAP, 1994)

38.5%

-2

.(WRAP, 1994)

%50-%40

-3

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%60-50

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(WRAP, 1994)

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.(Stander G. J., 1980)

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.(Hveem *et al.*, 2000)

.(Sahba, G. H., 1967)

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Cryptosporidium .1

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Giardia lamblia .2

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15 *Ascaris Lumbricoides* .3

33

Entamoeba histolytica .4

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Salmonella typhi & *Salmonella paratyphi* .1

Vibrio cholera .2

.(Hug and Colwell, 1990; Bartlet, 1996)

(Bscillary dysentary)

Shigella .3

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. (Bartlet, 1996)

Norwalk virus .1

.(Bartlet, 1996)

A & E .2

.(Bartlet, 1996)

Poliomyelitis

Polio Virus .3

.(Payment, 1999)

Rota Virus A .4

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Adeno virus 40, 41 .5

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(indicator)

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(sedimentation)

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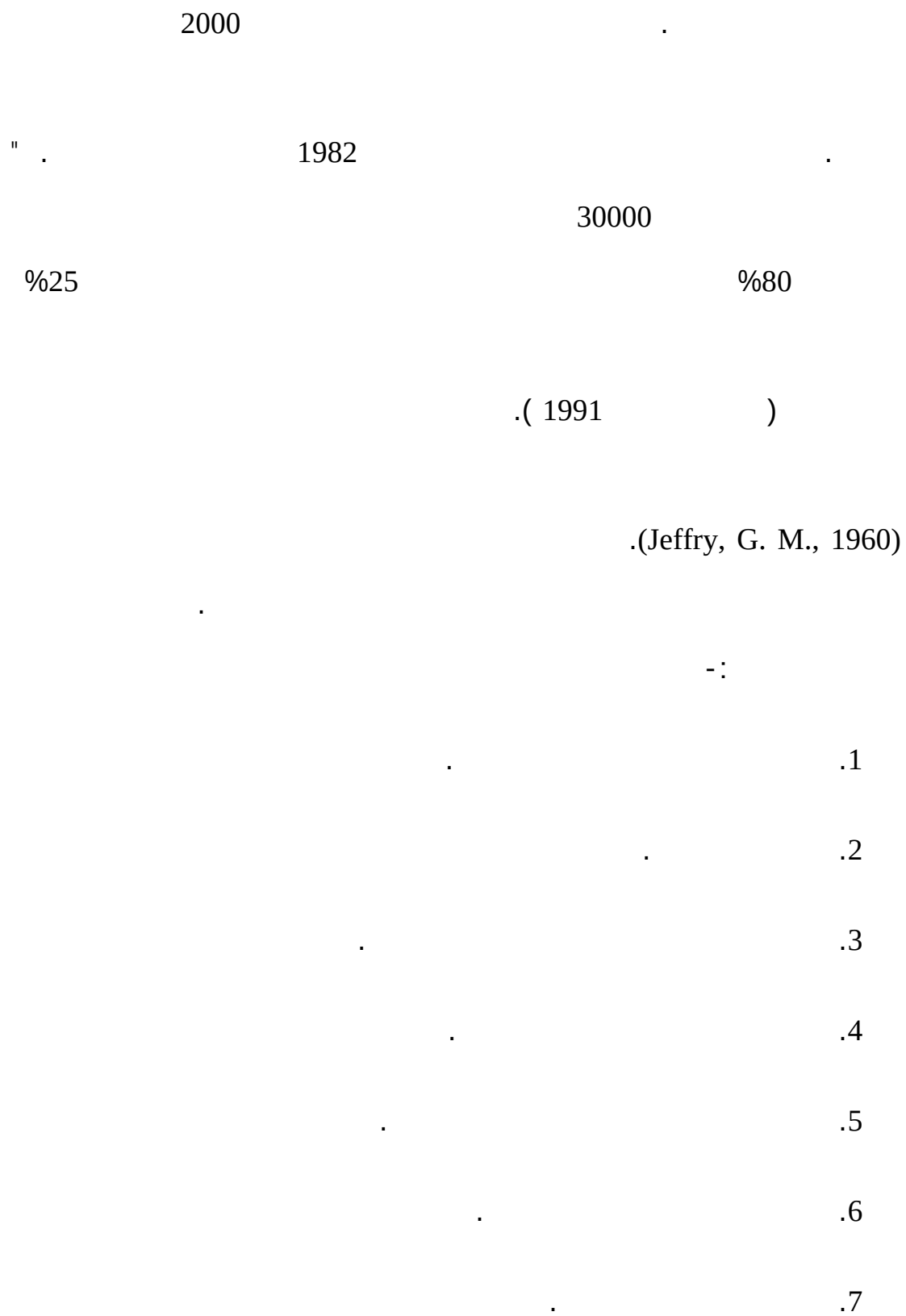
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.(Barrell *et al.*, 2000)



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(Leachate)

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.(1998)

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Infantile Meth Hemoglobinemia •
(1998) cyanosis

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.(Henry F. J., 1981)

.(Hveem *et al* , 2000)

.(Hveem *et al.* , 2000)

Water Born Diseases (1

.(WHO/OMS , 1998)

.(Kleevns J. W. L., 1966)

(2

.(WHO/ OMS , 1998)

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(1

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.(Hunter, 2003)

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.(Jeffery G. M, 1960)

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(2

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(3

.(WHO /OMS , 1998)

:Water Based Disease (4

.(Hveem *et al*, 2000)

:Insect Vectors Diseases (5

.(Abdel-Hadi, R. 1994)

.(WHO/OMS, 1998)

ثانيا: الدراسات السابقة:

(2003)

500

.1999

%34

%9.2

%60.6

ppm 0.2

(Koly, 2003)

(2003)

(1994)

22

(2003)

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30

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(1347)

(13-12)

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(1)

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(2)

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(% 70)

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(0.84)

(Alpha Chronbach)

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.(SPSS)

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(SPSS)

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(K²)

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(SPSS)

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(1347)

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(1

.(1)

.1

%		
34.9	470	5
54.5	734	10-6
10.6	143	11
100	1347	

%54.5

5

%34.9

10-6

. 11

%10.6

. 6.6

(2

.(2)

. **.2**

%		
51.2	689	
19.2	259	
12.1	163	
17.5	236	
100	1347	

%51.2

%17.5

%19.2

. %12.1

(3

.(3)

.3

%		<i>I</i>
29.8	401	200 - 100
35.6	479	300 - 200
19.2	259	400 – 300
6.4	86	500 - 400
6.0	81	600 - 500
3.0	41	
100	1347	

300

%65.4

(4

.(4)

.4

%		
57.1	769	
23.6	318	
16.7	225	
2.6	35	
100	1347	

%57.1

(5)

.(5)

.5

%		
73.9	996	
11.7	157	
13.4	180	
1.0	14	
100	1347	

%73.9

(6)

.(6)

.6

%		
44.5	600	
45.8	617	
9.3	125	
0.4	5	
100	1347	

%45.8

%44.5

%9.3

(7

.(7)

.7

%		
87	1172	
0.6	8	
3.8	51	
8.6	116	
100	1347	

%87

(8

.(8)

.8

%		
4.7	63	
8.4	113	
4.4	59	
2.4	32	
80.2	1080	
100	1347	

(9)

.(9)

.9

%		
79.7	1074	
8.9	120	
11.4	153	
100	1347	

%79.7

(10

.(10)

.10

%		
0.8	10	
8.7	118	
3.2	43	
14.8	200	
72.5	976	
100	1347	

%72.5

(11

.(11)

.11

%		
7.5	100	
76.7	1033	/
15.8	214	
100	1347	

%76.7

%15.8

(12

.(12)

.12

%		
22.6	305	
67.9	914	
9.5	128	
100	1347	

%67.9

(13

.(13)

.13

%		
9.7	131	
7.2	97	
15.3	206	
63.7	858	
4.1	55	
100	1347	

%63.7

(14

.(14)

.14

%		
15.4	207	
65.0	876	
18.6	251	
1.0	13	
100	1347	

. %65

(15

.(15)

.15

%		
6.1	66	
0.6	7	
86.1	933	
7.1	77	
100	1083	

%86.1

.

(16

.(16)

.16

%		
17.2	232	
75.9	1022	
3.3	44	
2.5	34	
1.1	15	
100	1083	

(17

.(17)

.17

%		
26.9	362	/
59.6	803	
13.5	13.5	
-	-	
100	1083	

%59.6

(18

.(18)

.18

%		
66.4	894	
16.4	221	
15.9	214	
1.3	18	
100	1347	

%66.4

(19

.(19)

.19

%		
19.6	264	5 - 1
31.1	419	10 - 5
19.3	260	15 - 10
30.0	404	20 - 15
-	-	
100	1347	

(20

.(20)

.20

%		
11	148	
86.3	1163	
1.5	20	
1.2	16	
100	1347	

%86.3

.

(21

.(21)

.21

%		
33.8	455	
13.0	175	
53.2	717	
100	1347	

.

%33.8

(22

.(22)

.22

%		
8.5	115	10
19.6	264	20
20.8	280	30
51.1	688	
100	1347	

30

%47.5

.

(23

.(23)

.23

.

%		
38.5	519	100-50
29.4	396	150-100
22.6	305	200-150
9.4	127	
100	1347	

%38.5

. 100 – 50

(24

.(24)

.24

.

%		
66.1	166	
33.9	85	
100	251	

%66.1

%33.9

.

(25

.(25)

.25

.

%		
11.00	32	
19.93	58	
27.49	80	
14.43	42	
2.41	7	
18.90	55	
5.84	17	()
100	291	

%27.49

%18.9

%19.93

. 251 291

(1

.(26)

.26

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*		
15.2	38	
51.8	130	
16.3	41	
16.7	42	
100	251	

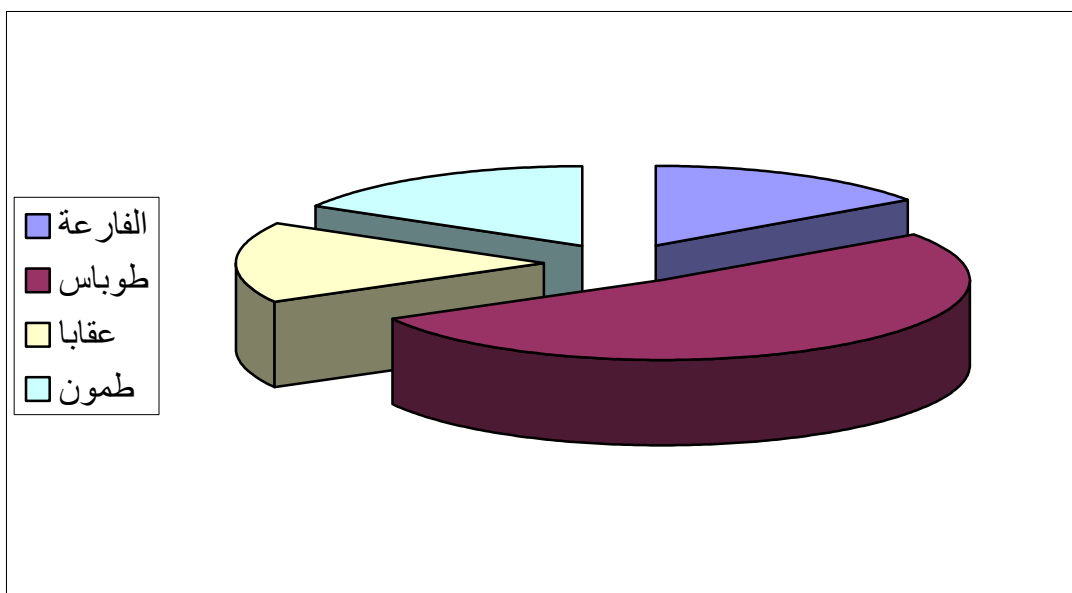
. 3 (0.001) (96.23) k² *

(0.05)

α

.

.



1.4 .

(2

.(27)

.27

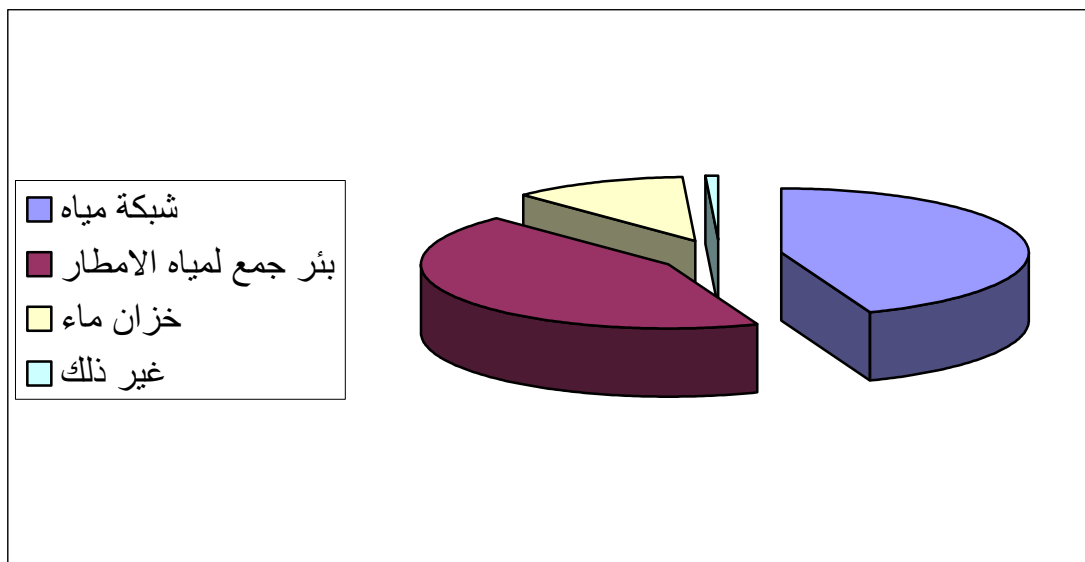
%		
44.22	111	
43.43	109	
11.55	29	
0.80	2	
100.00	251	

* k^2 (148.14) (0.001) 3 .

α

(0.05)

0.001



2.4

(3)

.(28)

.28

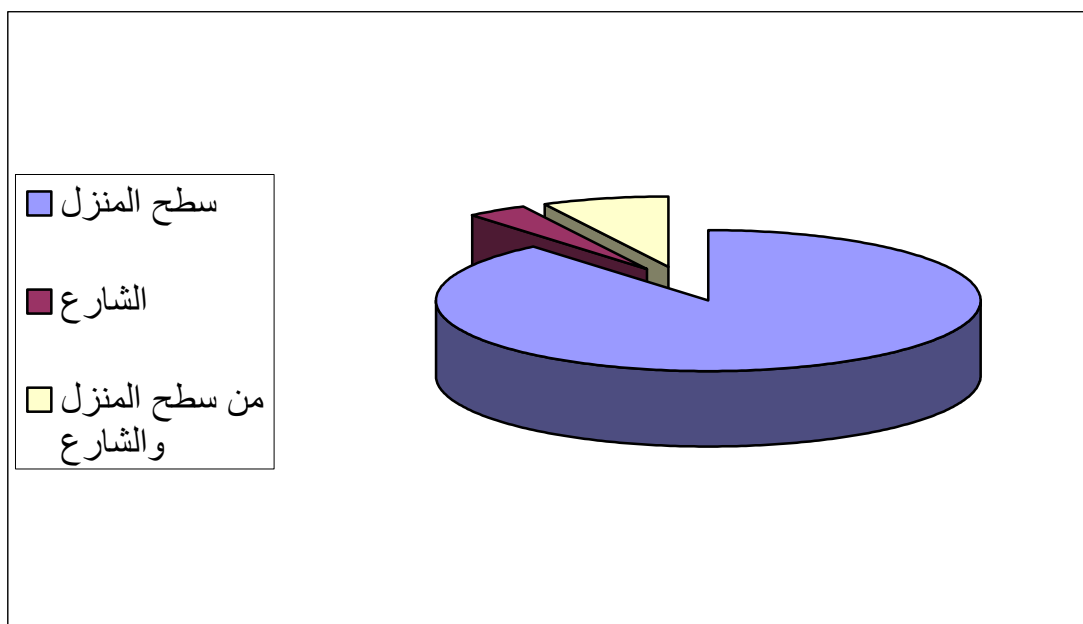
%		
88.84	223	
3.59	9	
7.57	19	
100	251	

2

(0.001)

k^2 (348.65) *

(0.05)



. 3.4

(4

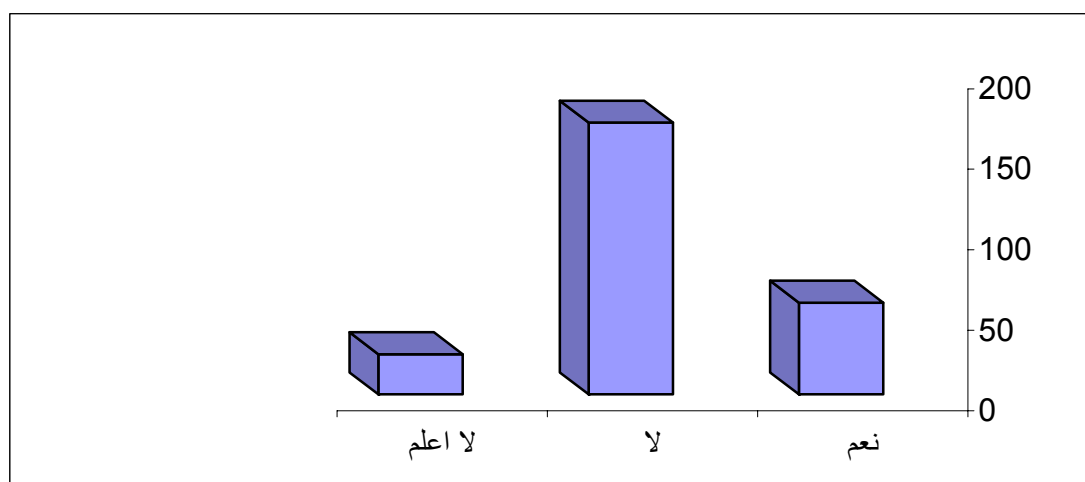
.(29)

.29

%		
22.71	57	
67.33	169	
9.96	25	
100	251	

. 2 (0.001) (136.66) k^2 *

4.4



4.4

(5

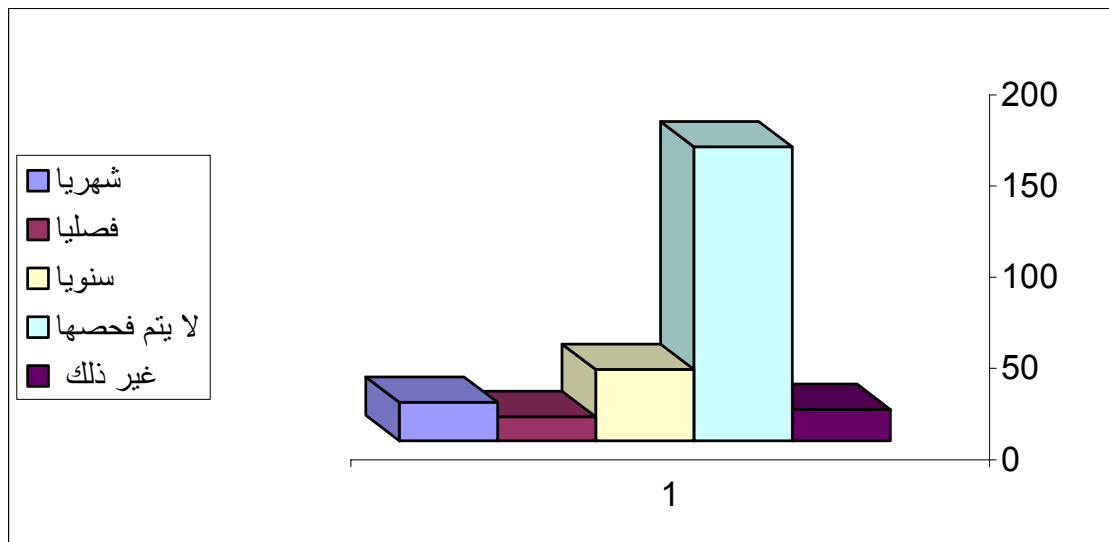
.(30)

.30

%		
8.37	21	
5.18	13	
15.54	39	
64.14	161	
6.77	17	
100	251	

. 4 (0.001) (313.56) k^2 *

5.4 (0.05) 0.001 α



5.4

(6

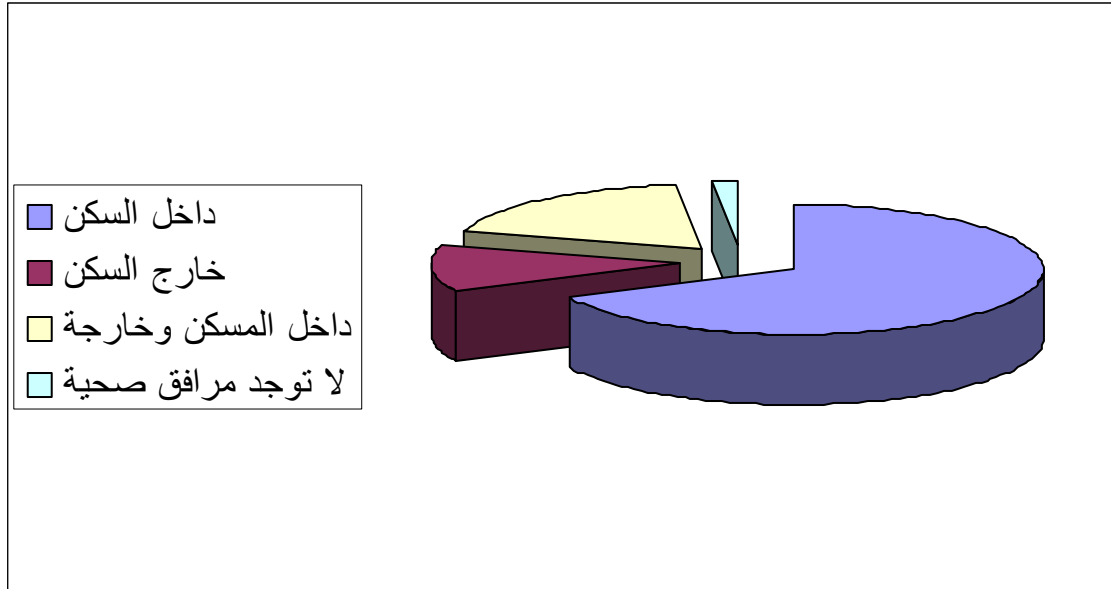
(31).

.31

%		
67.73	170	
11.95	30	
18.73	47	
1.59	4	
100	251	

. 3 (0.001) (259.35) k^2 *

(0.05)



6.4

(7

(32).

.32

%		
20.72	52	5-1
23.90	60	10-5
18.73	47	15-10
36.62	92	20-15
100	251	

. 3

(0.001)

* k² (19.55)

20- 15

%36

.(0.05)

.

. 6.4

(8

.(33)

.33

%		
4.78	12	
91.63	230	
1.59	4	
1.99	5	
100	251	

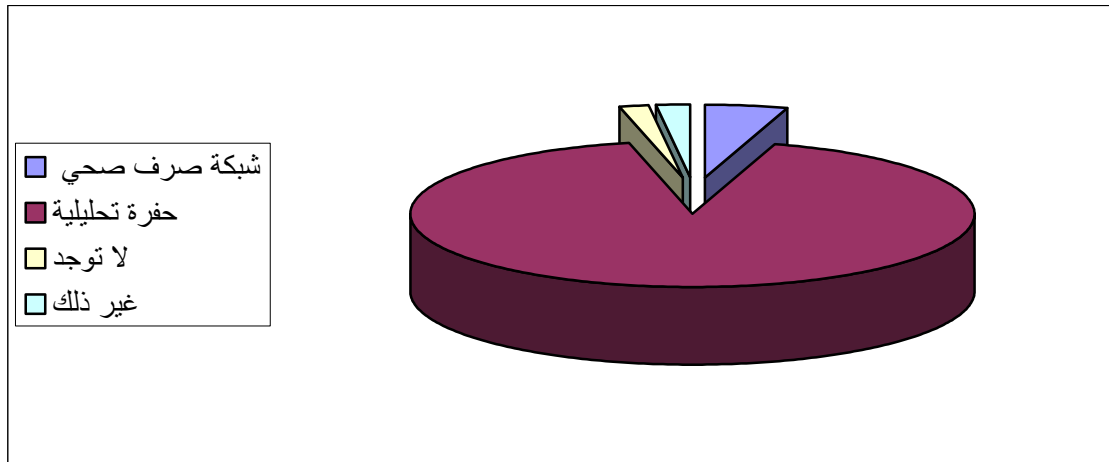
. 3

(0.001)

(594.97) k² *

%91.3

(0.05)



.7.4

(9

.(34)

.34

%		
31.47	79	
8.37	21	
60.16	151	
100	251	

. 2

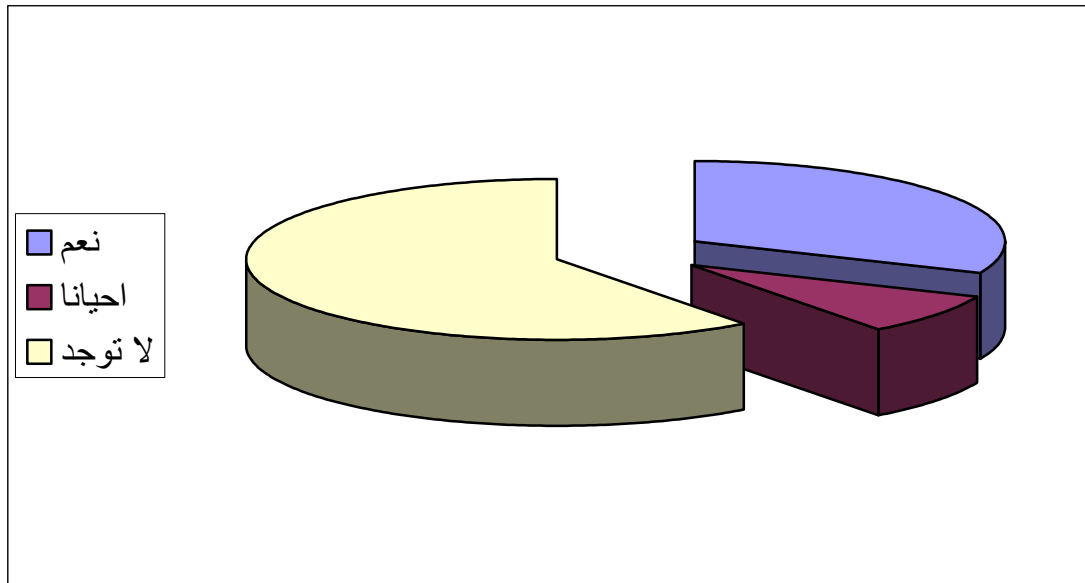
(0.001)

(101.38) k^2

*

%31.47

(0.05)



.8.4

(10

.(35)

.35

%		
7.57	19	10
13.94	35	20
25.50	64	30
52.99	133	30
100	251	

. 3

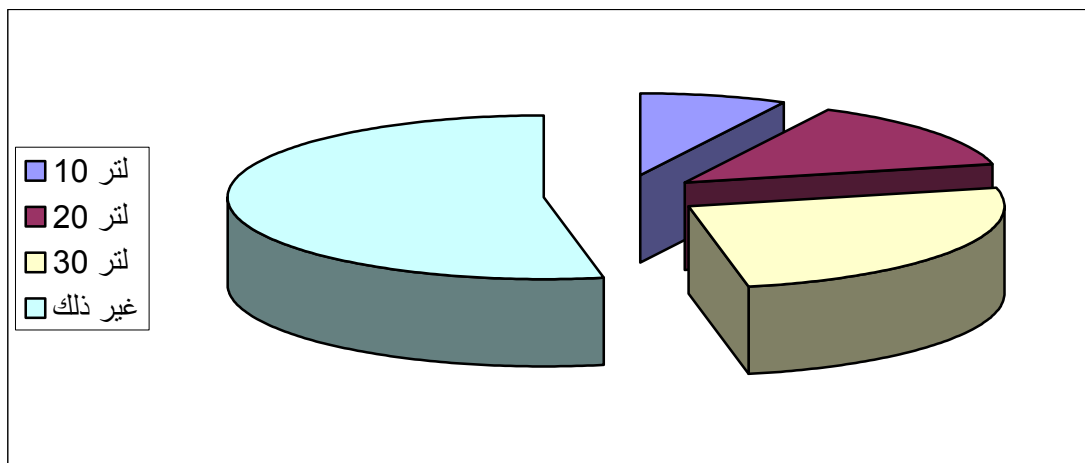
(0.001)

(121.44) k^2 *

30

%25.5

(0.05)



.9.4

(11

.(36)

.36

%		
37.05	93	100-50
27.09	68	150-100
25.90	65	200-150
9.96	25	
100	251	

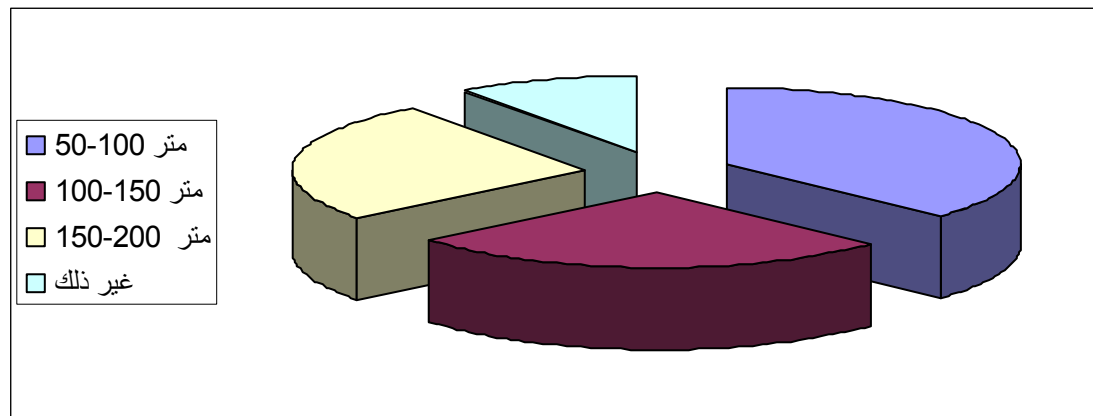
. 3

(0.001)

(37.81) k^2

*

100- 50
(0.05)



.10.4

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.(37)

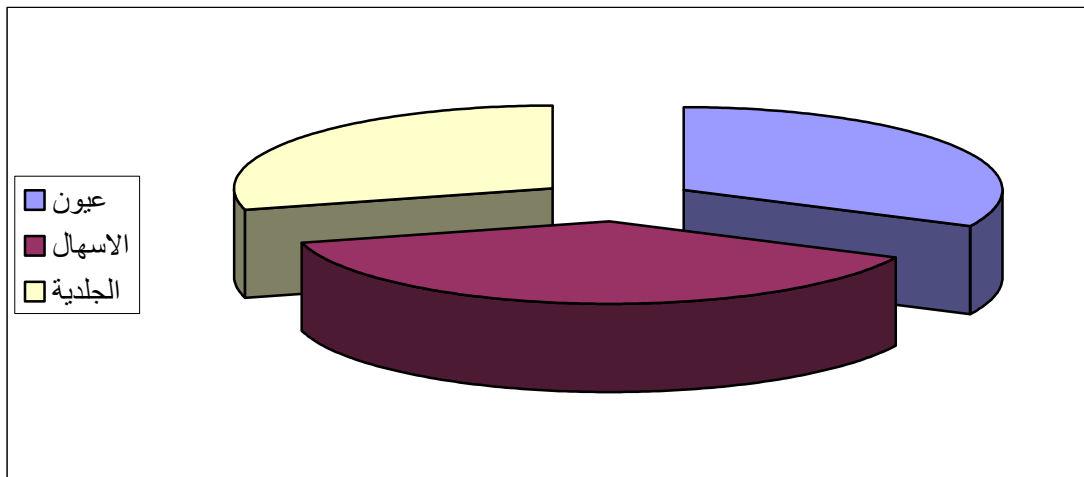
.37

%		
32.1	35	
33.0	36	
34.9	38	
100	109	

. (38)

.38

	%		
109	9.2	10	
	11	12	
	8.3	9	



.11.4

.(39)

.39

%		%		
-	-	32.1	35	
-	-	33.0	36	
34.9	38	-	-	
34.9	38	65.1	71	

(0.001)

(109) K²

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.(40)

43.39

2002

1999

4

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%54.5
 %34.9 10-6
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 6.6
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 %51.2 :
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 %57.1
 .(4 5) %73.9
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%45.8

%44.5

(6)

%9.3

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(22)

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%20.8

(6.6)

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%87

.(7)

(27)

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%79.7

(9)

(%11)

(%27.49)

(%72.5)

(%14.43)

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.(25

%63.7

(13)

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%76.7

%15.8

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%67.9

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400-300(3)

300-200(2)

200-100 (1)

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600-500 (5)

500-400 (4)

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/	(4)	3 (3)	(2)	(1)	
		:			.32
		(3)	(2)	(1)	
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/	(4)	200-150 (3)	150-100 (2)	100-50 (1)	
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		(3)	(2)	(1)	
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(40)

35.70	54345	33.72	7605	28.25	624	23.50	165	33.97	3429	30.45	1217	34.01	1510	58.96	658	11.11	2		
17.31	26357	22.89	5161	26.68	583	32.48	228	23.97	2419	19.14	765	15.72	698	40.68	454	77.78	14		
46.99	71534	43.39	9785	44.76	978	44.02	309	42.06	4245	50.41	2015	50.27	2232	0.36	4	11.11	2		
100	152236	100	22551	100	2185	100	702	100	10093	100	3997	100	4440	100	1116	100	18		

**An-Najah National University
Faculty of Graduate studies**

An Epidemiological Study on the Effect of Water on Health in Tubas District

By

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Dr. Yahia Faydi and Issam Ahmad Al-Khateeb**

Abstract

The aim of this study was to investigate the relationship between water quality and health among the inhabitation of Tubas district. In order to achieve our aims, the following strategies were used: examination of available patients records from local governmental clinics; a random sample of school children (seventh grade students) and a specially designed questionnaire distributed to households. Collected data were then analyzed using the SPSS (Statistical Package for Social Sciences).

With respect to water related diseases, diarrhea was the most common disease, especially among students, followed by eye and skin diseases. There was a significant relationship between hygienic conditions and the place of residence and this was clear among the inhabitation of the village of Tammon. The percentage of water related diseases in Tammon area was the highest among the different areas as it reached 43.39%, then Tubas, and then Aqaba. Although, a high level of awareness was reported regarding the knowledge of importance of water and health (79.7%), practices do not reflect that as most of the study population do not practice the cleaning of their water storage resources (63.7%), and only (15.8%) seems to boil water as a method for disinfection. Other practices such as lack of proper use of chlorine, raising of animal at homes and ways of collected rain water, all seems to indicate a high risk for water pollution. Reviewing patients files also

seems to indicate that the area in general is suffusing from several health related problems.

A significant relationship between water- related diseases and the following variables: Place of residence, quantity of available water for use, methods of water collection, public awareness, existence of toilets, the distance between toilets and water source, raising of animals at home, distance between water storage sources and sepses was observed.

In conclusion, the area is suffering from several water related diseases and lack of proper water supply.