Result

The result contains the following parts:

Part I : Distribution of poultry slaughter-houses workers regarding their socio-demographic characteristics and their knowledge about health problem (table1-2)

Part II : Distribution of poultry slaughter-houses environment (table3a-5).

Part III : Distribution of workers needs regarding their knowledge, and practice (table 6-9).

Part IV: Result of research questions relation between

a) Workers socio demographic characteristic and their practice (table10),and(Figure1-5).
b) Workers poultry slaughter-houses environment and workers health status (table11,12).

Part I :Distribution of poultry slaughter-houses workers regarding their sociodemographic characteristics and knowledge about health problem (table1,2)

Table(1) Distribution of poultry slaughter-houses workers regarding their socio-demographic characteristic (n=182).

Item	No	%
Age		
▪ < 20 years	75	41.2
▪ 30-	93	51.1
▪ 40+	14	7.7
sex		
▪ Male	155	85.2
▪ Female	27	14.8
Education		
▪ Illiterate	17	9.3
▪ primary	33	18.1
▪ Secondary	112	61.5
▪ High	20	11.1
Occupation		
▪ Manager	9	4.9
▪ Supervisor	50	27.5
▪ Worker	98	53.8
▪ Guard	7	3.8
▪ Others	18	9.9
Years of experices		
▪ < 1 year	5	2.7
▪ 1 -	112	61.5
▪ 2 -	60	33.0
▪ 4 +	5	2.7
Income		
▪ Not sufficient	182	100.0

Table (1) Revealed that (92.3%) of the worker their age less than 40 years, most of them(85.2%) were male and only (14.8%) female. Concerning education level and job position. According the table(61.5%) had secondary education and (53.8%) their job position was worker ,on other hand (61.5%) had less than two years experience in the job ,and all of worker mentioned the income not sufficient.

Table (2) Distribution of poultry slaughter-houses workers according to health problems (n=182***)***

Health problems	No	%
Type of diseases		
Tuberculosis	23	12.6
Skin disease	84	46.2
Abdominal disease	7	3.8
Ophthalmogi disease	6	3.3
Orthopedic	29	16.0
Avian influenza	4	2.2
Influenza A	3	1.6
Don't know	26	14.3
Injures		
wound	108	59.3
Fraction	4	2.2
Wound and fraction	66	36.3
Don’t know	4	2.2

Table(2) illustrated the most prevelance health problem occur as result to their work (46.2%) of worker mentioned the most common occupational disease was skin disease while(59.3%) reported the most common injures was wound occur at place of work.

Part II :Distribution of poultry slaughter-houses environment (table3a-5).

Table (3a) Distribution of poultry slaughter-houses workers regarding environment building condition according to Ministry of Agriculture& Reclaiming (n=182) .

Poultry slaughter-houses environment building	Modern(n.w=86)		Manual(n.w=96)		P
	No	%	No	%	
Slaughter place					
▪ Away of residential areas	86	100.0	61	63.5	0.000**
Water sources					
▪ Taps	37	43.0	96	100.0	0.000**^
▪ Pumps	0	0.0	0	0.0	
▪ Both	49	57.0	0	0.0	
Electricity source					
▪ Electricity net	86	100.0	96	100.0	0.000**^
Aeration equipment					
▪ Fans	3	3.5	60	62.5	
▪ Hoods	0	0.0	12	12.5	0.000**
▪ Natural	10	11.6	24	25.0	
▪ Conditions	73	84.9	0	0.0	
Freezing and cooling equipment	86	100.0	96	100.0	NA
Kind of sewage disposal					
▪ Muni cipalone	86	100.0	75	78.1	0.000**
▪ Cesspit	0	0.0	21	21.9	
Separation of departments	86	100.0	96	100.0	NA
Type of packaging bage					
▪ White plastic	89	100.0	96	100.0	NA
Final product preservation					
▪ Box	89	100.0	96	100.0	NA

NA: Not Applicable

^ P value based on Mont Carlo exact probability

* P < 0.05 (significant)

Table(3a) Showed that the poultry slaughter-houses environment condition. According to the table all modern slaughter-houses away from residential area ,compared to(63.5%)of manual slaughter-houses, their source of water were from tab and pumps(43%,57%repectively) among the modern poultry slaughter-houses ,and only taps for all manual poultry. Also the source of electricity was electricity net in both slaughter-houses. As regard the aeration equipment present on it(62.5%) of manual one had fance while (84%) of modern poultry slaughter-houses had air condition .Also in both slaughter-houses freezing and cooling birds were available. Municipalone sewage disposal were present in all modern slaughter houses compared to (78%) of manual slaughter-houses. Concerning separation of the departments in both slaughter-houses the department were separate and both slaughter-houses put their product in white plastic bag and perseverated in box .The difference between modern and manual all the finding were statistically significant except freezing and cooling, separation of department type of packaging, final product .

Table(3b) Distribution of poultry slaughter-houses regarding environmental building condition according to Ministry of Agriculture& Reclaiming (n=182).

Slaughter-houses building	Modern slaughter-houses(n.w=86)		Manual slaughter-houses(n.w=96)		P
	No	%	No	%	
Floors					
▪ Water resistant	0	0.0	42	43.8	0.000**^
▪ Easily cleaned	0	0.0	42	43.8	
▪ All	86	100.0	12	12.5	
Walls					
▪ Covered with ceramic at all	0	0.0	51	53.1	0.000**^
▪ All	86	100.0	45	46.9	
Roofs					
▪ Thermal insulation	0	0.0	82	85.4	0.000**^
▪ System for rains	0	0.0	6	6.3	
▪ All	86	100.0	8	8.3	
Doors					
▪ Strong	0	0.0	96	100.0	0.000**^
▪ All	86	100.0	0	0.0	
Machines					
▪ All	86	100.0	96	100.0	NA
Windows					
▪ Against dust	0	0.0	43	44.8	
▪ With upward slope	0	0.0	0	0.0	0.000**^
▪ All	96	100.0	53	55.2	
W.C specifications					
▪ Disinfectants	0	0.0	59	61.5	
▪ All	86	100.0	0	0.0	0.000**^
▪ Taps&Disinfectants	0	0.0	37	38.5	

NA: Not Applicable
^ P value based on Mont Carlo exact probability
* P < 0.05 (significant)

Table(3b) showed that all items of slaughter-houses building condition were suitable (100.0)for modern according to Ministry of Agriculture& Reclaiming , while in manual(43.8%)were easily clean of floors and (52.1%) were covered with ceramic at all of walls and (85.4%)were thermal insulation of roofs and (100.0)were strong of doors and (55.2)were with upward slope of window' against dust, (100.0%) were made of stainless ten "easy to clean of equipment , (61.5%)were disinfectants of W.C specifications. The difference between modern and manual all the finding were statistically significant except machines.

Table (4) Distribution of poultry slaughter-houses environment regarding safety measure workers (n=182) .

Safety measure workers	Modern slaughter-houses(n.w=86)		Manual slaughter-houses(n.w=96)		P
	No	%	No	%	
Chicken sources					
▪ Licensed farms	86	100.0	96	100.0	NA
Waste collection and disposal methods					
▪ Reused as a fertilizer	86	100.0	65	67.7	0.000**^
▪ Others	0	0.0	31	32.3	
Veterinary supervision	86	100.0	96	100.0	NA
First aid centre	86	100.0	96	100.0	NA
Fire cylinders	86	100.0	96	100.0	NA

NA: Not Applicable
^ P value based on Mont Carlo exact probability
* P < 0.05 (significant)

Table(4) Represented that both slaughter-houses(100.0)had licensed farms of chicken sources, veterinary supervision ,first aid center, and fire cylinders , in all modern were reused the waste collection as a fertilizer and (67.7%)were reused the waste collection as a fertilizer in manual. The difference between modern and manual all the finding were no statistically significant except waste collection and disposal method (p=0.000).

Table (5) Distribution of poultry slaughter-houses environment regarding to workers general requirements (n=182)

General requirement about workers	**Modern slaughter-houses(n.w=86)**		**Manual slaughter-houses(n. w=96**		**P**
	No	%	No	%	
Unified form for workers	86	100.0	19	19.8	0.000**
Files for workers	86	100.0	96	100.0	NA
Reporting for injures	86	100.0	96	100.0	NA
Health certificate	86	100.0	96	100.0	NA
Period check up every 6months	0	0.0	0	0.0	NA
Immunization	0	0.0	0	0.0	NA
Work/ days					
4 days/wk	0	0.0	11	11.5	
6 days/wk	81	94.2	85	88.5	0.000**s
All days of the week	5	5.8	0	0.0	
Work /day time					
▪ 8 am-2 pm	20	23.3	1	1.0	
▪ 8pm8am	4	4.7	1	1.0	0.000**s
▪ 8 am-3 pm	62	72.1	94	97.9	
Clean work place daily					
▪ Once	0	0.0	3	3.1	0.248!
▪ Twice	86	100.0	93	96.9	
Disinfections$					
▪ Hot water	41	47.7	27	28.1	0.000*
▪ Chlor	5	4.7	94	97.9	
▪ Acetic acid	76	88.4	17	17.8	

NA: Not Applicable

^ P value based on Mont Carlo exact probability

! P value based on Fisher exact probability

* P < 0.05 (significant)

$ More than one response is allowed

Table (5) Illustrated that all workers in both poultry slaughter-houses hah unified form, files for workers, reporting for injures and health certificate. Also periodic medical check up every 6 mounths and immunization not carried out on both poultry. As regard working day/ week and hours/days both slaughter-houses worked 6 days/week(94.2%and 88.5% respectively), and(72.1%) of modern one workered from 8-3pm every day compared to (97.9%)for manual . Concerning cleaning and disinfection of work place in both slaughter-houses. All modern clean work place twice/days compered to (96.9%) of manual. Also(88.4%)of modern used acidic acid for disinfectant the work place while manual use chlor (97.9%) . The difference between modern and manual all the finding were no statistically significant except unified form, work/days, work/ day time ,and disinfections substance.

Part III: Workers need regarding knowledge ,and practice table(6-9)

Table(6) Distribution of poultry slaughter-houses workers knowledge regarding diseases related to their work place (n=182) .

Item	Good		Poor	
	No	%	No	%
Causes of diseases	6	3.3	176	96.7
Method of transmission	41	22.5	141	77.5
Symptoms of diseases	2	1.1	180	98.9
Method of spread	111	61.0	71	39.0
Precautions	157	86.3	25	13.7

Table(6) showed that poor knowledge about causes of diseases, method of transmission, and diseases symptoms (96.7%,77.5%, 98.9%) respectively, while (61.0%)were good for method of spread and (86.3%)were good precautions.

Table(7) Distribution of poultry slaughter-houses workers by observed practices regarding preventing and safety measures from diseases (n=182)

Preventing measures	Done		Not done	
	NO	%	NO	%
Hand washing:				
Before work	165	90.7	17	9.3
After using bath room	177	97.3	5	2.7
After touching contaminated materials	22	12.1	160	87.9
After eating	133	73.1	49	26.9
Body mechanism				
Right standing	164	90.1	18	9.9
Right setting	25	13.7	157	86.3
Right material carrying	0	0	182	100.0
Meals				
Protein	123	75.5		
Vegetables	30	18.4		
Carbohydrates	160	98.2		
Smoking at work	60	33.0	122	67.0
Safety protection				
Apron	159	87.4	23	12.6
Gloves	159	87.4	23	12.6
Over head	110	60.4	72	39.6
Shoes	21	11.5	161	88.5
mask	111	61.0	71	39.0

Table(7) showed that workers who washed their hands after bath room were(97.3%),while (12.1%) were hand washing after touching contaminated materials, (90.1%)were right standing, (13.7%)were right setting ,and of them no carry material by correct body mechanic, for meals (98.2%)were depend on the carbohydrate and (33.0) workers smoking at work, the used of protective measure during work (87.4%) weared used apron and gloves, (60.4%) over head, (61.0%)wear mask, and only (11.5%) shoes,.

Table (8) Distribution of workers regarding source of information (n=182).

Source of Information	NO	%
▪ Mass media	37	20.3
▪ Journals & magazines	1	0.5
▪ Lectures	1	0.5
▪ work experience	143	78.6

Table(8) indicated the main source of workers knowledge was their experience in the work place (78.6%) .

Table(9) Distribution of workers regarding their suggestions to improve their health status during work(n=182).

Suggestions[$]	NO	%
▪ Aeration	69	37.9
▪ Lightening	43	23.6
▪ Income	51	28.0
▪ Insurance	34	18.7
▪ Health care	50	28.0
▪ No	38	20.9

[$] More than one response is allowed

Table(9) present the worker suggestion for improveing working situation , they reported improved aeration, provide health care and increase income(37.9%, 28.0, 28.0 %respectively) while other mentioned improve lightening and social insurance(23.6%, 18.7% respectively).

Part IV: relation concerning to research question
Research question(No1):Is their relationship between workers socio-demographic characteristic and their practice?

Table (10) The relation between workers socio-demographic characteristic and their practice(n=182)

Socio-demographic characteristic	Practices				P
	Satisfactory		**Unsatisfactory**		
	No	**%**	**No**	**%**	
age					
▪ < 20 years	36	48.0	39	36.5	0.006**
▪ 30-	29	38.7	64	59.8	
▪ 40-	10	13.3	4	3.7	
sex					
▪ Male	72	96.0	83	77.6	0.001**
▪ Female	3	4.0	24	22.4	
Education					
▪ Illiterate	3	4.0	14	13.1	0.000**
▪ Primary	5	6.6	28	26.2	
▪ Secondary	61	81.3	51	47.7	
▪ High	6	8.0	14	13.1	
occupation					
▪ Manager	1	1.3	8	7.5	0.001**^
▪ Supervisor	31	41.3	19	17.8	
▪ Worker	38	50.7	60	56.1	
▪ Guard	0	0.0	7	6.5	
▪ Others	5	6.7	13	12.1	
Years of experience					
▪ < 1 year	0	0.0	5	4.7	0.000**^
▪ 1 year	70	93.3	42	39.3	
▪ 2 years	4	5.3	56	52.3	
▪ 4 years or more	1	1.3	4	3.7	
Income					NA
▪ Not sufficient	74	100.0	107	100.0	

Table(10) Illustrated the a relation between workers socio-demographic characteristics and their level of practice. The table revealed the satisfactory level of knowledge were present among younge worker age less than 20 years male, had secondary education, occupational position workers and their year of experience less than two years (48.0%, 96.0%, 81.0%, 50.0%, and 93.3% respectively.

Figure (1): Relation between workers practice and their age

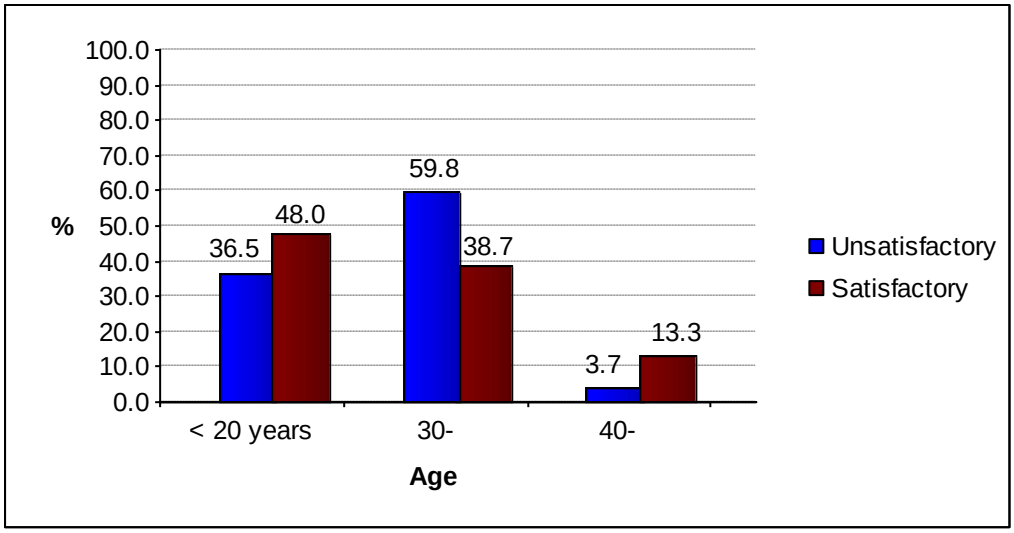

Figure (1) Shows the satisfactory levels of practice were present among the young worker age less than 20 years (48.0%). The difference between workers practice and their age was statistically significant (p=0.006)

Figure (2): Relation between workers practice and their sex

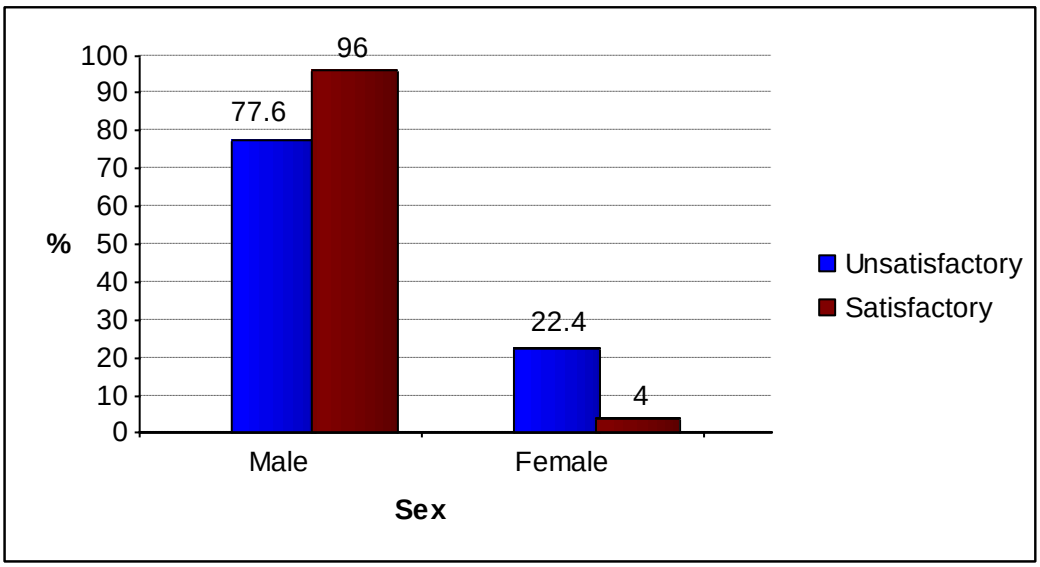

Figure (2) Indicated the satisfactory level of practice were present among the male worker than female (96.0%, 4.0% respectively). The difference between workers practice and worker sex was statistically significant (p=0.001).

Figure (3): Relation between workers practice and their occupation

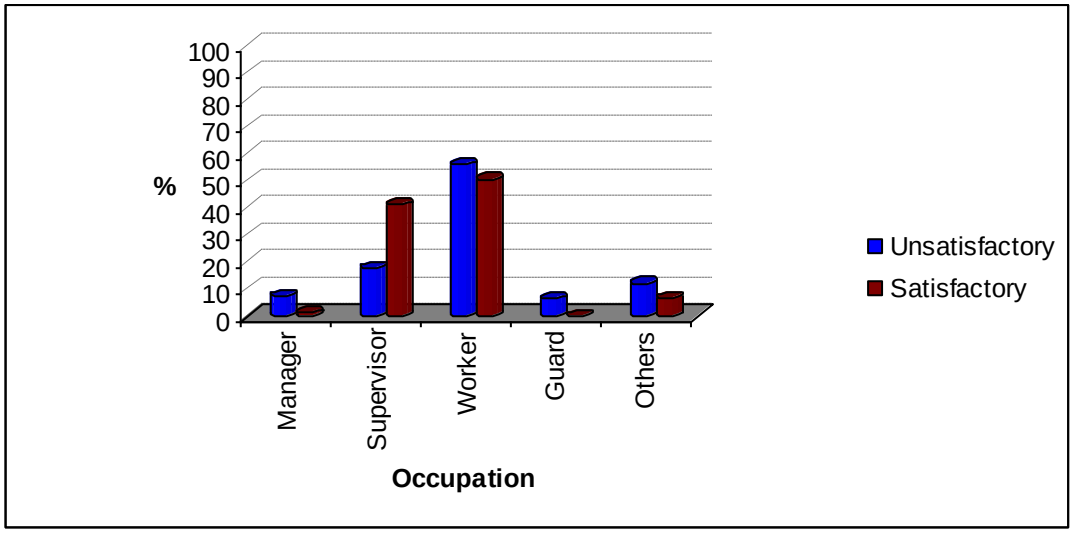

Figure (3) Revealed that the satisfactory level of practice were present among worker their job position was worker (50.7%). The difference between workers practice and worker sex was statistically significant (p=0.001)

Figure (4): Relation between workers practice and their experience years

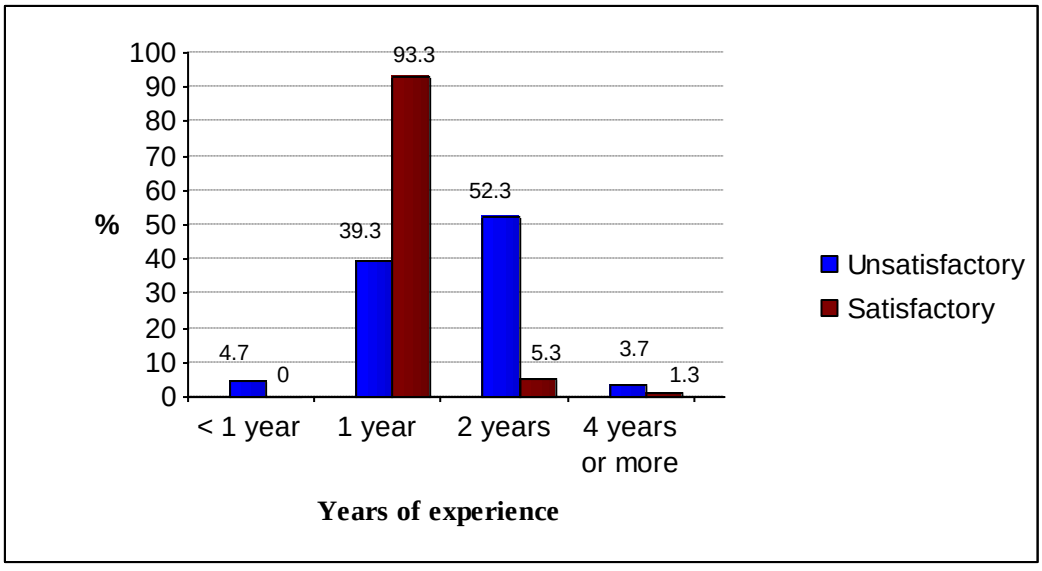

Figure (4) Revealed that highest level of practice were present among worker had less than two years experience (93.3%). The difference between workers practice and worker sex was statistically significant (p=0.001

Figure (5): Relation between workers practice and their education

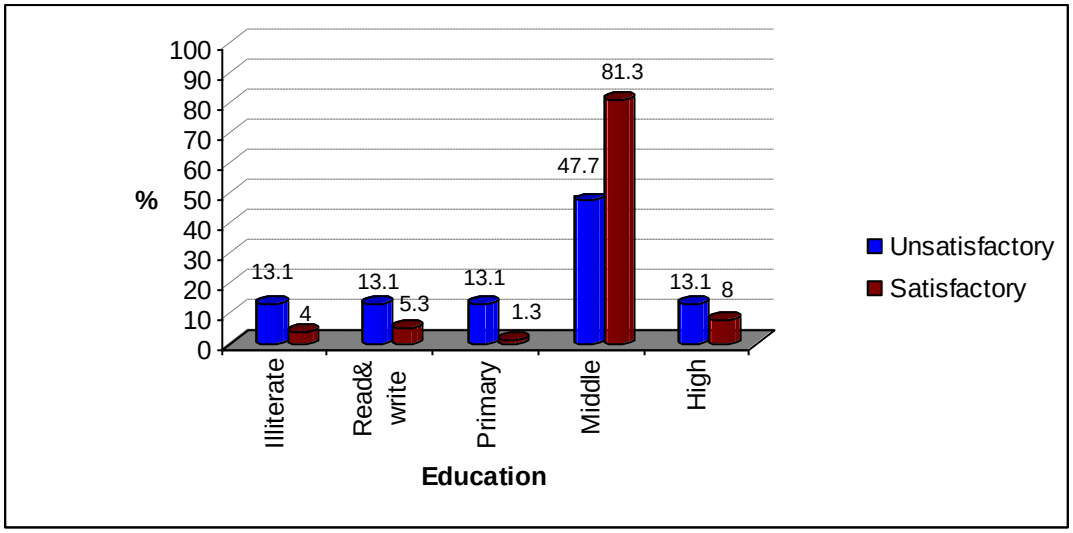

Figure (5) Clarified that with increase education level the satisfactory level of practice increased , the workers who had secondary education had high satisfactoey level of practice(81.3%) . The difference between workers practice and worker sex was statistically significant (p=0.001).