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SHORT COMMUNICATION: OCCUPATIONAL SAFETY APPLICATIONS AND ASSESSMENT THE HEALTH PROBLEMS OF BREEDERS IN RURAL OF BAGHDAD

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Abstract

Ignoring occupational safety at work may lead to health, economic and social disorders. Iraq people are one of the societies that rarely care about occupational safety, especially in the agriculture, industry, transportation, urban and rural sectors. The study aimed to evaluate the application of occupational safety of 300 patients in rural areas who attended public health hospitals around Baghdad (Al-Kadhimia, Al- Alermok, and Al-Mahmoudiya) for the period from 1st of April to 30th of September 2023. The results showed that the majority of patients were women 68% also they were more in contact with biological causes due to frequent touching with animals by milking process, providing feed, cleaning animal house while men were more publicity to physical and chemical injury, such as accidents, toxicity or sensitivity from pesticides. The biological diseases recorded were brucellosis, typhoid, hydatid cysts and other infectious skin diseases such as scabies, or dermatophytosis. So, in Iraq occupational safety application of livestock breeders was very weak, Therefore, the rural person must adhere to occupational safety rules to reduce exposure to various risks, during wearing personal protective equipment such as gloves, long boots and full body suits, also increase awareness of the importance of occupational safety through the media, veterinary and agricultural organizations.

Key words: livestock, breeder, occupational safety

Introduction

Rural people are often exposed to many injuries as a result of raising animals, which may be biological, physical, or chemical injuries depending on causes, and may lead to health, economic, and social disasters (Dawood and, Muhlies, 1989). From the middle of the last century until now, exposure the Iraqi society, especially rural society, to neglect, feudalism, wars, and loss of wise leadership, which produced a fragile rural society that lacks knowledge and self-development. Especially, the central and southern regions between the Tigris and the Euphrates, inhabited by many farmers who produce grains and breed the animals (Khalaf and Kshash, 2016). The lack of interest to occupational safety among breeders, in addition to the presence of suitable climate such as humidity and moderate temperature, contributes greatly to the occurrence of many diseases in humans and animals alike, as well as the proliferation of pathogens and the completion of life cycles with the presence of vectors such as insects and ticks (Salman *et.al*., 2024). The study aimed to identify the health problems of 300 breeders and assess the knowledges about the personal protection equipment (PPE) who came to hospitals to get the necessary health care for the period from 1st of April to 30th of September 2023.

Subject and Methods:

Data were collected from 300 rural adult patients attending three public hospitals at Baghdad (Al-Kadhimia, Al- Alermok, and Al-Mahmoudiya). They come from Al-Kadhimia the north of Baghdad, Al-Mahmoudiya the south of the city, and Al- Alermok its west.

Ethical approval: No ethical approval was needed as it is a survey-based study; however, after

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obtaining consent from all participants, data were collected. The questionnaire style included two parts:
Part 1: Demographic questionnaire: Information includes gender, age, financial level and residence. Table 1 shows that females constituted 68% and males 32% , aged 20-72 years, with a Mean 50, SD ± 12 years old, the major in sixties 36%, followed by fifties 27%, and the least were the twenties, 3%, followed by the thirties 16%. Patients lived ≥ 5 years in the suburbs of Baghdad and most of them enjoyed a good to medium financial level. Half of the participants 50% were residents of north, while 30% were from west, and 20% were from south suburbs of Baghdad. About educational level of the participants was approximately 30% of them had the primary study…table 1
Part 2: The questionnaire included several questions about the daily attitudes in their animal's farm and their knowledge around occupational safety meaning, wearing personal protective equipment (PPE), cleaning animal's house etc. as in table 2. They were also inquired about the reasons for their visit to the hospital and reviewed the reports of examinations, such as blood and urine tests, detection of Malta or typhoid fever, ultrasound or X-ray examination to diagnose of the cases. It's worth mentioning excluded the cases of chronic diseases such as diabetes, blood pressure, cardiovascular disease, thyroid disease and cancers.

Results

Table 1: Demographic information of the breeders

Variables	**No.**	**%**	Variables	No.	%
Gender			Residence (suburbs of Baghdad)		
Male	96	32	North	151	50
Female	204	68	West	91	30.
Total	300	100	South	58	20
Age, (20-72) yrs,**Mean**:50, **SD** ±12			Total	300	100
Age			**Academic achievement**		
20th	9	3	Illiterate	5	2
30th	48	16	literate	10	3
40th	54	18	Primary	150	50
50th	81	27	Secondary	83	27.7
≥60th	108	36	Diploma &	44	14.7
Total	300	100	PhD.& M	8	2.7
Financial level			Total	300	100
Good	138	46	**Reason for visiting the hospital**		
Medium	104	35	Biological	210	70
Weak	58	19	Physical	84	28
Total	300	100	Chemical	6	2

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			Total	300	100
Do you know Occupational Safety meaning			**Wearing PPE during daily herd working**		
Yes	90	30	Yes	30	10
No	210	70	No	270	90
Total	300	100	Total	300	100

Table 1 shows 70% of patients were exposed to biological injuries, 28% exposed to physical injury, and 2% were exposed to chemical injury. When participants were asked about the meaning of occupational safety 30% of them answered that they did not know about this concept, while 70% indicated their awareness of occupational safety. When were asked about wearing the personal protection equipment (PPE), such as gloves, long shoes, mask and hole soot or washing the udder before milking, 90% of the sample indicated that there were no tools and 10% was applying the use of partial PPE in all.
Table 2 shows the daily tasks performed by both sexes in the farmer: 95% of women cleaned animal pens, 95% of women milked mothers. As for men, 75% of them helped female animals during labor. Table 3 shows the extent of the breeder's exposure to diseases, 41% were afflicted with respiratory diseases such as influenza or the common cold, 25% were afflicted with typhoid fever, 17% were afflicted with brucellosis, 15% were afflicted with conjunctivitis, and 1% was afflicted with hemorrhagic fever. Table 4 showed that 68% of the sample were women who suffered from biological diseases such as typhoid, brucellosis, respiratory diseases, or conjunctivitis, while 89% of men were more susceptible to physical and accidental injuries such as wounds, scratches, and bruises.

Table 2: Distribution the daily herd work of men and women

Practices	**No.**	**%**	**Practices**	No.	%
Feeding the animal			**Shaving , slaughtering**		
Man	100	33	Man	300	100
Women	200	67	women	-	-
Total	300	100	Total	300	100
Nursing the animal			**Making dairy products**		
Man	225	75	Man	15	5
Women	75	25	women	285	95
Total	300100	100		300	100
Milking the animal			**Cleaning animals house**		
man	515	5	Man	15	5
Women	285	95	Women	285	95
Total	300	100	Total	300	100

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Table 3: The common biological disorder infected the farmers

Biological disease	No.	%
Brucellosis	37	17
Salmonellosis	52	25
Conjunctivitis	32	15
Viral respiratory infections	86	41
Congo fever	3	1
Total	210	100

4: The correlations between genders with types of injuries

Gender	Types of injuries			total
	Biologic	Physic	Chemic	
Men	17 (36%)	75 (89 %)	4 (66%)	96 (32%)
Women	193 (68%)	9 (11%)	2 (34%)	204 (68%)
Total	210 (100%)	84 (100%)	6 (100%)	300 (100%)

Discussion

The study showed that the ages most exposed to health problems are the sixties and then the fifties, and these ages bear a lot of effort and responsibility in rural life, especially when behaviors lack the application of the principles of occupational safety, which contributes to the exacerbation of health problems. This is consistent with the rest of the studies that indicated that the ages most exposed to diseases are the elderly or children, due to the physiological nature of the body at these ages (Yufeng *et. al.,* 2021).

The results showed that the majority of the sample enjoyed good to moderate socioeconomic status. This confirms that raising animals can bring good financial resources to the individual, especially if the rearing is within a well-thought-out plan that applies the principles of occupational safety. Thus, it is possible for the rural person to achieve self-sufficiency. It contributes to improving the country's economy and transforming the country from a consumer to a producer, as previous studies have shown (Zbarsky et. al., 2020).

The results showed that women were more likely than men to visit the hospital, and were also more likely to suffer from biological diseases such as typhoid and Malta fever than men. This may be due to the fact that women are tasked with periodically cleaning animal houses, milking, providing fodder, handling dairy products, cooking meat, and spinning wool. All of this makes the woman more closely associated with the animal environment, which exposes her more to infection. The risks of the livestock breeding profession that a man may be exposed to are mostly physical, such as his exposure to wounds or bruises when trying to control the animal when selling or buying it or when providing treatment to it, or he may be exposed to some chemical injuries, such as in the process of dipping and spraying with pesticides to eliminate Parasitic infection. A man may also be exposed to a biological infection when shaving wool, slaughtering, or any contact that could cause infection with one of the common pathogens (LeJeune and Kersting, 2010).

Brucellosis is a serious bacterial disease that causes fever, joint pain, and fatigue in humans. It causes miscarriage, retained placenta, or orchitis in animals. These bacteria are transmitted from animals to humans through contact with animals, eating their products, when milking an infected animal, or perhaps even aerobically when approaching infected animals. Brucellosis can be treated with a group

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of antibiotics, to protect the animal from infection, and the most important way to limit the spread of the disease is vaccination. The second disease recorded in this study is typhoid disease, which is caused by Salmonella. It still represents a public health problem in several developing regions of Africa and the Eastern Mediterranean, including Iraq. The World Health Organization estimates in 2019 that 9 million people are infected with typhoid fever annually, resulting in approximately 110,000 deaths each year. The risk of contracting typhoid increases among population groups that lack safe water and adequate sanitation services. It is necessary for people who work in a profession that comes into contact with animals or their products to apply occupational safety standards to preserve their lives and the lives of their families (Suluku et. al., 2022).

All of the people enrolled in this study died from hemorrhagic fever, as they were those who worked in butchering and selling carcasses, and thus we agree with previous studies that showed whenever there was contact with the environment of the domesticated animal, such as providing food and water or cleaning the floor from the remains of food and feces in their homes, and with In the absence of application of occupational safety standards, there is a great risk of exposure to common types of pathogens and perhaps to other mutated pathogens that may cause serious diseases and epidemics, as happened with Corona disease, which is essentially a disease of zoonotic origin. Other viral infections, such as upper respiratory tract infection, were recorded at a not insignificant rate, reaching 41%, and they varied between infection with the common cold, infection with the upper respiratory tract, tonsillitis, infection with the influenza virus, the Covid-19 virus, or, on the other hand, respiratory allergic diseases that caused coughing and sneezing due to the presence of respiratory particles. Hay dust and dust raised due to the movement of animals, the provision of dry fodder, or the nature of Iraq's hot-dry climate in the summer during the study period (Al-Rubaye et. al., 2022).

Conclusion

All injuries, whether biological, physical or chemical, would not have been this reality if the rural individual had cared and applied professional safety at work and dealing with the herd.

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