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EPIDEMIOLOGICAL STUDIES OF EGYPTIAN BUFFALOES MANGE WITH SPECIAL REFERENCE TO EFFICACY OF DIFFERENT THERAPEUTIC TRIALS FOR TREATMENT OF MANGE

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ABSTRACT:

The present study was conducted on 280 Egyptian buffaloes (*Bubalis bubalus*) during the period from June 2008 to July 2009. These animals belong to different villages in Assiut Governorate, Upper Egypt. The age of these animals ranged from less than one year to above eight years old. Examination of diseased animals revealed that they suffered from itching, loss of patches of hair in different regions of the body with appearance of scales on the skin. The more common sites of infestation were the head, neck and the base of the tail.

In this study skin scrapings were examined microscopically revealed that *Sarcoptic spp.* and *Psoroptic spp.* were identified from Egyptian buffaloes in Upper Egypt in percentage of 11.78%and 8.57%, respectively, with overall percentage of 20.35%. Infestation by *Sarcoptic mange mites* (57.89%) was recorded to be the most frequent in the examined cases, followed by *Psoroptes spp. mites* (42.10%). Statistical analysis of some ecological parameters reveled that there is a significant relationship between prevalence of mange mite infesting buffaloes and season, age, housing management as well as regular or irregular using acaricides.

Moreover, this study included using different methods of clinical therapeutic trails. The infested buffaloes with mange mites were classified into four groups. The first one received two doses of Ivermectin (Ivomec, Merial), 10 days apart at dose rate of 200 μg/kg subcutaneously. The second group received two doses of doramectin (Dectomax, Pfizer, Egypt) a, 10 days apart at dose rate of 200 μg/kg subcutaneously. The third group received two doses of Ivermectin (Ivomec, Merial), 10 days apart at dose rate of 200 μg/kg subcutaneously, Adjunct to this drug, Deltamethrin (Butox-50, Intervet) was applied to the surrounding environment (bedding material, wall, fomites, etc….) twice at a 10 days interval. All cases were isolated in a separate place during treatment period. The fourth group received two doses of doramectin (Dectomax, Pfizer, Egypt) a, 10 days apart at dose rate of 200μg/ kg subcutaneously, Adjunct to this drug, Deltamethrin (Butox-50, Intervet) was applied to the surrounding environment twice at a 10 days interval. We found that administration of ivermectin or doramectin adjunct with treatment of animal environment is the best protocol for eradication and prevention of mange mite from infested buffaloes with mange mite and its environment.

INTRODUCTION:

Dairy farmers face lots of new challenge today, one of those being the race to higher

healthy condition of their animals. In dealing with this objective, buffaloes' mange is the major veterinary problems in most of the developed and under-developed countries of the world. Mange in buffaloes (*Bubalus bubalis*) is an economically important and a highly contagious disease that can be transmitted between animals by direct contact with infested animal and indirect contact by fomites especially in tropical and subtropical area (Azhar Maqbol *et al*., 1995; Jabeen *et al*., 1998; Azam *et al*., 2002; Radostits *et al*., 2007 and Jones *et al*., 2008).

The economical value of mange in an infested animal comes from, reduced daily weight gain, cost of treatments, damage to the hides due to perforation of the skin and intense pruritus as skin lesions may cover almost the entire body and occasional mortalities in untreated calves, (Lonneux *et al*., 1998 and Rehbein *et al*., 2002). Moreover, mange has great zoonotic and public health importance (Chakrabarti *et al*., 1981; Shalaby and Gupta 2000). In addition, mange can severely reduce the well being of dairy animals as reducing the vitality and increased susceptibility to other diseases due to secondary bacterial infection. It can reduce milk yield and hamper the milking process due to the restlessness of affected animals (Schoett *et al*., 2002). Worldwide losses from mange mites on livestock production have been estimated to amount to US$ 14.4 million (Drummond *et al*., 1981).

Most types of mange are forms of allergic dermatitis, characterized by encrustation, alopecia, and pruritus, initiated and maintained by a number of mite species. All the major mange mite species are contained within the orders Astigmata and Prostigmata. The Astigmata are a well-defined group of slow-moving, weakly sclerotised mites, including the medical or veterinary important families Sarcoptidae and Psoroptidae. The clinical findings varied based on the mite species and severity of infestation (Dräger and Paine 1980).

Mites in the family *Sarcoptidae* are obligate parasites, burrowing into the skin of mammals. The itch mite (*Sarcoptes scabiei*) is the cause of scabies in humans and mange in a wide range of domestic and wild mammals throughout the world, generally affecting the sparsely haired parts of the body. *S. scabiei* var. *bovis* affects cattle world-wide with infestations generally located at the base of the tail, the inner thigh, under the neck and the brisket. Although disease is generally subclinical in United Kingdom, generalized infestations can occur (Bates, 1997). Mites burrow into the epidermis and feed on tissue fluids. The burrowing and feeding of the mite causes irritation and consequential scratching, leading to inflammation and exudation to form crusts. *S. scabiei* can temporarily infest humans (Bates, 2000a).

Mites in the family *Psoroptidae* are oval, non-burrowing mites, parasitic on mammalian skin. Three genera, Psoroptes, Chorioptes and *Otodectes* are of veterinary importance, although the latter (being a parasite of the ears of carnivores) is of no direct significance to

livestock production. Bovine Psoroptic mange begins as moist plaques of hair over the withers, followed by intense pruritus with active rubbing against fixed equipment, leading to loss of hair, serum exudation, ulceration and bleeding. Eventually, thickened, scabby lesions, oozing blood and serum, progress over the withers and tail-head, before extending along the back and down the flanks and legs (Linklater and Gillespie, 1984). Pyoderma is common due to secondary bacterial infections (Baker, 1999).

Knowledge of ecological parameters (Bad management, housing and care of the animal which include feeding, handling and disposal of manure, general sanitation in the stable, overcrowding, separation between susceptible and infested) is considered an extrinsic secondary determinant and probably the key for controlling and eradicating mange in cattle (Brien, 1999; Smith, 2006). In Upper Egypt, limited clinical study on sporadic cases of buffalo mange (Zaitoun *et al*., 1998), while the causes and associated factors of Psoroptic infestation in buffalo have been described in Nile Delta region by El-khodery *et al*. (2009).

The currently available tools for mange control consist of chemical technology, relying on treatments with different application methods and/or formulations of acaricides. These can be used with the benefit of local epidemiological knowledge. Farmers and veterinarians implement treatments against mange most commonly when the disease is evident. Highly effective treatments such as those given during the "cryptic phase" using macrocyclic lactones (largely doramectin), are a very good strategy for eradicating mange because they eliminate the source of infection for the next season (Bates, 1998; Bisdorff and Wall, 2008).

Over the past 20 years, ivermectin (0.2 mg/kg) given twice at 7 days interval (Campbell, 1985; Şuteu 1995 and Radostits *et al*., 1994) has been used as treatment for outbreaks of mange in ruminant. In recent years, doramectin (Dectomax, Pfizer) has also been used at a dosage of 0.2 mg/kg b.w., repeated after 7 days to control mange population (Şuteu and Cozma, 2004). This latter drug has also been used successfully as a single injection at 300 µg/kg b.w. (Bates *et al*., 1995). The efficacy of these acaricides often relies on parasitological and clinical improvement (Logan *et al*., 1993). Doramectin and ivermectin were recorded to provide rapid and high efficacy on mange in buffalo compared with Amitraz (Bala and Rath 2006).

Despite its importance, mange has not been given due attention and its prevalence is still un-known in many areas of Upper Egypt. Keeping in view the importance of mange mites, this study was planned to determine the prevalence and risk factors associated with spread of *Sarcoptic spp* and *Psoroptes spp*. mites in buffalo as well as some clinical therapeutic trials on buffaloes' mange.

MATERIALS AND METHODS:

Animals and data collection:

A total of 280 buffalo at different localities of villages from Assiut governorate, Egypt were studied from June 2008 to July 2009. The animals' identification, age, sex were recorded. A questionnaire was done about animals' management, general health history, skin lesions, presence of other animals related to it, using of acaricides, and time interval to last ectoparasite treatment. All buffaloes were examined clinically.

Clinical examination:

Animals under investigation were clinically examined on the day of the first visit. Buffaloes with skin lesions were examined for lesions, body condition and appetite.

Parasitological examination:

280 Egyptian buffalo were selected randomly for parasitological examination after clinical investigation. Deep skin scrapings from the edges of the clinical lesions were collected in labeled Petri dishes. The edges of which were smeared with vaseline so as to prevent the mites from escaping. The dishes containing scrapings were warmed to a temperature just sufficient to be tolerated on the back of the hand (about 38^{o} C) and later examined under a stereoscopic microscope for the presence of different stages of mites. The scrapings found negative for mites were transferred to test tubes containing 10 ml of 10% KOH and heated for five min in a beaker containing water; later the tubes were centrifuged for three minutes at 2,000 rpm and the supernatant fluid was discarded. About 5 ml of water was added to the sediment and the tubes were again centrifuged. The supernatant fluid was again discarded and a drop of sediment was examined microscopically for the presence of mites and their eggs (Tikram and Ruprah, 1986).

Therapeutic trial of infested animals:

Thirty two buffalo with typical lesions of mange, harboring *Sarcoptic mites*, were allocated randomly into four groups (8 buffalo each). The first one received two doses of Ivermectin (Ivomec, Merial), 10 days apart at dose rate of 200 µg/kg subcutaneously. The second group received two doses of doramectin (Dectomax, Pfizer, Egypt) a, 10 days apart at dose rate of 200 µg/kg subcutaneously. The third group received two doses of Ivermectin (Ivomec, Merial), 10 days apart at dose rate of 200 µg/kg subcutaneously, Adjunct to this drug, Deltamethrin (Butox-50, Intervet) was applied to the surrounding environment (bedding material, wall, fomites, etc….) twice at a 10 days interval. All cases were isolated in a separate place during treatment period. The fourth group received two doses of doramectin (Dectomax, Pfizer, Egypt) a, 10 days apart at dose rate of 200 µg/kg subcutaneously, Adjunct to this drug, Deltamethrin (Butox-50, Intervet) was applied to the surrounding environment twice at a 10 days interval. The efficacy of each regimen was evaluated on the basis of clinical and parasitological cures on day zero of treatment and on days 7, 14, 21, 28 and 56 post-treatment. Moreover, Twenty four buffalo with typical lesions of mange, harboring *Psoroptes mites*, were allocated randomly into four groups

(6 buffalo each) and treated as animal groups infested by *Sarcoptic mites*.

Data on the influence of, sex, age, season, related communities, housing management and acracides use were analyzed statistically using the student T test (Comppell, 1986).

RESULTS:

Table 1: Parasitological examination of skin scraping samples

Mite species	Positive cases	Negative	Percentage in relation to all examined animal (280)	Percentage in relation to only positive animal (57)
Sarcoptic spp.	33	247	11.78%	57.89%
Psoroptic spp.	24	256	8.57%	42.11%
Overall infestation	57	223	20.35%	100%

Table 2: Effect of ecological systems on prevalence of mange in buffaloes

Ecological parameters		Isolated mite		overall Percentage
		Sarcoptic sp.	*Psoraptic. Sp*	
Sex	Female	18 ^{a}	11 ^{a}	50.87%
	Male	15^a	13 ^{a}	49.12%
Age	Less than 1 year	11 ^{a}	7 ^{a}	31.57%
	1 to 2 year	7 ^{a}	5 ^{a}	21.05%
	2-3 year	6 ^{a}	5 ^{a}	19.29%
	3-5 year	6^a	5 ^{a}	19.29%
	More than 5 year	3 ^{b}	2 ^{b}	8.77%
Season	Summer	5 ^{a}	4 ^{a}	15.78%
	Autumn	8 ^{a}	5 ^{a}	22.80%
	Spring	7 ^{a}	5 ^{a}	21.05%
	Winter	13 ^{b}	10 ^{b}	40.35%
Related communities	Separate rearing	11 ^{a}	8 ^{a}	33.33%
	Mixed rearing	22 ^{b}	16 ^{b}	66.66%
Housing Management	Muddy land	26 ^{a}	21 ^{a}	82.45%
	Dry land	7 ^{b}	3 ^{b}	17.54%
Acracides use	Regular use	5^a	3 ^{a}	14.03%
	Irregular use	13 ^{b}	10^b	40.35%
	Not use	15 ^{b}	11 ^{b}	45.61%

Variables with different superscript letters in the same column are significantly different at P<0.05.

Table 3: Efficacy of therapeutic treatment on *Sarcoptic spp.* buffaloes' mange

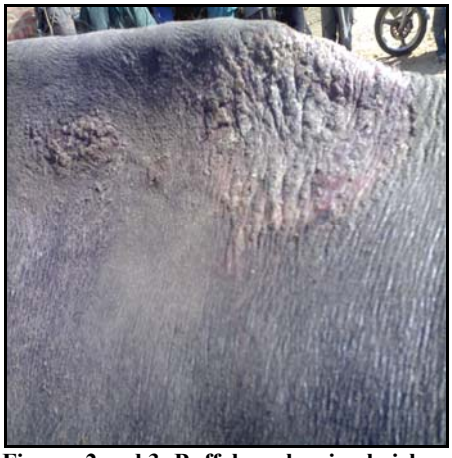
Group	Treatment	No.	Clinical Examination and parasitological examination	Day of examination					
				0	7	14	28	42	56
I	Ivermectin	8	Positive clinical lesion	8 (100%)	8 (100%)	4 (50%)	0 (0%)	2 (25%)	4 (50%)
			Positive skin scraping	8 (100%)	5 (62.5%)	2 (25%)	0 (0%)	2 (25%)	5 (62.5%)
II	Doramectin	8	Positive clinical lesion	8 (100%)	7 (87.5%)	3 (37.5%)	0 (0%)	1 (12.5%)	3 (37.5%)
			Positive skin scraping	8 (100%)	4 (50%)	1 (12.5%)	0 (0%)	1 (12.5%)	4 (50%)
III	Ivermectin	8	Positive clinical	8	6	2	0	0	0

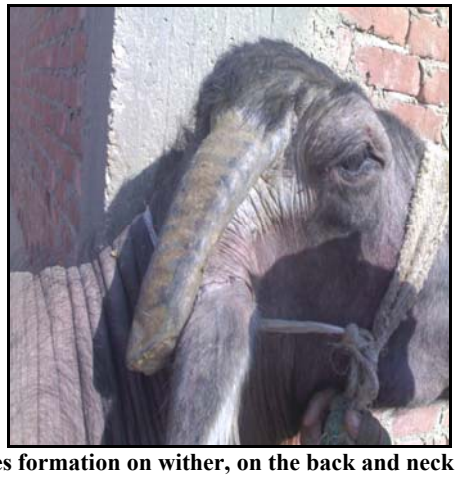
	plus Butox-50		lesion	(100%)	(75%)	(25%)	(0%)	(0%)	(0%)
			Positive skin scraping	8 (100%)	4 (50%)	1 (12.5%)	0 (0%)	0 (0%)	0 (0%)
VI	Doramectin plus Butox-50	8	Positive clinical lesion	8 (100%)	5 (62.5%)	2 (25%)	0 (0%)	0 (0%)	0 (0%)
			Positive skin scraping	8 (100%)	2 (25%)	1 (12.5%)	0 (0%)	0 (0%)	0 (0%)

Table 4: Efficacy of therapeutic treatment on *Psoroptic spp.* buffaloes' mange

Group	Treatment	No.	Clinical Examination and parasitological examination	Day of examination					
				0	7	14	28	42	56
I	Ivermectin	6	Positive clinical lesion	6 (100%)	5 (83.33%)	3 (50%)	0 (0%)	2 (33.33%)	3 (50%)
			Positive skin scraping	6 (100%)	4 (66.66%)	2 (33.33%)	0 (0%)	2 (33.33%)	4 (66.66%)
II	Doramectin	6	Positive clinical lesion	6 (100%)	4 (66.66%)	2 (33.33%)	0 (0%)	1 (16.66%)	3 (100%)
			Positive skin scraping	6 (100%)	4 (66.66%)	1 (16.66%)	0 (0%)	1 (16.66%)	3 (50%)
III	Ivermectin plus Butox-50	6	Positive clinical lesion	6 (100%)	4 (66.66%)	2 (33.33%)	0 (0%)	0 (0%)	0 (0%)
			Positive skin scraping	6 (100%)	3 (50%)	1 (16.66%)	0 (0%)	0 (0%)	0 (0%)
VI	Doramectin plus Butox-50	6	Positive clinical lesion	6 (100%)	3 (50%)	1 (16.66%)	0 (0%)	0 (0%)	0 (0%)
			Positive skin scraping	6 (100%)	2 (33.33%)	1 (16.66%)	0 (0%)	0 (0%)	0 (0%)

Figure 1: Buffaloes showing hairless area and scales formation on the tail showing blood ozes because itching due to mange mites infestation





Figures 2 and 3: Buffaloes showing hairless area and scales formation on wither, on the back and neck

DISCUSSION:

Mange is a highly contagious and debilitating skin disease of buffaloes, which badly affects the health and productive capacity of these animals in our country. Besides the huge losses that mange is causing due to poor productive and reproductive performances, mange is also one of the main causes of skin rejection and down grading in the tannery industry (Tanneries Report, 1999).

The species of three main genera i.e., *Psoroptes*, *Sarcoptes* and *Chorioptes* are of particular clinical importance (Afzal *et al*., 1995). During the present study only *Sarcoptic spp. and Psoroptic spp.* were identified from infesting buffaloes' population in Upper Egypt in percentage of 11.78% and 8.57%, respectively, with overall percentage of 20.35%. Infestation by *Sarcoptic mites* (57.89%) was recorded to be the most frequent in examined cases, followed by *Psoroptes spp. mites* (42.11%), (Table 1). This result was coincided more or less with Nooruddin *et al.* (1986); Tikram and Ruprah, (1986); Zaitoun *et al.* (1998); El-Khodery *et al.* (2009); Cozma *et al.* (2002); Patel *et al.* (2003); Cernea and Cernea (2006). The differences in the prevalence may be attributed to the variation in the management and environment at the different localities, high stocking rate of the pasture, close contact and scarcity of grazing land (Qadoos *et al*., 1995). The high prevalence of mange in this study might be due to the poor management of animal by the owner (Abu-Samra *et al*., 1981).

As regards the effect of sex, out of total of 33 infested buffaloes by *Sarcoptic* mange mite 18 females and 15 males were found to be positive. At the Psoroptic infested animals, out of 24 positive cases for the mange 13 were male and 11 females. With overall prevalence rate was 50.87% female and 49.2% male (Table 2). Statistical analysis showed no significant relationship between genders. This result coincided with Hayat *et al.* (1996); Ahmed *et al*., 1997 and Jabeen *et al.* (1998) who mentioned that prevalence of mange has not been found significantly differ between males and females.

Animal age significantly ($P<0.05$) affected the prevalence of infestation by *Sarcoptic and Psoroptes spp.* mites (Table 2). Thus, buffaloes under one year of age were the most affected (31.57%); however, buffalo older than five years showed the lowest infestation rate (8.77%). Our result was agreed with Purohit *et al.* (1997); Hayat *et al.* (1996) and El khodery *et al.* (2009). On contrary, Cernea and Cernea (2006) reported that mange in buffalo develops in adult animals regardless the sex with higher prevalence of mange mite at 5–13 years of age. The higher prevalence of mange in young animals as compared to older animals may be due to unhygienic conditions, overcrowding and keeping young and adult animals together thus getting infection through direct contact between mothers to calves, while sucking as well as the high incidence in this age group, could be due to their tender skin and huddling tendency. Additionally, the farmers are not well acquainted with modern livestock management practices (Schmidt, 1994).

Significant association (P<0.05) between prevalence of infestation with *Sarcoptic spp.* and *Psoroptes spp.* mites and the season was observed (Table 2). The severity of infestation was observed during winter season. Thus, 40.35%of the cases were recorded in winter (Table 2), while the lowest infestation was recorded in summer season (15.78%). This result was agreed with Blood *et al.* (1983) who mentioned that *Sarcoptic* and *Psoroptic mange* is said to have seasonal occurrence, being active mainly during cold and wet weather. The effect of season on the prevalence may be due to great activity of the *Psoroptic mites* in the cool temperature seasons rather than hot ones. Maske and Ruprah (1981) reported that 20°C was the optimum temperature for the maximum survival of Psoroptic mites and any significant deviation from this temperature adversely affects the period of survival. As well as *Sarcoptic mites* have been found to survive better at 20–27°C than at 31–39°C (Tikaram and Ruprah 1986).

Regarding to related community, presence of other animal species with buffalo was found to increase the prevalence of mange (P<0.05). 38 (66.66%) infested buffaloes were raised with other animal species, whereas 19 (33.33%) cases were raised alone (Table 2). Other animal species my harbor the mites and close contact of buffaloes with such animals could help transmission of infection (Qadoos *et al*., 1995).

As well as significant association (P<0.05) between prevalence of infestation with *Sarcoptic spp.* and *Psoroptes spp*. mites and housing management was observed (Table 2). The prevalence of mange mite in buffaloes reared in muddy land (82.45%) was higher than those reared in dry land (17.54%). The higher prevalence of infestation recorded in muddy floor may be attributed to that the optimum condition for the disease included moisture and cool temperature but it is severe in animals in unhygienic environmental conditions (Steelman, 1976 and Blood *et al*., 1990).

From (Table 2), we observed that untreated or irregular treated animals by acaricides was found to affect significantly (P<0.05) the prevalence of mange in the examined cases. Thus, 45.61% and 40.35% of buffaloes infested with *Sarcoptic* and *Psoroptic* mange mite previously not and irregular treated with acaricides, respectively, while the lowest prevalence was found in animal regular treated with acaricides (14.03%). In spite of the high efficacy of many therapeutic agents against mites, the recurrence of infestation might be the main problem in the control of the disease as result of neglected environmental treatment as bedding and fomites. Moreover, resistance to drug as result of irregular treatment or misusing of drug has been recorded *in vivo* and in vitro (Currie *et al*., 2004). Acaricide resistance is mainly detected through field experience, after failure of a particular treatment. It must be understood that in the case of mites, proper treatment and control measures can only be implemented in conjunction with an accurate diagnosis (Bates, 2000b).

From figures (1-3), we observed that infested animal with mange mite either

***Sarcoptic* or *Psoroptic* mange mite revealed that they suffered from itching, loss of patches of hair in different regions of the body with appearance of scales on the skin. The more common sites of infestation were the head, neck and the base of the tail (Berriatua *et al.,* 2001). Itching developed as a result of histamine that released from the destructed cells which is a potent pruritogen (Greaves and Wall, 1996). According to the severity and appetite of animals infested with mange (57 animals), 40 (70.18%) of infested cases showed inappetance, and 17 (29.82%) had normal appetite. Moreover, Poor body condition was recorded in 34 (59.65%) buffalo infested with mange mite.**

It is widely acknowledged that mange mite in animal is a major constraint in farming, leading to low productivity and economic losses. As a disease is the ultimate consequence of animal-environment maladaptation, it also forms a crude indicator of animal welfare (Radostits *et al.* 2007). Besides a lack of awareness concerning the possible use of modern therapeutic drugs for treating mange, the poor economic background of the rural population together with the relative difficult accessibility of some veterinary clinics, have likely contributed to the increased percentage of farmers not using modern veterinary services. In this regard, it is crucial to carefully consider the actual field problems and then design an appropriate strategy that ensures equal access to modern drugs and veterinary services for all of the affected population.

On clinical level with regarding to buffaloes infested with *Sarcoptic mange* mites (Table 3), improvement was observed rapidly in the group treated with ivermectin and doramectin adjunct with treatment of animal environment (group 3 & 4) compared with only injection of ivermectin and doramectin without treatment of animal environment (group 1 & 2). 100% of the buffalo received either ivermectin or doramectin adjunct with treatment of environment have become clinically and parasitologically cure at 28 day post-administration without reinfestation versus 42 days for either only injection of ivermectin and doramectin which reinfestation was observed (group 1 & 2) . However, in the group received only ivermectin injection, 2 (12.5%) and 5 (62.5%) buffalo reinfested with mange at 42 and 56 days post-administration, respectively. Nearly, the same result was observed during treatment of buffaloes with using doramectin alone which reinfestation was parasitologically observed at 42 (12.5%) and 56 days (37.5%) post treatment.

Concerning the effect of therapeutic treatment of buffaloes infested with *Psoroptic* mange mite (Table 4), we noticed that nearly similar results were detected as that in treatment of *Sarcoptic* mange mite. Completely improvement without reinfestation was observed in the group treated with ivermectin and doramectin adjunct with treatment of animal environment (group 3 & 4) compared with only ivermectin or doramectin injection (group 1 & 2). 100%of the buffalo received either ivermectin or doramectin adjunct with treatment of animal environment have become clinically and parasitologically cure at 28 day

post-administration without reinfestation versus 42 days for either ivermectin and doramectin injection reinfestation was observed (group 1 & 2).

This result was agreed with *Logan et al.* (1993) and Bala & Rath (2006) who stated that ivermectin and doramectin have equally efficacy against *Sarcoptic* mites. Deltamethrin spray was used to clean the animal environment to be able to eliminate the risk of recurrent infestation from the environment (Arends *et al.,* 1999 and Cadiergues *et al*., 2004). It is important to note, however, that a great majority of the peasant population considered to be aware of the advantages of using modern veterinary services in treating affected stock, is also believed in most cases to be reluctant to adhere to the professional advice given to him to cover the full course of treatment required to bring complete recovery to his animals. This may necessitate the delivery of an appropriate animal health extension service to upgrade the level of understanding of the rural peasant population. Moreover, it is also very likely that treated animals will become reinfested by the disease, as there is every opportunity of contact with other sick animals and a contaminated environment. This stresses the importance of launching a mass treatment campaign to minimize the problem to the lowest possible level (Blood *et al.,* 1990).

In conclusion, the results of our investigation indicate that *Sarcoptic and Psoroptic mites* are the main cause of mange in buffalo in Upper Egypt. Using acaricides for treatment adjunct with spraying animal environment (bedding, wall and fomites) by insecticides is the better protocol not only for controlling buffaloes' mange but also, for prevention of reinfestation from animal environment.

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دراسات وبائية عن الجرب في الجاموس المصري مع الإشارة إلى كفاءة بعض المحاولات العلاجية المختلفة لعلاج الجرب

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أجريت هذه الدراسة على عدد 280 من الجاموس المصري في عدة قرى من محافظة أسيوط إحدى محافظات الوجه القبلي في مصر. وكانت الدراسة في الفترة من يونيه 2008 حتى يوليه 2009، وكانت أعمار الحيوانات تتراوح من أقل من سنة حتى عمر 8 سنوات. وبفحص الحيوانات إكلينيكياً، تبين أنها تعاني من الحك وتساقط الشعر في أماكن مختلفة بالجسم، وظهور قشور علي الجلد مع زيادة في طبقة الجلد واحمرار وأحياناً نزف من الجلد أثناء الحك الشديد، وكانت الحيوانات المصابة تعاني من نحافة وهزال. وكان أكثر الأماكن إصابة على الحيوانات هي منطقة الرقبة والرأس ومنطقة الذيل.

وفي هذه الدراسة تم اخذ عينات من أماكن الإصابة وفحصها مجهرياً، وتبين أن نسبة الحيوانات المصابة بالجرب كانت 20.35% حيث كان عدد الحيوانات المصابة بالجرب الساركوبتي 33 (11.47%)، والجرب السوربتي 24 (11.47%). كما تم دراسة دور بعض العوامل البيئية المحيطة بالحيوانات المصابة إحصائياً ووجد أن نوع التربية والتربة والعمر والانتظام في مكافحة المرض يلعب دوراً معنوياً في معدل حدوث الإصابة بالجرب. بالإضافة إلى ذلك هدفت هذه الدراسة إلى استخدام بعض المحاولات العلاجية لمكافحة الجرب في الجاموس المصري. لذلك تم علاج الحيوانات المصابة بعد تقسيمها إلى أربع مجموعات، المجموعة الأولى تم علاجها بحقن الايفرمكتين فقط، المجموعة الثانية تم علاجها بحقن الدورمكتين فقط، المجموعة الثالثة تم حقن الايفرمكتين للحيوان المصاب بالإضافة إلي رش البيئة المحيطة للحيوانات المصابة بالبوتكس–50 ، بينما المجموعة الرابعة تم علاجها بحقن الدورمكتين ورش البيئة المحيطة للحيوانات المصابة بالبوتكس–50 أيضاً لوحظ أن علاج الحيوانات المصابة بالجرب باستخدام الايفرمكتين أو الدورمكتين مع رش البيئة المحيطة هي أفضل الطرق للقضاء على الجرب.