

Frequency of skin diseases among sea fishermen in Basrah

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Abstract

The sea represents part of the southern border of Basrah. Working in and dealing with the sea water, mainly fishing, is the occupation of many Basrah citizens, where a number of them are attending the out patient clinic of Dermatology and Venereology at the Basrah Teaching Hospital suffering from skin diseases.

Objectives:

The objective of the present work is to evaluate the frequency of skin diseases among sea fishermen in Basrah.

Patients and Methods:

This is a case-control epidemiological study in which 230 sea fishermen have been collected from the fishing boats harbor (Al-Nagaah) at Al-Fao city during the period between May 2006 through July 2007.

All of them were males and their ages were ranging from 12-72 years with a mean \pm SD 28.60 \pm 11.88.

Two hundred thirty subjects attending the outpatient clinic of the general hospital of the same city, as companions of the patients, were enrolled in this study as a control group. They were of comparable age, sex, and season. Fishermen were excluded.

Results:

The study showed that marine stings (including jellyfish stings, seabather's eruption, stingray and stonefish stings) were specific for sea fishermen in comparison with control 48 (20.9%) Vs. 0, the frequency of other skin diseases were higher and achieved a statistical significance among sea fishermen in comparison with control group in the following skin diseases: bacterial infection 35 (15.2%) Vs. 9 (3.9%) , fungal infection 79 (34.3%) Vs. 46 (20%), warts 25 (10.9%) Vs. 9 (3.9%), sunburn 35 (15.2%) Vs. 13 (5.7%), facial wrinkling 9 (3.9%) Vs. 52 (22.6%), lentigens and freckles 36 (15.7%) Vs. 15 (6.5%), contact dermatitis 25 (10.9%) Vs. 7 (3%), palmer hyperkeratosis 130 (56.5%) Vs. 43 (18.7%), miliaria 58 (25.2%) Vs. 30 (13%) respectively.

Some other skin diseases were also higher but did not reach a statistical significance: melasma , actinic cheilitis, cutis rhomboidalis nuchae and chilblain; the other skin diseases were not different like cholinergic urticaria, seborrheic dermatitis and discoid lupus erythematosus.

Conclusion:

The present work showed that fishing in the sea is a hazardous occupation in which the fishermen are liable for different skin diseases caused by their hard working environment, so that dermatologists working in this area should be familiar with these diseases.

BACKGROUND

The occupational aspect of dermatology have attracted increasing attention⁽¹⁾. This has been reflected in the establishment, in some countries, of special department of occupational dermatology⁽²⁾.

Sea represents part of the southern border of Basrah. Working in and dealing with the sea water mainly fishing is the occupation of many Basrah citizens, where number of

them are attending the out patient clinic of Dermatology and Venereology at Basrah Teaching Hospital suffering from skin diseases. Fishing in the sea is an outdoor occupation that can be associated with:

1. Frequent and prolonged sun exposure (3).
2. Frequent and prolonged contact with sea water; which is associated with continuous wetness and potential hazards of marine creature. (3)

3. Exposure to changes in the environmental conditions, especially those regarding extremes of temperature and humidity (3).
4. Contact with the equipment used in the marine work which may be hazardous to the skin as they can cause for e.g. contact dermatitis and traumatic injuries which can be a portal of entry for various infectious agents. (3) So this study was designed to evaluate the frequency of skin diseases among sea fishermen in Basrah as similar Iraqi studies in this field are lacking.

PATIENTS AND METHODS

This is a case-control epidemiological study in which 230 sea fishermen have been collected from the fishing boats harbor(Al-Nagaah) at Al-Fao city during the period between May 2006 through July 2007.

All of them were males and their ages were ranging from 12-72 years with a mean \pm SD 28.60 \pm 11.88.

Two hundred thirty subjects attending the outpatient clinic of the general hospital of the same city, as companions of the patients, were enrolled in this study as a control group. They were of comparable age, sex, and season. Fishermen were excluded.

A full history and dermatological examination was carried out to establish the diagnosis of skin diseases on clinical bases in both cases and controls. For the determination of statistical significance among different variables, a descriptive statistics like mean and standard deviation together with analytic statistics like chi squared test, t-test or fischer exact test have been done when appropriate. A p-value less than 0.05 was considered significant. SPSS version 11 has been used. The consent of all patients was taken prior to their inclusion in this study, meanwhile, the permission of the local ethical committee to conduct the study was also obtained.

RESULTS

The study showed that the frequency of skin diseases were as follows (table 1):

1-skin diseases that were higher and specific to sea fishermen like marine stings which were 48 (20.9%) Vs. 0 among cases and control groups respectively.

2-skin diseases which were highly significant statistically

among sea fishermen in comparison with control group, (p value < 0.05): bacterial infection 35 (15.2%) Vs. 9 (3.9%), fungal infection 79 (34.3%) Vs. 46 (20%), warts 25 (10.9%) Vs. 9 (3.9%), sunburn 35 (15.2%) Vs. 13 (5.7%), facial wrinkling 79 (34.3%) Vs. 52 (22.6%), lentigens and freckles 36 (15.7%) Vs. 15 (6.5%), contact dermatitis 25 (10.9%) Vs. 7 (3%), palmer hyperkeratosis 130 (56.5%) Vs. 43 (18.7%), miliaria 58 (25.2%) Vs. 30 (13%).

3-Skin diseases which were higher among sea fishermen but did not achieve statistical significance (p-value > 0.05) like melasma 6.1% Vs. 2.6%, actinic cheilitis 3% Vs. 0.9%, cutis rhomboidalis nuchae 1.7% Vs. 0 and chilblain 2.2% Vs. 0.4% among cases and control respectively.

4-Skin diseases which were not different between cases and controls like cholinergic urticaria 10 (4.3%) Vs. 13 (5.7%), seborrheic dermatitis 8 (3.5%) Vs. 7 (3%) and discoid lupus erythematosus 1 (0.4%) Vs. 0 respectively.

Frequency of skin diseases caused by marine stings (table 2):

The highest number of marine stings was caused by jellyfish 18 (7.8%) followed in order of frequency by seabather's eruption 13 (5.7%), stingray 11 (4.8%) and stone fish 6 (2.6%). All sea fishermen gave history of stings uncountable times during the work. The most common sting encountered were caused by jellyfish, most of which were mild, self limited and manifested by erythema, burning pain and itching at the site of sting which disappeared within few hours; some other cases were manifested by erythematous streaks, wheals and post inflammatory hypopigmentation at the site of sting. The sites affected were mostly the hands, forearms and even the eyes. Regarding seabather's eruption 13 (5.7%) cases have been registered, all of them gave history of swimming in the sea few hours before the development of maculopapular and vesicular eruption at the sites covered by clothes.

Stingray stings were the most painful sting, 11 (4.8%) cases were found and presented as a puncture wound at the site of sting.

A six cases (2.6%) of stone fish stings has been reported which happened during cleaning of the net by the fishermen, they were painful and left a puncture wound.

Frequency of skin diseases caused by infections (table 3):

When we classified and compared diseases caused by

infections between cases and controls the following skin diseases showed a significant statistical difference (p value < 0.05) : bacterial folliculitis 21 (9.1%) Vs. 6(2.6%) , boils 11 (4.8%) Vs. 3 (1.3%) , Pityriasis versicolor 37(16.1%) Vs. 17(7.4%), warts 25 (10.9%) Vs. 9(3.9%) respectively. The other diseases like cellulitis, toe and finger webs fungal infections, pityrosporum folliculitis ,onychomycosis, tinea cruris and tinea corporis were higher among sea fishermen but did not achieve statistical significance.

Figure 1

Table 1 :Frequency of skin diseases among cases and controls

Skin diseases	Case (n=230)	%	Control (n=230)	%	p-value
bacterial infection	35	15.2	9	3.9	0.001
fungal infection	79	34.3	46	20	0.001
Warts	25	10.9	9	3.9	0.007
Sunburn	35	15.2	13	5.7	0.001
Facial wrinkling	79	34.3	52	22.6	0.007
Lentigens and freckles	36	15.7	15	6.5	0.003
Melasma	14	6.1	6	2.6	0.1
Actinic chelitis	7	3	2	0.9	0.17

Figure 2

Table2:Frequency distribution of marine stings among sea fishermen

	Cases (n=230)	%
Jellyfish stings	18	7.8
Seabather's eruption	13	5.7
Stingray stings	11	4.8
Stonefish stings	6	2.6
None	182	79.1
Total	230	100%

Figure 3

Table 3:Frequency distribution of skin diseases due to infection among cases and controls

	Cases n=230	%	Control n=230	%	p-value-
Bacterial folliculitis	21	9.1	6	2.6	0.003
Boils	11	4.8	3	1.3	0.03
Cellulitis	3	1.3	-	-	Not done
Pityriasis versicolor	37	16.1	17	7.4	0.004
Toe and finger webs fungal infection	19	8.3	17	7.4	0.72
Pityrosporum folliculitis	10	4.3	8	3.5	0.63
onychomycosis	5	2.2	-	-	Not done
Tinea cruris	7	3	4	1.7	0.36
Tinea corporis	1	0.4	-	-	Not done
Warts	25	10.9	9	3.9	0.004

Figure 4

Figure 1: Seabather's eruption



DISCUSSION

Sea fishermen are heavy outdoor workers and are exposed to different hazards which can be acquired from the sea for example jellyfish stings or from the change in the environmental factors like intense prolonged sun exposure and extremes of temperature and humidity or other factors related to marine environment.

MARINE STINGS

The study showed that marine stings were very common among sea fishermen ,all of them gave history of stings uncountable times during the work. The most common encountered stings were caused by jellyfish followed in order of frequency by seabather's eruption, stingray sting and

stonefish sting and this is related to their direct contact with these stinging creature.

BACTERIAL INFECTION

Fishermen are prone to infection especially of the hands and fingers because of their working environment, where they are subjected to repeated trauma caused by handling fish and the equipment used for fishing⁽³⁾ together with the hot humid dirty environment⁽⁵⁾.

FUNGAL INFECTION

The increased frequency of fungal infection can be explained by the high humidity, high temperature⁽⁴⁾ together with continuous wetness and profuse perspiration⁽³⁾.

HAZARDS OF SOLAR RADIATION

In this study we found an increase in the skin diseases related to sun exposure and this proved the effect of chronic cumulative sun exposure. No cutaneous malignancy have been detected in our study and this can be attributed to the dark complexion of the majority of the studied group⁽⁶⁾.

CONCLUSION

The present work showed that fishing in the sea is a hazardous occupation in which the fishermen are liable for

different skin diseases caused by their hard working environment, so that dermatologists working in this area should be familiar with these diseases.

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