

A SURVEY OF SEA DISEASES ON SOUTH AFRICAN SHIPS*

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Sea diseases first made their appearance on a large scale when the voyages of discovery lengthened during the 16th century. Over the succeeding two centuries these diseases flourished during the long trading adventures to the East. They were finally overcome towards the close of the 19th century.¹

In 1781 it was reported by Sir Gilbert Blane² that 1 in 7 seamen died at sea; of this number less than 10% died of battle wounds. James Lind,³ in 1774, listed the major causes of illness in seamen, in order of frequency, as fevers (typhoid, typhus, plague, malaria and yellow fever), scurvy, venereal disease, consumption, rheumatism and fluxes (diarrhoea).

The tremendous improvement in the health of seamen in recent years is due mainly to improved living conditions on board ships, and also to a gradual advance in their medical care.

This report is a survey of illnesses and accidents occurring among seamen serving in 18 cargo-liners of a South African shipping company during 1967.

MATERIAL

The crews investigated consisted of White adult male officers of South African or European extraction. The petty officers and ratings were Coloured males living in Cape Town and its surrounding areas. The crew members serve at sea for an average period of 9 months, after which leave is usually taken.

Voyages are undertaken from South African ports to ports in Central and North America, Japan and the Far East, and the United Kingdom and Western Europe. The duration of stay in one port varies from less than 1 day to 15 days. The voyage between ports may vary from less than 1 day to 22 days.

At sea a designated officer attends to any medical complaints. This officer has at his disposal first-aid training, a

standard medical guide for ships' officers⁴ and a drug supply as stipulated by the South African Ministry of Transport.⁵ In an emergency radio advice may be requested from the nearest port. At all ports qualified medical attention is available.

This survey is based on accident and illness reports returned to head office in Cape Town by the attending doctors at the various ports of call.

RESULTS

Table I shows the number of officers and ratings per ship. Also tabulated is the number of visits to doctors for accidents or illness. One accident or illness may require one or more visits in the same or subsequent ports. From Table I it may be seen that there are 5 times the number of visits for illnesses as compared with accidents. The visits for accidents and illnesses were proportionately 30% and 100% higher for ratings than for officers.

Table II indicates the frequency of visits for accidents and illnesses in different categories. The further breakdown of these figures will be discussed later.

TABLE II. ANALYSIS OF MEDICAL VISITS

Condition	Number of visits			% of total visits
	Officers	Crew	Total	
Accidents	101	251	352	16.1
Dental	96	318	414	18.4
Skin diseases	73	205	278	12.3
Venereal diseases	33	228	261	11.6
Musculoskeletal	30	191	221	9.8
Gastro-intestinal	51	154	205	9.0
Respiratory	54	115	169	7.5
Ears	41	72	113	5.0
Eyes	17	61	78	3.4
Other	30	127	157	6.9
Totals	526	1,722	2,248	100.0

TABLE I. NUMBER OF CONSULTATIONS

Ship number	Manning		Accidents			Illness		
	Officers	Ratings	Officers	Ratings	Total	Officers	Ratings	Total
1	18	27	3	17	20	19	82	101
2	18	30	2	17	19	27	67	94
3	20	30	6	9	15	22	79	101
4	18	27	1	13	14	19	65	84
5	18	30	8	10	18	18	65	83
6	18	30	8	10	18	27	56	83
7	18	32	2	14	16	26	88	114
8	18	32	4	18	22	20	64	84
9	20	46	16	24	40	25	159	184
10	20	43	1	8	9	18	92	110
11	18	32	2	6	8	13	47	60
12	18	32	4	24	28	27	96	123
13	18	30	8	23	31	42	107	149
14	19	27	5	13	18	20	83	103
15	20	36	8	19	27	16	85	101
16	20	36	8	10	18	34	60	94
17	20	36	7	14	21	23	79	102
18	19	27	8	2	10	29	97	126
Totals	338	583	101	251	352	425	1,471	1,896

*Date received: 14 January 1969.

Out of a total number of 2,248 consultations for medical advice, 108 visits necessitated crew members being put off duty for a period of more than 5 days (Table III). This constituted 4.8%, which was proportionately the same for officers and crew.

TABLE III. ILLNESSES REQUIRING OFF-DUTY PERIODS OF MORE THAN 5 DAYS

Condition	Officers	Crew
Accidents on board ship	13	22
Accidents ashore	1	6
Musculoskeletal	0	5
Epilepsy	0	3
Psychiatric	4	2
Migraine	0	2
Duodenal ulcer	1	7
Gastric ulcer	0	1
Gastritis	0	2
Haematemesis of unknown aetiology	2	0
Haemorrhoids	1	1
Inguinal hernias	0	3
Appendicitis	1	12
Enteritis	0	1
Syphilis	0	3
Gonorrhoea	0	2
Pyelitis	0	2
Dermatitis	2	5
Asthma	1	0
Tuberculosis	0	1
Bronchitis	1	1
Totals	27	81

Four diversions were made for medical attention. These were for: (a) an officer with an acute depressive psychosis; (b) a rating with uncontrollable epilepsy; (c) a rating with compound fractures of both tibiae after a fall from the mast; and (d) a rating with severe gastro-enteritis and haematemesis.

During the year under survey 4 Coloured ratings died while serving on the ships: one died of asthma, one of coronary thrombosis, and there were 2 separate incidents of drowning. There were no deaths among the officers.

A more detailed analysis of the illness categories listed in Table II now follows:

Accidents

Accidents accounted for 16.1% of medical consultations and 59% of accidents occurred on deck or in the living quarters. A large percentage of these were due to falls on deck, in alleyways or on stairs. Engine-room mishaps accounted for 27% of consultations, and 14% of consultations were for accidents occurring while working with the cargo. As can be expected, the majority of accidents involved the hand. Accidents caused the greatest loss of working hours.

Dental

The largest number of consultations was for dental complaints. This constituted 18.4% of the total. Dental caries is known to be prevalent among the Cape Coloured community, from whom the petty officers and ratings of these ships are drawn.

Skin Diseases

Skin diseases accounted for 12.3% of medical visits. Allergic dermatitis was the most common complaint. This

was found to be prevalent among engine-room and catering staff, where oil and detergents respectively can be blamed as the most likely allergens. Fungal skin infections accounted for a large percentage of consultations. Pyogenic skin infections were not frequent complaints, but were the most serious as regards crew members being put off duty. A syphilitic skin rash was diagnosed on one occasion.

Venereal Disease

Venereal disease accounted for 11.6% of consultations. The greatest problem was urethritis, its complications and treatment. Unfortunately, vessels stay in port for an average period of less than 48 hours, which does not give sufficient time for conclusive diagnosis and treatment. Crew members often report for medical attention in port after port for a continuing urethral discharge and are mostly given a different antibiotic on each occasion. The problem is whether the antibiotics used, mainly penicillin and tetracycline, are as effective as they used to be, or whether they are given in insufficient dosages.

There were a few cases of penile sores. Chancroid occurred more commonly than syphilitic chancres.

Musculoskeletal

Musculoskeletal disorders accounted for 9% of visits. These were largely due to sprained muscles, 'fibrositis', minor bruises and abrasions. Accidents, which mainly involved the musculoskeletal system, can be coupled with this category and together they account for 25% of consultations.

Gastro-intestinal Tract

Gastro-intestinal disorders accounted for 9% of visits, and 45% of these consultations were for dyspepsia due to either gastritis or peptic ulceration. Crew members were proportionately more often affected than officers. Next in frequency were haemorrhoidal complaints. Diarrhoeas accounted for 14% of visits in this category. There were many complaints of pain in the right iliac fossa. Here the seaman's fear of developing acute appendicitis in mid-ocean is apparent, and this often involved visits to doctors in successive ports until an appendectomy was performed. More seamen were hospitalized with disorders of the gastro-intestinal tract, especially peptic ulceration and so-called appendicitis, than with illness of any other system.

Respiratory Tract

Infections were the cause of most respiratory tract diseases. Most common were viral upper respiratory tract infections. Follicular tonsillitis occurred fairly frequently.

One case of pulmonary tuberculosis was diagnosed in a rating who had had his annual chest X-ray 9 months previously.

Asthma is a dangerous disease at sea. One officer was hospitalized for an acute attack of bronchial asthma, but rejoined his ship 3 weeks later. Six months after this episode he had another acute attack of asthma and died in hospital. One Coloured rating died of asthma at sea before he could receive qualified medical attention.

Ears

The most frequent ear disease was otitis externa.

of inflammatory or allergic origin. Wax in the ears was found most commonly in engine-room staff. These patients presented with deafness. One wonders whether the wax was secreted as a protective mechanism against the engine-room noise, or whether it was an accidental finding in patients with nerve deafness due to constant exposure to this noise.

Eyes

Eye symptoms accounted for 3.4% of consultations. Eye infections such as conjunctivitis, Meibomian cysts and styes were the most common complaints. Not included in this category are corneal foreign bodies lodged in the eyes as a result of chipping off old paint. These occurred as commonly as eye infections, but have been classified as accidents.

Miscellaneous

Neurological disease was rare. Epilepsy occurred in 3 patients. Migraine headaches occurred in 3 patients. Five patients had psychiatric illnesses. Depressive psychosis was diagnosed on 3 occasions and psychoneurotic illnesses on 2 occasions.

Cardiovascular disease was rare. One rating died of a coronary thrombosis and there were two consultations where a diagnosis of hypertension was made.

Other diseases which required medical attention were a few cases of varicose veins and varicose ulcers, renal colic and one case of glandular fever.

CONCLUSIONS

Sea diseases have been noticeably reduced in number and severity over the past century. Whereas in the past nutritional and infectious diseases predominated, today the emphasis is on trauma and psychosomatic diseases. This is mainly the result of improvement in the general health of the population as well as improved living conditions and medical care on board ship.

All crew members have annual physical examinations and X-rays of the chest. This procedure has shown itself to have beneficial effects by the small numbers of personnel that have to be put off duty for a serious illness.

A fairly large number of complaints was of a trivial nature. Often a visit to the doctor for some minor complaint was used as a means of obtaining shore leave.

Fig. 1 demonstrates that the percentage of crew seeking medical advice for illness is directly proportional to the length of stay of the vessel in port. Also demonstrated is the fact that, except for a peak at 5 days, the frequency of medical consultations for illness is fairly constant irrespective of the length of a voyage. The percentage of crew seeking medical advice is higher while in port than for a

similar period of time at sea.

Further reduction of accidents and illness could be achieved by preventive measures.

Routine dental examinations would reduce the number of consultations for dental treatment.

Venereal disease should be preventable.

The prevention of peptic ulceration, which is one of the more serious of ailments at sea, is more difficult as its aetiology is not definitely known. However, emotional stress, excessive use of alcohol and tobacco, and dietary factors are known to be contributory causes. All these factors are disturbed in life aboard ship.

An unchanging environment has been described by Solomon *et al.*⁶ and Zuckerman *et al.*⁷ as causing stress reactions which may present as anxiety or somatic complaints. Common to all these disorders is a rapid resolution of symptoms when contact with a normal environment is made. Byrd⁸ and Bombard⁹ prescribed constant mental and physical activity as the only means of preventing these stress reactions. The very real problem of boredom at sea can be alleviated by entertainment and organized activity, both mental and physical, during off-duty hours.

SUMMARY

The incidence and nature of illnesses and accidents occurring in seamen serving in South African merchant ships have been analysed.

The most common complaints are disorders of the musculoskeletal system, whether due to accident or disease.

The most serious illnesses are of the gastro-intestinal tract, especially gastritis and peptic ulceration.

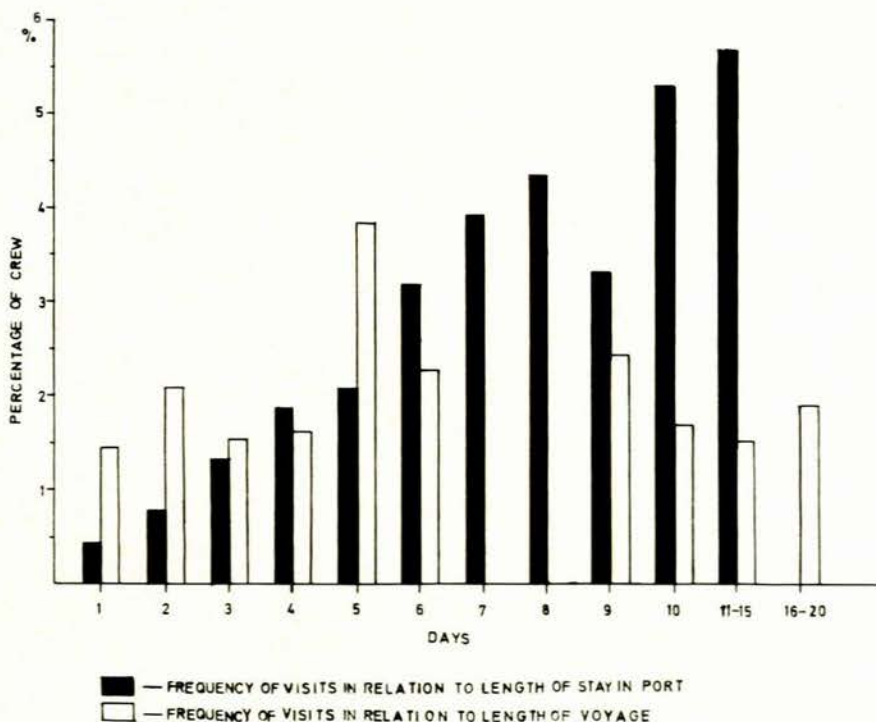


Fig. 1. Percentage of crew seeking medical advice for illness. Figures are derived from the analysis of itineraries of 13 ships which accounted for 765 calls at various ports.

Although the incidence of accident and illness among crew members is not high, the number of medical consultations can possibly be reduced by preventive means, the most important of these being improved morale.

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