Field Study

Characteristics of medical care provided to serving personnel at a Station Medicare Centre in a non flying Air Force Station

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ABSTRACT

Keeping in mind the changing military and medical scenario, a study was carried out to assess the workload of a Station Medicare Centre (SMC) in a non-flying Air Force Station. Data in respect of serving personnel was analyzed. Data showed that the daily sick report was 1.37% of the population per day. Most sickness consisted of minor ailments like URTI, dyspepsia, skin diseases etc. Of this, referral rate for specialist opinion was 11.06%. Bed utilization was very low. 1589 medical examinations were carried out in a year. Dental services were well utilized. The study showed that the curative services were primary in nature. Emphasis was on preventive aspects. Bed utilization was low as referral centres were available nearby. Medical officers posted to such units did not get adequate clinical exposure to hone skills they had acquired in medical college. Medical officers were underutilized as far as their core qualifications were concerned and needed more exposure to curative care. Dental services were required at SMC level.

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The military medical system has two major divisions, maintenance of medical readiness and provision of health care to eligible beneficiaries. The former includes delivery of preventive and curative services to active duty population and maintenance of the capability to provide medical support during contingencies or combat operations. Provision of care to eligible beneficiaries includes delivery of healthcare to dependents, retirees and their dependents.

The focus of peacetime military medical work consists of medical, dental, preventive and public health services, all directed at maintaining fighting forces in vigorous health. The service doctor in addition must also play an advisory role on matters of health to the unit commander. In the United States military establishment, workload in respect of serving personnel is only 30% of the total workload [1]. However, this is the primary criterion used to determine size, composition of the medical corps, medical facilities and training programmes. This paradox is complicated by rapid shifts in policy, which direct more medical services for operational forces while simultaneously directing that more eligible beneficiaries be treated at medical facilities.

The IAF medical services were formed in January 1941 [2]. The army wing of the Indian Medical Services provided the nucleus for this. The IAF medical services were integrated with the army and now are a part of the Armed Forces Medical Services. During the early years of World War-I, it became necessary to supplement the existing medical arrangements for hospitalization of IAF personnel at all airfields, as they were located far away from military hospitals. In 1942 it was decided to set up station sick quarters (SSQ) with inpatient facilities at Air Force bases that had large number of personnel.

The SSQs, now designated as Station Medicare Centres (SMC), provided indoor hospital facilities on the airfield, first aid treatment/resuscitation to all accident cases, treatment for all ailments and conducted minor surgical procedures. The bed strength then was calculated at 2% of establishment. This was later revised to 0.88% of garrison strength. Strategic and tactical considerations besides expansion of the Air Force led to movement of units from their original locations. However, the SMCs continued to operate at the old bases with

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initial allocations. This led to a mismatch between available medical services and workload. Meanwhile, medical facilities expanded in civil as well as in the armed forces. Most units now had civil or military hospitals in the vicinity. Communication became faster and also improved in range. Medical care became more 'specialist' oriented. Medico-legal considerations resulted in reduced scope for General Practitioners in dealing with curative aspects of disease. Present policy recommends that specialists be utilized for treatment, medical opinion prior to recategorization and for review of old cases as far as possible. SMCs today admit only those cases that do not require special nursing and are likely to return to duty in a few days. Besides first aid, treatment consists of providing drugs for minor ailments or filling prescriptions given by specialists. A large component of the work is promotional, preventive or statistical in nature. Many bases today have good civil infrastructure nearby that could look after most of the medical needs other than those that are military in nature. Keeping the above changes in mind, it was felt that an analysis of utilization of medical services provided at the field level would help in delineating the exact role of SMCs.

Materials And Methods

The study was conducted at a medium sized non-flying Air Force Station located in a city. The unit had a seven-bedded SMC with round the clock manning. This SMC provided medical cover to three small satellite units located far away. Medical officers posted to the unit were young with less than two years of service. Medical data relating to preventive curative and rehabilitative care from 01 Oct 2002 to 30 Sep 2003 in respect of personnel on the posted strength of the base was analyzed. The personnel were divided into different classes as officers, airmen, defence security corps personnel (DSC) and non-combatants NCs(E). The study did not include public health activities, support services like laboratory, physiotherapy or medical services provided to retirees and dependents. This was done as the establishment of an SMC is based on strength of personnel.

Results

There were 1077 serving personnel on the posted strength of the station. They were divided into four categories. There were 61 officers, 799 airmen, 103 NCs(E) and 114 DSC personnel.

The data in respect of each category was tabulated for OPD services, admissions, medical examinations and low medical category personnel. As the unit had employed a civil dentist, data in respect of dental treatment was also taken into account. The data is presented in Table-I. It is seen that daily average sick report was 14.84. There were 115 admissions of which 89 were fresh cases. The remaining were old cases admitted for review/ re-categorization. Of the 115 admissions, 51 were admitted and discharged from SMC. The rest were admitted to referral hospitals. The number of medical examinations carried out was 1589. 94 personnel (8.72%) were in low medical category. 455 personnel received dental treatment. Thus at least 7673 contacts occurred between the SMC and serving personnel in one year.

TABLE-I Category Wise Med Workload In One Year

	POSTED STRENGTH	OPD	ADMISSION (FRESH)	LOW CATEGORY	MED EXAM	DENTAL
Offricers	61	345	03	9	179	42
Airmen	799	3957	72	68	1355	359
NC (E)	103	510	9	12	28	19
DSC	114	608	5	5	27	35
Total	**1077**	**5420**	**89**	**94**	**1589**	**455**

Out patients

The common ailments are given in Table-II. URTI, nonspecific diarrhoeas, minor injuries and myalgia were the common diagnoses. 11.06% of the OPD patients were referred for opinion to specialists.

TABLE-II Disease Pattern In Out Patients

DISEASE GROUP	PERCENTAGE OF SICK REORT
URTI	17.41%
Nonspecific diarrhoea / dyspepsia	10.52%
Skin	10.66%
ENT	10.31%
Eye	5.49%
Injuries	7.90%
Fever	4.72%
Myalgia	9.05%
Referral for specialist opinion	11.06%

Hospital Admissions

Disease wise breakdown of fresh cases admitted to hospital is given at Table-III. Diagnoses are as per the International Statistical Classification of Diseases [3]. The cases admitted to the SMC were usually of low backache, skin infections, fever and injuries. These cases were admitted in SMC but were all reviewed at least once by the specialist at the referral hospital. The bed occupancy rate (BOR) for the SMC was 13.72%. The average length of stay (ALS) was 4.58 days. The Bed Turnover Interval (BTI) was 48.29 days

Mortality

There were two deaths during the period of one year. One individual died in a road traffic accident while on leave. The other died of myocardial infarction in his quarters.

Low Medical Category

Principal disabilities amongst persons in low category (94) were hypertension (23.40%), injuries (15.95%), obesity (11.70%), diabetes mellitus (6.38%) chronic obstructive pulmonary disease (5.31%) and tuberculosis (4.25%). Significant numbers of low medical category personnel were above the age of 40 years.

Medical Examinations

Details are given at Table-IV. It was seen that the coverage was more than 100%. Many persons were examined more than once. The DSC and NC(E) categories showed low rates of medical examination. It is pertinent to note that till recently the first medical for airmen and NC(E) after recruitment was after 30 years of age.

Statistical Returns

The SMC routinely submits twenty returns every year in respect of above data. They are monthly, quarterly, half yearly or annual. This number is exclusive of returns in respect of dependents, sanitation, medical equipment or medical stores.

Discussion

The study was carried out at a medium sized non-flying station in a city. Data pertained to serving personnel only. The characteristics of flying and non-flying bases vary. Location in rural or urban areas, terrain and environmental factors also determines utilization. At this base the daily sickness rate was 1.37%. However, most of the diseases were minor in nature, requiring very basic clinical skills. Easy access and free services during working hours may be important factors. Of the total sick report only 2.12% were hospitalized. The admission

TABLE-III Fresh Cases Admitted To Hospital Rate Per Thousand

DISEASE	ICD NO	RATE	AIRFORCE RATE (2001)	ARMY RATE (2001) [4]
COMMUNICABLE DISEASES				
URTI	J06.9	6.49	8.50	
Viral hepatitis	B15-19	5.57	2.3	2.7
Tuberculosis	A15-19	1.85	1.5	1.5
Malaria	B54	1.85	1.94	4.1
HIV	B20-24	0.92	0.03	0.22
Skin infections	680-686	5.57	4.73	0.9
Chicken Pox/Herpes Zoster	B01-B02	1.85	0.01	
Fever NYD (inv NAD)	R50	9.28		
NON COMMUNICABLE DISEASES				
Injuries (Non Enemy Action)	S12-S98	11.14	19.04	20.00
Injuries Enemy Action	-	0	0	-
Low Backache	M51-51.9	8.35		-
Dog bite	W54	1.85	0.35	-
Ureteric Calculus/ UTI/ Renal failure	N00-N30.9	5.57	0.05	-
Ill effects of Alcohol	F10.x	2.78	0.43	-
Psychiatric	F20-F48.9	3.71	1.32	4.35 (Stress Diseases)
IHD	I24	1.85	0.73	
Hypertension	I110-115	1.85	2.31	
Others	-	11.14	-	-
Overall admission Rate	**-**	**82.63**	**67.65**	**103**

TABLE-IV Medical Examination By Category And Occasion

OCCASION	OFFRS	AIRMEN	NC(E)	DSC	TOTAL
Annual	39	413	11	9	472
On posting	13	0	0	0	13
Prior to Course	4	74	0	3	81
Commissioning	0	42	0	0	42
Extension of Service	0	37	0	5	42
High Altitude	0	1	2	0	3
Special Exam for Occupational Hazards	9	253	0	0	262
Med Exam For Issue of Driving Licenses	110	402	13	9	534
Periodic Exam for Military Drivers and Police	0	58	0	0	58
Periodic Obesity Review	4	49	2	0	55
Release	0	26	0	1	27
Total	**179**	**1355**	**28**	**27**	**1589**

TABLE-V Disease Wise Breakdown Of Low Category Personnel

MAIN HEADING	SUBHEADING			TOTAL
Injuries	Bony Injuries	Soft tissue injuries		15
	12	3		
Cardiovascular system	IHD	RHD	Hypertension	27
	4	1	22	
Respiratory system	COPD	Tuberculosis		9
	5	4		
Central nervous system	Hemiplegia	Epilepsy		4
	1	3		
Gastrointestinal System	Viral hepatitis			3
	3			
Psychoneurosis/Drug Dependence	Psychoneurosis	Alcohol Dep Syndrome		4
	2	2		
Metabolic	Type-2 DM	Obesity		17
	6	11		
Musculoskeletal	PIVD	Rh Arthritis		5
	4	1		
HIV	1			1
Others				9

rate for this base was 82.63 per 1000 for fresh cases. Both communicable and non communicabe disease were seen in the cases admitted. The rate for the armed forces today is 102.95 per 1000[3]. Even though beds were available, a large proportion of the cases were admitted at referral centers. While the reasons for this could be many, it is emphasized that whenever referral hospitals are available nearby, utilization of beds at SMC is bound to be low, as cases are referred to institute early definitive care. The basis behind placement of beds at SMCs was the remoteness and isolation of the place. This rationale does not hold good in many units today. Costs attached in maintaining hospital beds need to be kept in mind. All injuries in the study population and even in the Air force were due to non-enemy action. Medical officers probably have inadequate exposure to trauma and disaster management. The number of medical examinations done was extremely high. The reason could be the emphasis placed today on preventive and promotional aspects of care. It was noticed that many individuals were examined more than once in a year. Such repeated eaminations may not give any added benefit. Dental treatment occupied a prominent place in the daily sick attendance. Dental fitness of military population has a high priority in maintaining a force fit to fight. Accessible and adequate dental services may be a felt need. 8.72% of the population was in low medical category. Many of these were suffering from hypertension, type-2 diabetes mellitus, obesity and other such diseases of the modern age. This occurred more with older populations. These cases are chronic and require long-term follow up. Large amount of returns were sent at varying intervals for the above data. Data in one return often overlapped with the other.

Conclusion

The study showed that the curative services at the field were primary in nature. Emphasis was on preventive aspects. Bed utilization was low as referral centers were available nearby. Medical officers posted to such units did not get adequate clinical exposure to hone skills they had acquired in medical college. It is suggested that inpatient facilities at SMCs with nearby hospitals be reviewed/relocated. Medical officers posted to units should integrate with nearby civil/military hospitals to improve their exposure. This would also help hospitals that are usually overworked. Better liaison with civil medical establishments would be an added advantage. In the case of very small units civil hospitals or doctors should be approached at the appropriate level to provide medical care. Medical Officers posted to such units can look after military requirements and be available higher up in the chain of evacuation. Adequate dental services should be available at all SMCs. With enhanced training, medical assistants could deal with most of the routine military medical workload.

References

1. Llewellyn J Legters, Craig H Llewellyn. Military Medicine. in Maxcy Rosenau - Last Public health and Preventive Medicine 13th edition. Appleton and Lange 1992. 1141-1158.
2. History of Indian Air Force Medical Services (1941-1981). Air Head Quarters New Delhi-11001. 1981:1-18
3. International Statistical Classification of Disease and Related Health Problems. Tenth Revision ICD-10 (Adopted for Armed Forces Medical Services).
4. Military Hygiene and Health in Manual of Health for the Armed Forces. 2003 Vol 1.:1-12.