

Utilization of emergency medical kits on commercial aircraft – A Jet airways' perspective

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Jet Airways, India's premier commercial domestic airline, has also commenced International operations. With the recent tremendous upsurge in the aviation industry, a large number of passengers of different age groups and health status, are opting for air travel, as it is the most convenient and fastest mode of transport. An aging population combined with the increasing mobility of people with acute / chronic illnesses, have resulted in an increase in the frequency of in-flight medical events. In addition, the inherent physiological / psychological stresses of a relatively hostile environment, may also precipitate problems in passengers with a serious / potentially serious underlying disorder which may get aggravated due to the stresses of flight.

Jet Airways carries First Aid Kits (FAK) and Physician's Kits (PK) on board its aircraft in accordance with the existing IATA / DGCA mandated recommendations / regulations. Each kit is prepared and certified by the company doctor, as a placard (sticker), listing all the contents in detail for the user's reference, is pasted of each kit. In addition, each kit contains a comprehensive 'Medical Incident Reporting Form' which has to be filled by the cabin crew / doctor on-board, in the event the kit is opened for a medical emergency. All our cabin crew undergo rigorous initial and recurrent First Aid training. As per existing DGCA guidelines, cabin crew are permitted to open FAKs, whereas PKs can be opened only by Registered Medical Practitioners (RMPs).

A prospective study of the total number of kits utilized for in-flight medical emergencies, across the entire Jet Airways network, was carried out between 1st August 2006 to 30th June 2007. This study did not include in-flight medical emergencies occurring in ill / disabled passengers whose MEDIF Forms had been approved in advance, by the Jet Airways Medical Dept. Relevant Medical Incident Reporting Forms were evaluated and analyzed with the aim of: auditing appropriateness of First Aid treatment administered by the crew; assessing the adequacy of the emergency kit contents; and to Determine the etiology / frequency of various in-flight emergencies, together with the therapeutic modalities used.

Results

A total number of 10 million passengers traveled on our flights during the period under review, and the kits were opened on 3,771 occasions, for in-flight medical problems ranging from trivial to life-threatening emergencies. A doctor was available to render assistance on board on 171 (4%) occasions and the PK was used on 163 occasions. In the remaining 3,600 (96%) cases, where a doctor was not available, the cabin crew rendered First Aid and the FAKs were utilized on all the occasions. Both FAKs and PKs were used on 153 occasions. Of the total number, 3,543 (94%) emergencies occurred in adults (commonest age group being 40-60 years), while 228 (6%) cases belonged to the pediatric population (0-12 years).

The most frequent medical complaints encountered in-flight in the adult group, included severe upper respiratory tract infection (URTI) with headache, fever, malaise; gastrointestinal complaints e.g. vomiting, diarrhoea, abdominal pain; breathlessness, mainly due to asthma; chest pain, high blood pressure and vasovagal syncope. The

most frequently used medications included Tablet Dispirin, Tablet Avil, Otrivin Nasal Drops, Tablet Paracetamol, Tablet Domstal, Tablet Norflox, Tablet Cyclopam, ORS, Asthalin Inhaler, Tablet Deriphyllin, Tablet Sorbitrate. Continuous in-flight oxygen was administered in 91 cases mainly ----- hear disease (IHD) asthma.

Similarly, in the paediatric population, gastrointestinal symptoms as above, fever with / without convulsions, URTI, breathlessness / cyanosis (mainly conjected heart disease CHD), were the most frequently reported problems. Medication used most frequently included Paracetamol (Drops / Tablet), Colimex Drops, Tablet Cyclopam, Tablet Domstal, Tablet Avil, ORS. Continuous oxygen was administered during the flight in 15 cases mainly breathlessness / convulsions).

Of the 3,771 cases, 3,670 patients responded well to the treatment given on-board and required no further assistance on deplaning. 92 cases (mainly IHD, severe acute asthma, severe hypertension, convulsions), had to be urgently hospitalized on arrival at destination city, while 9 cases (IHD 3, CHD 1, severe hypertension 2, hematemesis 2, convulsion -1), were critical enough to necessitate a flight diversion / air return of aircraft to originating station. Fortunately, there were no deaths on board during the period under review.

20 (11.5%) of the attending doctors felt that the kit contents were inadequate and needed augmentation. The commonest medications / equipment that were recommended for addition to the existing list included Ranitidine (Injection and Tablet), Inj. Ondansetron, Voveran (Inj. and Tablet), Inj. Buscopan, Injection Phenargan, intravenous fluids with IV Set, NTG Patch, Insulin Syringes, and Glucometer.

Conclusions

Several points of interest emerged from this study , 1 of every 2,653 passengers & 1 of every 29 flights experienced an inflight medical emergency, About 96% of the inflight medical emergencies were handled by the cabin crew, while a doctor was available to offer medical assistance in only 4% of the cases; The First Aid given by the cabin crew was appropriate, and the level of training imparted to them was for considered adequate RS, GIT, CVS, CNS were the commonest systems affected 2.5% of the medical emergencies (mainly cardiac, respiratory, CNS), were serious enough to warrant urgent hospitalization on landing. Incidence of flight diversion was 0.23% (mainly due to cardiac / respiratory / neurological problems). In view of availability of newer / more effective therapeutic modalities, contents of the emergency medical kits should be reviewed and augmented periodically, so that the level of in-flight first aid / medical care provided by cabin crew / doctor-on-board, can be enhanced.

References

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