Fear of flying: A review

Dr. Catherine Joseph+, Air Cmde JS Kulkarni#

ABSTRACT

The current status of research and clinical practice in fear of flying (FOF) pertaining to military aviation is reviewed and discussed. This rare condition poses risks to the efficiency and safety of flying operations. The clinical assessment of aircrew presenting with FOF has to take into consideration motivation for flying, emotional stability and flying ability. This demands not only discerning the clinical presence/absence of organic/medical/neuropsychiatric conditions but also the occupational fitness requirement for a safe and effective pilot. FOF occurs when there is a breakdown in personality organization of healthy defense mechanisms, which are generally used during flying. This results in internal conflicts, which generate uncontrollable manifest or latent fear. The review suggests a different classification for treatment and disposal of FOF cases, namely (i) neuropsychiatric disorder (ii) psychological dysfunction (iii) inadequate professional behaviour. Differential diagnosis for exclusion of anxiety disorders, phobic reactions, traumatic stress disorders, fatigue, psychosis and primary motivational changes are considered important. Assessment in different spheres should be individualized in order to derive the best solution for that particular person, within the boundaries of the working environment. After detailed psychological testing, a board (comprising a team of aviation medicine professionals) needs to evaluate the disposal of each case, keeping in mind the cost benefit analysis and future course of action for the concerned aircrew. Management of FOF should include early detection and current preventive and curative treatments. A more objective, scientific and well-defined approach for medical/administrative disposal of FOF cases is considered essential for IAF aircrew.

IJASM 2003;47(2) : 21-31

KEY WORDS: Military aircrew, Psychodynamics, Clinical assessment and Therapy

F

OF is an unreasonable fear that develops in trained aviators who are free of other emotional symptoms [1]. The term was coined during WW II and referred to the mixtures of fear and anxiety seen in aviators in combat theatres. It is seen in about 10-40% of general population both in passengers [2] as well as in aviators. This review focuses only on FOF in military aviation.

Aircrew constitutes a unique population in that they are carefully selected and rigorously trained for their profession. Therefore, the manifestation of FOF in a trained pilot who was previously unafraid represents a serial change, a loss of adaptation in one previously able to cope with the realities of flying. The operational significance of this disorder is immense. Among the most commonly affected are the student pilots; excessive anxiety is a major cause of

---

+ Scientist “E” Dept of Psychology, IAM, IAF, Vimanapura, Bangalore 560 017.
# Commandant, IAM, IAF, Vimanapura, Bangalore 560 017.
attrition from flight training programmes. However, even experienced aviators with a prior history of successful flying have been known to unexpectedly develop phobic reactions. Non-pilots can try to arrange their lives to avoid or minimize flying. Professional aviators do not have this option, a fact that poses a problem not only for them but also for the military services.

Two FOF cases have been published in IAF aircrew [3,4]. It appears to be a rare condition, which eludes easy recognition. Only six such cases have been documented and evaluated by clinicians in IAM, from 1996-2003; out of which only four cases confirmed FOF, after psychological testing. It is difficult to estimate the incidence of FOF in IAF, because all cases, which are originally clinically diagnosed, may not be actually FOF, on further testing. Conversely, some cases may evade categorisation at the unit level but may later prove to be FOF, on further investigation. However, whatever the situation, during any stage of their military career, even a few of such emotionally incapacitated pilots are enough to pose risks to the efficiency and safety of flight operations. On the other hand, dropouts from expensive military training represent significant financial losses to the country. For these reasons, the phenomenon of FOF is a matter of considerable interest to all concerned professionals who work in the aviation environment.

Clinical assessment has to include understanding of three facets, the aircrew’s motivation, emotional stability and flying ability. These encompass maturity, attentiveness, perception, anticipation and judgement to make correct decisions related to flying; and the hardiness and resilience to endure prolonged stressors in the flying career. It must be noted that the reference point here is not only clinical absence of organic/medical/neuropsychiatric conditions. The system needs a safe and effective pilot in the cockpit. Therefore, the reference should be a fully healthy and functional pilot who is likely to perform the required occupational role within the best of his abilities.

The aim of this paper is to review the current status of research and clinical practice in FOF cases. The approach should be individualized to derive the best solution for that particular person, within the boundaries of the working environment. Therefore, in one case, a pilot may have to be cared for more gently and not be branded but helped to overcome the problem. However, in another case such an attempt to help the individual may not be particularly beneficial, and is more likely to drain the organisational resources beyond the cost-benefit level. Timely and appropriate action should be initiated and completed without bowing down to environmental pressures, which may jeopardise flight safety. Also, negative value judgement on the individual or his immediate superiors or even on the concerned unit needs to be avoided.

The basis for pilot selection is the ‘person-occupation-fit’ and at any point in the career if the pilot does not remain fit for that occupation, both the individual and the organization need to be prepared for more cost effective alternatives. Therefore, a more objective, scientific and well defined approach is essential while deciding on the medical/administrative disposal of these IAF aircrew.

Psychodynamics

FOF is characterized by the various defensive and maladaptive processes, which express excessive anxiety over various external or internal conflicts, frustrations, insecurities and danger. It may be a frank statement of uncontrollable FOF or frank refusal to continue flying.

Fear is a universal emotion. Flying, being an unnatural form of human locomotion, arouses natural human fears. Deeply rooted in a person's mind is the idea that flying is a preternatural achievement. An aviator takes pride and derives satisfaction in flying—‘the ultimate dream’. He identifies the aircraft as an extension of self and as a symbol of added freedom, control and power. There is an exposure to real danger during flying. A fearful response to this danger is rational. A young pilot with healthy motivation may not comprehend the inherent dangers initially but gradually the reality of dangers dawns on him. This reality is countered with continued defenses like
Fear of flying: A review: Catherine J

Denial, suppression, rationalisation, intellectualisation and a new concentration on increasing skill and knowledge. FOF has been classified (Figure 1) as manifest or latent[5].

In manifest fear, the aviator readily agrees to his intellectual means; thereby deriving pleasure in feeding the desire to fly. In such a situation people are not afraid of the idea of death, but enjoy an intense feeling of life. When this organization of personality is broken down, fear and anxiety may reappear. The healthy adaptive mechanisms fail and the idea of possible death becomes conscious. FOF is transferred into fear (sometimes as severe as suicide ideation) of being killed in an air crash.

If the defenses are adequate and appropriately developed the flier’s career progresses unhampered. Flying is certainly a dangerous situation in reality and in imagination; but pilots when they fly not only feel safe, but also enjoy it. Aviators with emotional attachment to flying often display a strong motivation to continue flying, while others with cognitive attachment based on rational arrival of a decision to fly, may develop conflicts later [1]. This conflict situation may precipitate FOF in a vulnerable aviator.

Motivation to fly changes over the course of a career and a lifetime. Pilots progress through five

Figure 1: Manifest and Latent FOF

One escapes from anxiety by avoiding the phobic object, or the phobic situation using a counter phobic object. In a counter phobic attitude the situation that might generate anxiety is actively channelled before it occurs. The danger that is faced on the outside and the anxiety that is generated within, are both overcome using physical and

![Figure 1: Manifest and Latent FOF](image-url)
Fear of flying: A review: Catherine J

stages of attitudinal changes during their careers; the initial thrill, the hot pilot, the airplane driver, the emergence of anxiety, and defense formation [6]. Four stages of change are; glamorous years 22-24 yrs, years of increasing caution 24-28 yrs, controlled FOF 30-38 yrs and safe years 38 yrs and above [7]. The motivation to fly and the history of motivation to fly has a significant influence on FOF.

Clinical Picture

Fear may occur during flying due to a number of reasons. The first is situational fear, which occurs in unusual or difficult flying and mission conditions or due to operational fatigue or life style change which affects physiological functioning. These are temporary and are reversible with rest. Non-Specific anxiety in flight may also be caused by an underlying mental disorder like depression, anxiety based disorder or psychosis. When prolonged anxiety occurs under normal, usual and recurrent flying conditions it forms FOF. These could be classified under specific situational phobias in the ICD 10 and DSM-IV classifications.

The clinical forms of FOF were classified [8] into the following categories, somatic expression, anxious expression, neurotic disorders, behavioural disorders, and progression of these disorders

(a) Somatic expression, which either takes the form of discomfort in flight with acute functional manifestations which lead to disturbance/suspension of the flight with a later feeling of intense anguish or less intense expressions of somatic type disorders in flight. These are temporary, may recur and have no organic basis thus proving to be somatoform reactions.

(b) Anxious expression resulting in tension, insecurity, anticipatory anxiety, hyper-vigilance, exaggerated perceptions, difficulties in attention and perception and somatic concomitants. The anxiety may be specific or may generalize to other situations such as fear of causing an accident or another’s death.

(c) Neurotic disorders, which may have higher degrees of immediate or delayed reactions of anxiety, aggressiveness and guilt. These may affect the aircrew’s feeling of professional integrity and invulnerability leading to a loss in confidence. Post-traumatic stress disorder may develop in a few cases, this is distinguished by the reliving of the event during day or night time.

Case Example

A 23 year old fighter pilot presented with symptoms of anxiety such as uneasiness, weakness, dry throat, palpitations, feeling tense, nausea, perspiring and hesitance to fly during solo sorties of armament phase training. Thereafter, he also vomited in the cockpit during taxiing which lead to abandoning of mission. Later, the anxiety generalized to occurring before sorties and to other life situations. He was evaluated at the local Sick Quarters and at the Military Hospital, where no evidence of any organic/physical/neuropsychiatric disease was found at that time. The individual admitted to anxiety while flying and a diagnosis of FOF was made.

He was admitted in Command Hospital for one and a half months during which time he was treated and seemed to be responding favourably till his discharge from the hospital. He was readmitted within a few days with complaints of negative feelings, fearfulness, palpitation and uneasiness necessitating a psychiatric diagnosis. He was treated with antidepressants, anxiolytics and underwent short-term psychotherapy. During therapy he painfully came to realise that he did not have the ‘right stuff’ to be a fighter pilot and had lost his motivation to fly. He was discharged in low medical category and grounded. He continued to be symptom free on subsequent review medical boards.

(d) Behavioural disorders: At the behavioral level, FOF could present itself as problems in professional behaviour. These could be hesitation or outright refusal to fly, refusal to undertake certain missions, under various pretexts, excessive inspections before and during the flight, cutting missions short, flight incidents, reporting frequent
mechanical failures which cannot be confirmed on ground, and withdrawal from other members of the group. Alternatively, the aircrew may focus not on the real hazards of flying but on various emotional symptoms which are felt to be incapacitating. He might state, for example, that he would be happy to fly if he could just relax more or concentrate better, or get more sleep. He may also exhibit an exaggerated worry about such elements as less than ideal weather or minor mechanical difficulties.

During the progression of the disorder, incidents or an air accident, professional errors and sometimes-disciplinary faults may occur. The aircrew may then start loosing confidence in himself and in others and may go into psychologically maladaptive state. Therefore, early detection by the physicians and flying authorities is required.

The clinical expressions of the FOF may also be either manifest or latent. Manifest FOF can vary in the duration it takes to manifest.

(a) It may manifest immediately and is then felt and described as such by the flyer. These are the uncommon cases.

(b) It may manifest gradually with the subject trying to cope, hiding it and minimising his/her problems. The disorder is expressed only after it keeps recurring and the person is not able to ignore the uncomfortable experiences. Manifest FOF reactions can take on the form of different acute situational reactions, psycho-physiological reactions, dysfunctional personality styles, personality disorders or gross stress reactions.

It could also take on the form of neuropsychiatric disorders not related to flying such as gastro-intestinal reactions, migraine and its equivalents, syncopal reactions, micturition syncope and vasovagal syncope, labile hypertension, convulsions, musculoskeletal reactions, schizophrenic reactions and affective reactions.

Most often, the fear of flying is latent; it is not expressed as such but through symptoms taking on the form of somatic disorders such as chronic recurrent airsickness, syncopal reactions in flight, anxiety/panic attacks and hysterical reactions. It may also surface during some flying missions like formation flying, high or low altitude flying, low visibility or it may present as maladaptive personal relations or affect professional behaviour.

Case Example

A twenty nine year old fighter pilot with about 700 hours of flying and average flying ability was referred by his Commanding Officer. The Commanding Officer reported that the pilot had at times shown inconsistent performance both in the air and on ground, with a lack of situational awareness, absent mindedness and a tendency to overlook correct sequence of flying procedures. He also tended to stutter on his RT. This type of performance was especially seen under stressful conditions. It also resulted in an incident when the pilot attempted to commence take off roll with the parking brakes on. Reportedly, repeated advice and close monitoring at the squadron level did not help with the Commanding Officer finally suggesting a change of stream.

On evaluation he was found medically fit. Psychological testing indicated no clinical disorder, but personality characteristics besides a number of factors, indicated that increased tension and anxiety blocked the use of his potential resources and this could cause a reduction in his stress tolerance affecting his flying performance. However his motivation to continue flying was good. The pilot was ultimately restreamed.

The predisposing factors of FOF in two types of aviators can be distinguished. In the first group are those who never got adapted fully to flying, either during their training phases or during their professional careers. In these subjects, FOF could be just a continuation of problems due to inadequate training or insufficient adaptation. The professionally well adjusted group with no history of previous disorders is the second type. Here it is usually a combination of the predisposing role of motivation and a neurotic personality style, which was well compensated until then; precipitating factors may
lead to a breakdown in these defenses; FOF is caused by this neurotic conflict, the magnitude of the conflict and reactivation by environmental factors determines the onset of FOF. Precipitating factors, which trigger the disorder are domestic or occupational changes, which may take place such as marriage, promotion, taking on new responsibilities, change in aircraft or in type of mission, air incident or accident. Subjective perception and maladaptive cognitive coping strategies were found to related to flight anxiety [9].

Though the above classifications helps in understanding of the disorder, for practical purposes with respect to treatment and disposal of aircrew the following categorization of FOF can be considered. FOF cases fall into three general categories

(a) Neuro psychiatric disorder which has the highest degree of severity

(b) Manifestations of psychological dysfunctions such as subtle cognitive impairments during flying (lack of attention/concentration) or anxiety, depression or dysfunctional personality styles. These do not reach the degree of a disorder but usually are higher in severity than behavioural dysfunction

(c) Inadequate professional behaviour. This pertains to flying performance and could be either reluctance to fly, flying performance being affected because of inadequate stress coping or resultant accidents or incidents. It should be noted that there could be an overlap between these three categories, however, it is the predominant or primary category which is of importance The above conditions in categories (b) and (c) may appear as manifest or latent as previously described. Also with the progression of the condition, both internal and environmental factors and pressures may push the individual towards the overlapping areas or vice versa. The central triangular area where all three categories coexist could be an extremely rare condition These categories are represented in Figure 2.

**Differential Diagnosis**

The difference between term FOF and problems arising from anxiety disorders, phobic reactions, traumatic stress, exhaustion, psychosis and motivational changes can be differentiated. Fear is a set of acute emotional manifestations experienced by people facing a dangerous situation. This real and specific danger has an existence in external reality. Fear can have some adaptive function when it remains limited and controlled because it forewarns the organism of a danger and raises its state of alertness. Previously learned behaviours, training, and a strong desire to face the dangerous situation help develop adaptation capacities and to make the manifestations of fear disappear.

Anxiety or anguish corresponds to a state, which borders on the manifestations of fear but without a concrete presence of external danger. It is a feeling of danger from within and in the absence of a dangerous situation the subject does not know exactly, of what and why he is afraid. There is no danger in the external reality but there is an assumed danger in the unconscious, internal reality that the subject fails to recognize. This condition is termed as ‘Manifestation of Apprehension’ (MOA) in the US Armed Forces. It is a state of anxiety, apprehension and (or) physical impairment exhibited by students towards their training environment [10].

In phobia, the anxiety appears in a concrete and external situation, which does not have an objectively...
dangerous nature. Most people are not afraid of it (crowd, empty space, high place). In phobic FOF the person recognizes the fear as irrational but nevertheless attempts to avoid the situation. Phobic reactions may be due to personality predispositions, maladaptive training and stress conditioning patterns.

**Prognosis**

In terms of prognosis, state anxiety reactions including phobic ones which are situational and do not seriously affect the personality and professional adjustment pattern of the subjects, can be overcome by temporary deconditioning. However, FOF that forms an organised pattern due to trait characteristics often develop over a period of several months and alters motivation because of the patterns of conflict have a less favorable prognosis. Associations were found between prognosis and a number of factors such as return to flying, history of neurotic traits or timidity in childhood, previous psychiatric complaints, immature/irresolute personality traits, flying situation stresses and method of treatment [11].

**Management**

Preventive treatment includes adequate psychological consideration in selection and training, identification of susceptible personalities during training phase, maintaining strict standards while training and assessing flying skills, good group cohesion of aircrew, high morale, and quality interpersonal relations. Necessary rest relaxation and leisure activities need to be organised jointly, alongside mission preparation. Proper knowledge of the personality traits of each crew member, by the commander and squadron doctor is required. Aviation psychologists and aviation medicine specialists should play an informal role as friendly middle persons, detached from the normal formalities of hierarchical set-up and encourage crew members to confide in them.

Curative treatment should ensure that minor problems are detected early and these will often find their solutions in the unit itself.

The various modes of management are:-

(a) **Psychological Assessment and Detailed Interview.** The psychopathology of fear of flying spans from the psychoanalytic-endogenous on one side to the behaviorist-exogenous on the other side. Unless otherwise understood, both models should be taken to consider the interaction between the endogenous and exogenous factors [12]. The issues that need to be defined include, the relative importance of psychological and social stressors, the mode of onset, the circumstance surrounding its manifestation, the duration and the forms of progression, previous adaptation and personality of the subjects.

The investigation of any case of FOF must also include an inquiry into the person’s aspirations and expectations at the time he decided to become a pilot and an attempt to explore any subsequent changes in them. Real motivation (as opposed to declared motivation) to fly and the use of various coping mechanisms need to be studied. This evaluation needs to take into consideration the ‘executive report’ on flying and outcome of discussions with senior pilots of his unit, regarding the subject’s flying history and present performance. Certain cases that reach the severity of a psychiatric disorder have to be referred to the aviation neuropsychiatrist for medical management.

(b) **Crisis Intervention.** Feelings of anger, sadness and guilt should be expressed openly in an
accepting environment, the realities of the situation should be mutually explored and the aircrew helped to rethink the decision whether to fly or not. The success depends on the strength and origin of the subconscious motivation. Other current stressful factors such as family or work problems may contribute to the feelings of apprehension about flying. Treatment may include rest and isolation from stressful situations.

The therapy of FOF is based on the correlation between the symptoms and underlying dynamics. Short term psychotherapy, which allows the continued expression and verbalisation of potential conflict and subsequent integration of emotions may also be found effective, *if these are not contraindicated for return to flying*. The prognosis depends on the subject’s ability to work through those psychodynamic conflicts. If these factors can be identified and successfully treated, the situational anxiety subsides and the pilot may return to flying.

(c) **Behaviour therapy.** Most effective therapy programmes have involved a variety of behaviour therapies, most often relaxation techniques such as progressive relaxation, autogenic training and systematic desensitisation for anxiety management. In a study which reviewed behaviour therapy in the treatment of flight phobia [14], results indicated that treatment programmes involving behaviour therapy have a higher success rate than programmes which did not involve these techniques, especially in cases of focal fear, acute onset, and inexperienced (rather than in experienced) military aircrew. A follow up study to evaluate aircrew treated by behaviour therapy for FOF found that 78% successfully overcame their fear and 88% of these successfully treated patients were still flying three years later [15]. Also, pilots who recover, differ in certain characteristics such as not being trait anxious and having more situation specific anxiety [16].

Jacobson’s progressive relaxation technique is based on the premise that the body responds to anxiety provoking thoughts and events with muscle tension. This physiological tension in turn increases the subjective experience of anxiety. Deep muscle relaxation reduces physiological tension and is incompatible with anxiety. Progressive relaxation provides a way of identifying particular muscles and muscle groups and distinguishing between sensations of tension and deep relaxation. It is practiced with the subject lying down with eyes closed. Attention is focused on tensing each muscle / muscle group from five to seven seconds and then relaxing it for twenty to thirty seconds. This is repeated up to five times until the area becomes relaxed. Modified methods of Jacobson’s progressive relaxation technique have greater cognitive and less muscular focus. Various relaxation methods have specific effects, which may be superimposed on a more general relaxation response.

Autogenic training is a self-hypnotic method [17]. It uses some trance inducing procedures that are similar to those used in hypnosis. Most autogenic training methods use ‘six standard exercises’: self suggestions of heaviness and warmth in the limbs, a calm and regular heartbeat, coolness in the forehead, warmth in the solar plexus, and automatic breathing. Some revised techniques differ substantially from the original.

In systematic desensitisation therapy, the patient is first questioned carefully to determine the full range of stimuli, which provokes anxiety and then these are arranged in ascending order of severity. The patient is encouraged to encounter them in a carefully graded sequence or to imagine that situation. In either case the anxiety is inhibited usually by relaxation exercises or occasionally with anxiolytic drugs. The phobia can be treated by systematic desensitisation in which the pilot first learns to relax on a cue and then is exposed to progressively closer contact with the feared situation within brief periods in the context of minimal anxiety. One study, which described the use of relaxation/desensitisation therapy in treating anxiety associated with flying in a group of fifty flight students, found that 79% of subjects successfully completed flight training [18]. On follow up, certain personality differences were noted between patients who were successfully treated and those who failed to resume
flying training. Neither group had any psychopathology but the unsuccessful pilots were characterized by low self-confidence, a low tolerance for criticism and difficulties with concentration.

More recently, it has been noted that ‘empirically based interventions such as systematic desensitisation have not historically been applied to fear of flying, despite their well documented efficacy’. This could be due to both reluctance to seek assistance on the part of aviators and aviation psychologists failing to practise in the field [10].

The exposure form of behaviour therapy also supplements these methods where in addition to attempting to modify stimulus-response relations, considerable attention is paid to the consequences of maladaptive behaviour. They differ from desensitisation in that the subject encounters the anxiety provoking stimuli for long periods (usually more than an hour) keeping anxiety at moderate levels. The subject enters the situation that provokes his fears and learns not to leave it until fear has subsided. Generalisation of learning is more effective in more life like situations than in imagination. Recent studies have, perhaps, found a new and promising approach for treatment of FOF in virtual reality (VR) exposure [19]. The use of VR graded exposure therapy was more effective than imaginal exposure therapy in the treatment of FOF. Physiological feedback added to the efficacy of VR treatment [20].

The reality element in the flying situation can also be achieved by using appropriate simulators and the levels of anxiety controlled by modifying the simulator programme, maintaining the presence of a therapist and if required using an anxiolytic drug. These supports should be discontinued at the earliest opportunity to encourage self reliance on the part of patient. Improvement depends largely on the effort the patient makes to overcome fears in his daily life between treatment sessions and on his motivation to continue flying.

Methods of deriving and assessing desensitisation in actual flying have been reported [21]. Here, three goals were taken into consideration for each flight, incremental flight conditions according to the individual’s anxiety hierarchy, regulation of the low workload, anxiety vulnerable time during each sortie and the practice of relaxation techniques in the air. The authors concluded that ‘actual exposure to flying is usually necessary for aircrew to recover from anxiety associated with flight’[21].

The outcome could also be influenced by others such as family members and professional colleagues. In another approach, systematic desensitisation is re-examined as a treatment for flight fear from the perspective of family-systems theory. From this perspective, the flight-avoidant person is seen to be an ‘identified patient’, someone defined as ill by the system in which he or she is enmeshed. The problem is then redefined, not as flight fear, but as the pressure to fly [22], which in military aircrew is one of the most difficult pressures they have to contend with when trying to overcome FOF.

(d) Drugs. Anxiolytic drugs such as Benzodiazepines and Beta-blockers can reduce anxiety, control somatic symptoms and can be used at the initial stage of treatment. Psychotropic drugs are not permitted during any type of flying.

Disposal

The mode of disposal of FOF cases differs in different organisations. In the US Air Force and Army, such fear openly expressed during flying training is sufficient ground for disqualification as MOA. In trained pilots, phobic fear of flying is an anxiety disorder and therefore medically disqualifying. Non-phobic FOF is an administrative problem where the aviator has to appear before a Flying Evaluation Board [10]. In the US Navy, in addition to this if the aircrew still affirms FOF, treatment is suggested. If the pilot is not amenable to treatment that person is designated as physically qualified but not aeronautically adapted and therefore, reassigned to non-flying duties.

In the IAF, the current rules on the disposal of cases of FOF stipulate that those found to be
Fear of flying: A review: Catherine J

medically and mentally unfit are to be taken off flying duties. Further, their retention in service is decided by administrative authorities. But the basic requirement of an Air Force is filling up cockpit vacancies with fully fit and operationally effective pilots. Therefore, in the effective disposal of FOF cases, clear diagnosis and well delineated procedures are essential. Merely establishing clinical absence of organic/medical/neuropsychiatric conditions does neither help arrive at an appropriate solution for such cases nor complement operational safety and efficiency. After appropriate clinical/ psychological assessment, a special board comprising aircrew, aviation medicine specialists, aviation psychologists, psychiatrists and any other aviation expert may dispose off each case, as it may demand. That board may be held responsible to determine which category the FOF case belongs to. In order to elicit frank opinions from each member, it may be ensured that the board consists of equal ranking personnel.

**Conclusion**

The current status research and practice in FOF within the context of military aircrew is discussed in the above article. The problem is more commonly encountered in student pilots and rarely in experienced aviators. FOF poses a grave risk to flight safety and therefore, is of interest to all concerned with military aviation. Management of FOF has to be tackled both at preventive and curative levels. The psychological norms for selection of aircrew may be strictly ensured. Early detection of FOF cases during training stages would be more cost effective and time saving. Free and frank interaction among pilots, aviation psychologist, and aviation medicine specialists would be salutary for early detection and better management of FOF cases.

When the young pilot learns to fly, the sense of danger is overcome because of novelty of the initial thrill of flying experience. He continues to nurture his joy for flying and of life by building up healthy defense mechanisms to allay fears and concentrates on increasing flying skills and knowledge.

Rarely, when there is a breakdown of the personality organization because of internal and external factors, fear and anxiety may reappear. FOF is characterized by anxiety over internal conflicts, which gives rise to an uncontrollable fear. It may be manifest or latent and could present in the form of a neuropsychiatric condition, psychological dysfunction or inadequate professional behaviour. The reasons for past and present motivation to fly have a direct bearing on the outcome of the case.

Differential diagnoses that need to be excluded are anxiety disorders, phobic reactions, traumatic stress disorders, exhaustion, psychosis and primary motivational changes. With respect to the prognosis, state anxiety (including phobic) reactions, which are situational in nature, have relatively better prognosis. Factors associated with reduced prognosis are history of neurotic traits or timidity in childhood, previous psychiatric complaints, immature/irresolute personality traits, flying situation stresses and method of treatment.

Clinical assessment of FOF not only demands discerning the clinical presence/absence of organic/ medical/neuropsychiatric conditions but also the occupational fitness requirement for a safe and effective pilot. Assessment and treatment should be individualized to derive the best solution for that particular person, within the boundaries of the working environment.

A detailed and novel approach to psychological assessment and interviewing will help in psycho diagnosis, especially in the assessment of aeronautical adaptability. Certain cases may have to be referred to aviation neuropsychiatrist. After appropriate testing, a board comprising a set of qualified, competent and equal rank professionals such as aviation psychologist, psychiatrist, aviation medicine specialist and aircrew (and any other concerned aviation personnel) need to evaluate the disposal of these cases, keeping in mind the cost-benefit analysis and future course of action for the pilot concerned. Selection of the board members should not be done on ad hoc basis. There must be an official certification for their competence and eligibility for this task.
A purposive treatment plan can be decided upon and instituted, depending on the motivation of the subject and consent of all concerned. Individualised therapy may extend from crisis intervention to various in vivo forms of behaviour therapy (including VR graded exposure therapy), simulator and in flight training. Therefore, a more objective, scientific and well defined approach for medical/administrative disposal of FOF is essential for these IAF aircrew.

References


