

## Abstract

More and better epidemiological data can help in tailoring effective preventive measures against traumatic brain

**Keywords:** Traumatic brain injury; Neurological disorders; Rehabilitation

## Introduction

A lot can be done to reduce the devastating consequences of traumatic brain injuries. Systematic triage of patients can lead to important economic savings and better use of scant hospital resources. More standardized pre-hospital and in-hospital care, to minimize secondary brain injury, can improve outcomes substantially. In mild traumatic brain injury, the mortality rate is below 1%, while 20–50% die after suffering a severe traumatic brain injury. The intermediate category, moderate head injury, implies a mortality rate of 2–5%. Disability is a common problem after hospitalization for traumatic brain injury, even after a mild event traumatic brain injury is the leading cause of death and disability in children and young adults around the world and is involved in nearly half of all trauma deaths. Many years of productive life are lost, and many people have to suffer years of disability after brain injury. In addition, it engenders great economic costs for individuals, families and society. Many lives can be saved and years of disability spared through better prevention [1]. Patients with moderate or severe traumatic brain injury represent less than 10% of all the traumatic head injuries. In this category of traumatic brain injuries, adequate health care can make a difference and substantially improve outcomes. Airway obstruction and falling blood pressure are the acute threats to the vulnerable brain-injured patient. Pre-hospital care with skilled paramedics, early arrival at the scene of the accident, prompt stabilization of the patient's condition in accordance with guidelines, and rapid evacuation reduced overall traumatic brain injury mortality by 24% in two years in San Diego. Well-organized and updated hospital inpatient treatment is equally important [2]. On admission, life-supporting measures should be continued, in accordance with advanced trauma life support recommendations.

## Methodology

Simultaneously, a rapid diagnostic overview must be carried out: many patients, particularly in RTA cases, will have concomitant injuries of the chest, abdomen, spine or extremities [3]. In the United Kingdom, the mortality in patients with epidural haematoma declined progressively from 28% to 8% after the introduction of national guidelines for the early management of head injury. The guidelines clearly indicate how patients at risk should be identified and managed before progressive brain damage occurs. A study from the United States in patients with severe traumatic brain injury showed improved outcomes after implementation of evidence-based treatment guidelines [4]. At the same time, reduced hospital costs were obtained through shortened length of stay, from an average of 21.2 days to an average of 15.8 days. Research that focused on identifying the ideal conditions for

the extremely vulnerable brain in severe traumatic brain injuries has resulted in two different approaches in Neuro-intensive care and the perfusion concept [5]. Although they are different in many ways, both have led to improved outcomes in patients with severe traumatic brain injury.

Although disability after mild traumatic brain injury may have been underestimated, most patients will make a good recovery with provision of appropriate information and without requiring additional specific interventions as shown in (Figure 1). Patients with moderate to severe traumatic brain injury should be routinely followed up to assess their need for rehabilitation [6]. There is strong evidence of benefit from formal interventions, particularly more intensive programmes beginning when the patients are still in the acute ward. The balance between intensity and cost effectiveness has yet to be determined.

The importance of rehabilitation is consistently underestimated, not least because of its cost. It is a regrettable truth that this part of the treatment lacks the drama of the primary treatment and is consequently more difficult to fund [7]. It is nonetheless of great importance since

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traumatic brain injury damages young lives for whom rehabilitation is as important for the regaining of function as primary treatment is for the saving of life.

## **Discussion**

Neuropsychologists evaluate orientation, attention, intellect, memory, language, visual perception, judgement, personality, mood and executive functions of the patients with traumatic brain injury. Neurological disorders and their sequelae are currently estimated to affect as many as a billion people worldwide [8]. These disorders are found among all age groups and in all geographical regions. Increased life expectancy and reduced fertility have resulted in a demographical transition from predominantly youthful populations to older and ageing ones, causing increases in the neurological disorders such as Alzheimer and other dementias and Parkinson's disease. As a consequence, many low income countries face the double burden of a continuing high level of infections including some that result in neurological disorders and increases in non-communicable diseases. The number of people with neurological disorders is estimated to increase considerably in years to come [9]. It is forecast that the number of people affected by dementia will double every 20 years. While predictions point to higher risk among poor people, children, adolescents and elderly persons, no population group is immune to neurological disorders. Because most of the neurological disorders result in long-term disability and many have an early age of onset, measures of prevalence and mortality vastly understate the disability they cause. Pain is a significant symptom in several neurological disorders and adds significantly to emotional suffering and disability [10]. Even burden estimates combining mortality and disability do not take into account the suffering and social and economic losses affecting patients, their families and the

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