

Original article

# The effects of disease severity, use of corticosteroids and social factors on neuropsychiatric complaints in severe acute respiratory syndrome (SARS) patients at acute and convalescent phases

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## Abstract

**Objective.** – To evaluate the effects of disease severity, corticosteroids and social factors on neuropsychiatric complaints in severe acute respiratory syndrome (SARS) patients, both during acute and convalescent phases.

**Subjects and methods.** – Self-administered mail questionnaires survey to 308 SARS patients after discharging from hospital. Both patients and their families were asked about symptoms related to various neuropsychiatric domains, and the questions covered both acute and convalescent phases.

**Results.** – Among the 102 (33%) valid replies, 65% had strong symptoms in convalescent phase as indicated by GHQ28 score  $\geq 5$ . In multiple linear regression analysis, use of pulse steroid and total dosages of pulse steroid during hospitalisation were predictive for anxiety-depression, psychosis and behavioural symptoms in acute phase, the effects persisted in convalescent phase. Disease severity had direct correlation with symptoms in all neuropsychiatric domains at acute phase and anxiety-depression and cognition at convalescent phase. Health care workers had more neuropsychiatric complaints in both phases. Severity of symptoms, corticosteroids and social factors explained about half of the variances ( $R^2 = 52$ ) in anxiety-depression at acute phase and 33% at convalescent phase.

**Conclusion.** – Severe disease, high dose corticosteroids and being health care workers were independent predictors of neuropsychiatric complaints in both acute and convalescent phases.

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**Keywords:** Severe acute respiratory syndrome; Steroids; Health care workers; Mental disorders

## 1. Introduction

Since Spring 2003, severe acute respiratory syndrome (SARS) prevailed in China and Hong Kong [4,28]. The whole world was under threat by this highly contagious, devastating viral pneumonia. The disease, which was later found to be due to a new coronavirus [21,22], took away 299 lives in Hong Kong, and 916 worldwide [25]. Princess Margaret Hospital has been designated to receive SARS patients in the early phase of the epidemic. Five hundred and ninety eight out of 1755 SARS patients were admitted into the hospital.

During the initial stage, much attention has been drawn to the definition, diagnosis and treatment of SARS. As time went on, many other complications of the disease and also of the treatment became apparent. Neuropsychiatric manifestations were among these complications. We saw patients attempted suicide during quarantine period, delirium was not uncommon [5], and many were anxious and worrying. Furthermore, many patients had neuropsychiatric symptoms persisted after discharge, and some patients developed new symptoms in the recovery phase. SARS had strong reasons to cause adverse neuropsychiatric impacts. It affected the whole family, either as being patients or patient contacts that required quarantine observations. High dose corticosteroids we used in the treatment, especially in the early epidemic when our knowledge on SARS was limited, had exposed patients to

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