

## Original Research Article

# Catastrophic health expenditure: a community-based study in Sarawak, Malaysia

Johnny Pangkas<sup>1</sup>, M. Mizanur Rahman<sup>1\*</sup>, Raili Bin Suhaili<sup>2</sup>

<sup>1</sup>Department of Community Medicine and Public Health, University Malaysia Sarawak, Kota Samarahan, Sarawak, Malaysia

<sup>2</sup>Faculty of Medicine, SeGi University, Sibu Campus, Sarawak, Malaysia

**Received:** 19 July 2021

**Accepted:** 20 August 2021

### \*Correspondence:

M. Mizanur Rahman,

E-mail: [rmmizanur@unimas.my](mailto:rmmizanur@unimas.my)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

**Background:** Accessing health services can lead to individuals having to pay catastrophic proportions of their available income and push many households into poverty. The aim of the study was to estimate the catastrophic health expenditure in respect of household expenditure and to determine the factors affecting it in Sarawak, Malaysia.

**Methods:** We collected household expenses based on a recall period of one month through a face-to-face interview. We calculated the catastrophic health expenditure in terms of 10% of household expenditure and 40% of the capacity to pay. A binary logistic regression analysis was done to determine the factors associated with catastrophic health expenditure. Data analysis was done by IBM SPSS version 27.0.

**Results:** The analysis revealed that one-quarter (25.7%) of the household expenditure was on food, equivalent to MYR 373.562, and 18.83% of the total household expenditure was on health (MYR 292.83). About two-fifths (37.4%) of the households had incurred catastrophic health expenditure on 10% of household consumption and 15.6% catastrophic health expenditure on 40% of household expenditure. Multivariate analysis with forward and backward linear regression methods revealed that age, gender, family size, socioeconomic status, and chronic illness appeared to be potential predictors of 10% catastrophic health expenditure ( $p < 0.05$ ). In contrast, socioeconomic status and level of education appeared to be potential predictors for 40% catastrophic health expenditure ( $p < 0.05$ ).

**Conclusions:** Subsidised health care may not protect against the occurrence of catastrophic health expenditure among the household in the lower socioeconomic status. Family size and age also could affect household catastrophic health expenditure.

**Keywords:** Household expenditure, Catastrophic health expenditure, Sarawak, Malaysia

## INTRODUCTION

Accessing health services can lead to individuals having to pay catastrophic proportions of their available income and push many households into poverty.<sup>1,2</sup> Catastrophic health expenditure (CHE) is defined as “the household health expenditure exceeding more than 40 per cent of the remaining income after the subsistence needs had been met”.<sup>3</sup> Another definition by Doorsaler et al stated that “catastrophic health expenditure occurred when the health

expenditure was more than 10% of household consumption”.<sup>4</sup> The WHO identified three major factors that lead to catastrophic payments, such as- (a) the availability of health services requiring out-of-pocket payments; (b) low household capacity to pay; and (c) lack of prepayment mechanisms for risk pooling.<sup>5</sup>

This occurred in countries with used Out-of-Pocket (OOP) expenditure for health and countries with universal coverage or free health facilities.<sup>6,7</sup> The increasing cost of