

# The importance of oral health to prevent aspiration pneumonia

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Dear Editor,

Non-communicable diseases kill 38 million people each year with cardiovascular diseases (CVD) accounting for the most causes globally. In 2012, the World Health Organization reported that approximately half (46%) of the deaths (17.5 million) were caused by CVD, out of which about 6.7 million were due to stroke.<sup>1</sup> Today, stroke is not only the cause of the high rate of mortality, it is also one of the major causes of disability worldwide.

A recent review article entitled "A review of stroke research in Malaysia from 2000 to 2014", published in June 2016 has caught our attention on the vast numbers of research carried out for a 14-year period in Malaysia.<sup>2</sup> Although many of the studies mentioned in the review are based on small-sample size and one-centre experience, they provide a beneficial overview about stroke incidence in Malaysia. More importantly, results from the studies could be used to inform intervention for larger studies and clinical trials.

We would like to bring the attention to the incidence of aspiration pneumonia among post stroke patients. Despite physical limitation, psychological and cognitive issues among stroke survivors, dysphagia was found to be the most common condition which may lead to potentially serious complications such as aspiration pneumonia. A systematic review reported that, the dysphagia's incident ranges from 67% within 72 hours to between 43% and 80% within one week.<sup>3</sup> Thus the identification and management of dysphagia is a crucial step for stroke patients. Many studies have indicated an association between dysphagia and aspiration pneumonia.<sup>4</sup> In addition, aspiration may also occur through silent aspiration, which causes severe health problems in frail patients and those with low immune responses. Due to the limited functional ability and cognitive impairment during the acute stage of stroke, stroke patients often have poor oral hygiene. At this stage, the mouth can be a major reservoir for oral opportunistic pathogen which has been shown to cause aspiration pneumonia.<sup>5,6</sup> Oral health care interventions have been shown to reduce the incident of aspiration pneumonia among intensive unit care patients,<sup>7</sup> elders in nursing homes<sup>8</sup> and stroke patients.<sup>9,10</sup> Despite, the well-established association between pneumonia and good oral hygiene, the importance of oral health care among these patients is often under emphasized.

An observational study was recently conducted in Malaysia involving a total of 13 public hospitals across the country. A self-administered questionnaire was distributed to the registered nurses from general medical wards and rehabilitation wards. A total of 806 of the respondents provided their feedbacks. The results obtained showed that, a high percentage of them were of the opinion that, oral health had an impact on patients' general health (96.4%, n=766). However, those reported to perform some form of 'mouth washing' to their patients daily were significantly less in number (63.6%, n=503). The mean knowledge score on oral hygiene was found to be moderate (range from 2.92 (SD 0.99) to 3.30 (SD 1.10; full score of 5.00). As for their oral hygiene care practices, more than a quarter of the respondents were found to use spatula with cotton or gauze (38.3%, n=309), while a much lower number of them used chlorhexidine 12.2% (n=98) to clean patients' oral cavity.

A Cochrane review recommends physical plaque control through tooth brushing and the use of chemical agents like chlorhexidine as an adjunct means of plaque control post stroke.<sup>11</sup> Despite the scientific evidence of oral health care effectiveness among these groups of patients, the use of toothbrush and chlorhexidine-based mouth cleaning was still low. Thus, there is an urgent need to implement evidence-based oral health care procedures to help in reducing the mortality and morbidity among stroke patients, shortening patients' hospital stay, lessening treatment costs and burdens borne by the caregivers. Hence, a multi-disciplinary approach is strongly recommended, as it is deemed the most appropriate means which will provide potential benefits.

## KEY WORDS:

*Oral hygiene, stroke, aspiration pneumonia*

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