

## Comment on: Zuercher P, et al. Dysphagia in the intensive care unit in Switzerland (DICE) – results of a national survey on the current standard of care

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Oropharyngeal dysphagia (OD) is a form of functional disease involving a difficulty with swallowing through the mouth and pharynx. Because of the lack of a specific examination method and insufficient understanding of the disease, it is difficult for some clinicians to diagnose it accurately and give appropriate treatment. Zuercher et al. used a 23-item internet-based questionnaire to record the current screening, diagnosis and treatment approaches for OD in Swiss intensive care units (ICUs) [1]. We read this article with interest and found that the following points were worthy of discussion.

Firstly, it was not stated in the article whether the reliability and validity of this 23-item internet-based questionnaire were tested. If the reliability and validity were poor, the survey results may be affected. Only if the reliability and validity of the survey tool, that is, the questionnaire, were acceptable within the scope of the research, would the survey results be deemed objective, and the reliability and accuracy of the statistics be ensured [2]. Before the data were statistically analysed, it was very necessary to analyse the reliability and validity of the construction of the questionnaire, by calculation of the correlation coefficient [3] and Krumbach coefficient [4], factor analysis [5] and other methods.

Secondly, Zuercher et al. described the incidence of OD in Swiss units. Estimated dysphagia frequency rates in ICUs ranged from 0–10% to 71–80%, with the majority of units reporting an incidence of between 11 and 20% or 21 and 30%. The incidence of OD in study of Kwok et al. was 42% [6]. Ferraris et al. reported that 31 out of 1042 patients undergoing cardiac operations (3%) had OD [7]. It can be seen that the various authors obtained quite different observational and statistical results regarding the incidence of OD. This may be related to inconsistent diagnostic criteria [8], the inclusion criteria of the studies [9, 10], research design, statistical methods and type of primary disease [11, 12], etc.

Thirdly, Zuercher et al. reported that suspected risk factors for OD were admission for neurological disease, long-term

(>5 days) mechanical ventilation/intubation, presence of ICU-acquired weakness, pre-existing neurological disease, advanced age, etc. There were probably many factors contributing to the occurrence of OD. Benfer et al. reported OD was present in 85% of children with cerebral palsy [13]. Jones et al. retrospectively studied the oropharyngeal swallowing of 13 infants and children with Pompe disease using videofluoroscopy before initiation of enzyme replacement therapy, thus allowing baseline swallow function to be established in an untreated cohort [14]. They found that OD was present in all 13 subjects, even in a participant only 15 days old. It was suggested that young children could also be an important factor influencing OD. Besides, Zuercher et al. did not analyse whether the above suspected factors were independent risk factors for OD. In the future, the above risk factors of OD could be introduced into a logistic regression model, to conduct a multivariate logistic regression analysis, and the odds ratio and regression coefficient of each factor calculated, so as to ascertain the independent risks of OD and offer a more reliable theoretical basis for the early diagnosis and treatment of OD.

We would like to take this opportunity to share some of our humble opinions. We consider that we had many problems to solve, from the fundamental science of OD to the effectiveness of clinical therapies: How did other diseases affect the recovery time and extent of OD? Why were some patients with OD able to recover to oral feeding, while others were not? We believe that with the development and application of many new technologies and constant understanding of OD, the diagnosis and treatment of OD could achieve greater development and its efficacy could be significantly improved.

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