Needs assessment for a curriculum for difficult conversations in a neurology residency training program in China

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Abstract
Background Communication skill is a core competency in neurology residency training. Specific training in this area at the residency level is often lacking, especially regarding difficult conversations. The aim of this study is to evaluate the current state in which neurology programs in China teach residents about difficult conversations and determine whether there is a perceived need for a formalized educational curriculum in this field.

Method An anonymous, 27-question, cross-sectional online survey addressing difficult conversations for neurological residents were distributed to five grade-A, class-3 hospitals selected from the affiliated teaching hospitals of medical schools qualified to provide neurology residency training in China.

Results A total of 182 residents responded to the survey, and the response rate was 67.16% (182/271). Of the participants, 84.6% were female and the average age was 26.8 years. The majority of respondent residents (n=168; 92.31%) reported being exposed to at least one difficult conversation in their medical careers. Only 43 (23.63%) participants reported having previously received formal communication skills training. In comparison with residents without previous training, those with previous training indicated significantly more confidence (P=0.003) and were under lower pressure (P=0.037) in managing difficult conversations. Only 97 (53.3%) residents indicated interest in receiving formal training. Time, lack of enthusiasm, lack of educational materials and faculty expertise were commonly cited barriers to formalized training.

Conclusion This survey provides a contemporary assessment of the current status of education on the topic of difficult conversations in neurology residency training. Our results suggest that there is an unmet need to further develop and implement educational activities by teaching residents to lead difficult conversations. Targeted communication curriculum in difficult conversation should be further developed and implemented for the neurological residents in China.

Background
Communication skill is one of the core competencies in residency training and medical practice¹. Neurologists regularly confront complex clinical scenarios that require reasonable decision-making
and difficult communication with patients, families, and colleagues. Evidence has shown that effective communication could reduce adverse events and improve patients’ satisfaction and adherence to treatment. Thus, practicable and effective training on this topic is important.

The Chinese Medical Association, under the commission of the Ministry of Health, released mandatory residency training standards in 2012, and the government implemented a plan for the nationwide initiation of 3-year standardized residency training programs beginning in 2015. The aim of the training programs for residents is to develop competency-based curricula to improve the quality of training. However, most of the curricula focus on delivering medical knowledge related to specific diseases. Communication skills training is primarily informal, leaving the majority of residents poorly equipped to manage difficult conversations. There has not yet been a formal evaluation of the state of training in difficult conversations in neurology residency programs in China. Therefore, the objective of this study is to evaluate the current state in which neurology programs in China teach residents about difficult conversations and determine whether there is a perceived need for a formalized educational curriculum in this field.

Methods
We developed an anonymous, cross-sectional online survey addressing difficult conversations for neurological residents. These questions overlapped across multiple resources, including the Accreditation Council for Graduate Medical Education (ACGME) guidelines for communication skills training in neurology residency, educational milestones for neurology residencies, and topics from a review of the literature. The survey included Likert-style questions, multiple choice questions, and free-text boxes for qualitative responses. All questions were optional, and completion was not required to end the survey. The residents’ survey consisted of 27 questions (the full survey is available in Supplement 1). The questionnaire included the following areas: 1) basic demographic data, 2) resident’s knowledge, experience, and confidence regarding the management of difficult conversations, 3) previous formal training in communication skills during neurology residency, and 4) interest in receiving training on difficult conversations and barriers to implementation. The surveys
were distributed and collected using the electronic online survey tool Wenjuanxing (www.wjx.cn, China).

Surveys were distributed to five accredited neurology residency programs in China. The five hospitals were all grade-A, class-3 hospitals selected from the affiliated teaching hospitals of medical schools qualified to provide neurology residency training in China. An introductory letter that described the rationale and objective of the study was emailed to program directors for participation. Program directors were asked to distribute the survey to their residents to avoid direct contact between the authors and the residents. Informed consent was assumed if the respondent chose to complete the questionnaire.

Statistical analysis

Statistical analyses were performed using SPSS version 19.0 for Windows (SPSS Inc.). All p values were two-tailed and criteria for significance were p<0.05. Standard descriptive statistics were used. Comparison between residents with and without previous training were performed using analysis of variance followed by Fisher LSD post hoc tests.

Results
From the number of residents in the five programs, it is assumed that the surveys were distributed to 271 residents. A total of 182 residents responded to the survey; therefore, the response rate was 67.16% (182/271). The highest proportion of respondents was from Peking Union Medical College Hospital (n=49; 83.05%), followed by Xuanwu Hospital Capital Medical University (n=65; 81.25%), West China Hospital Sichuan University (n=34; 56.67%), Wuhan Union Hospital Huazhong University of Science and Technology (n=21; 47.73%), and Huashan Hospital Fudan University (n=13; 46.43%).

Residents’ demographic characteristics
The demographic features of the 182 resident respondents are listed in Table 1. Of the participants, 84.6% were female, which is likely representative of the current gender ratio in neurology training programs in China. The average age was 26.8 years. Residents from all postgraduate year (PGY) levels, from PGY1 to PGY5, completed the survey.
Residents’ knowledge, experience, and confidence regarding difficult conversations in neurology

Residents reported a variety of clinical scenarios regarding difficult conversations they had experienced (Figure 1). The most common scenario (n=152, 83.52%) was dealing with emotional or unsatisfied patients and their families.

Figure 1. Frequency of various clinical scenarios regarding difficult conversations reported by residents

The majority of respondent residents (n=168; 92.31%) reported being exposed to at least one difficult conversation in their medical careers. One hundred forty-two residents (78.02%) had independently led a difficult conversation, of whom 82.39% [n=117] reported having failed experiences in difficult conversations. Only 30.22% residents (n=55) indicated being confident in independently dealing with a difficult conversation (Figure 2). The most common clinical scenario of a difficult conversation that the residents reported having confidence managing was obtaining informed consent (n=116, 58.24%) (Figure 3). The most common clinical scenarios of difficult conversations that the residents reported feeling heavy pressure to manage were dealing with emotional or unsatisfied patients and their families (n=134, 73.63%) and disclosing medical errors (n=120, 65.93%) (Figure 4).
Previous formal training in communication skills during neurology residency and the correlation with confidence in managing difficult conversations

The majority of respondent residents (n=162, 89.01%) demonstrated that efficient management of difficult conversations is a vital part of clinical procedures. However, only 99 (54.4%) believed that communication skills in difficult conversation can be improved through formal training (Figure 5).

Among 182 respondent residents, only 43 (23.63%) reported having previously received formal communication skills training. In comparison with residents without previous training, those with previous training indicated significantly more confidence and were under lower pressure in managing difficult conversations (P<0.05).

| Female (%) | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|------------|---------------------------------------------|-------------------------------------------------|-------|
|            | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
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|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
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|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |
|            | Previous training | Residents receiving previous training (n=43) | Residents not receiving previous training (n=139) | P     |

Interest in receiving formal training in difficult conversations and barriers to implementation

Most of the respondent residents (n=165, 90.66%) believed that receiving formal training in difficult conversations was important for their careers. However, only 97 (53.3%) indicated interest in receiving formal training. Time, lack of enthusiasm, and lack of educational materials were the most commonly cited barriers to formalized training. Another important barrier was faculty expertise. Only 112 (65.74%) residents reported having experiences of being invited to participate in or observe difficult conversations between the faculty and patients or families. However, other residents (n=70,
38.46%) expressed regret that they had been excluded from difficult conversations by the faculty.
After managing difficult conversations, few residents (n=26, 14.29%) believed they could get feedback from the faculty most of the time (Figure 6).

Discussion
For neurological residents, communication skill is a core competency of training due to the complexity and incurability of nervous system diseases. Work in the neurology discipline frequently involves the delivery of complex and difficult information to patients and their families, and effective communication is vital to the care of patients with neurological disease. Despite the importance of communication skills for neurologists, specific training in this area at the residency level is often lacking, especially regarding difficult conversations. Therefore, we sought to perform a needs assessment of difficult conversation education within neurology residency programs in China. To our knowledge, this is the first study to comprehensively assess the current situation of difficult conversation training with both quantitative and qualitative responses in China neurology programs that are teaching residents. Overall, the results of this survey indicate that there is an unmet need for difficult conversation training in neurology residency programs in China. This is actually not an unexpected finding, but it provides evidence of residents’ current experiences.

Our study showed that less than one quarter of residents had received prior training in communication skills, and the majority did not have enough confidence to independently manage difficult conversations. These results demonstrate the lack of communication skills training in Chinese medical schools and residency education. Moreover, most respondent residents reported great interest in receiving training in holding such difficult conversations. Therefore, our results suggest that there is a need to further develop and implement educational activities to teach residents to lead difficult conversations.

Our results indicated that difficult conversations are quite regular and common in neurological clinical care and almost all residents would be exposed to different types of difficult conversations during
their training periods. Various clinical scenarios were reported by respondent residents. These difficult conversations range from delivering a diagnosis to sensitive conversations about a new disability, palliative care, advanced care planning, or brain death, and many of these conversations occur within the context of substantial prognostic uncertainty. Our results demonstrated that the top three common scenarios in difficult conversations reported by China residents were working with emotional or unsatisfied patients and their families, disclosing bad news, and disclosing medical errors, which might be different from findings from other countries. As is well known, the physician-patient relationship in China is highly strained. Therefore, managing difficult patients and their families might be the most stressful aspect of work for our clinicians, especially for inexperienced residents. Our results identified specific target areas in difficult conversations for neurology residency programs in China and provide evidence for developing future targeted curriculum in difficult conversations.

Communication skills curricula and training have been increasingly described in a number of other medical fields, including internal medicine and oncology. Curricula in these fields and others have shown that communication skills can be taught and measured. Our study showed that residents who received prior formal communication skills training had more confidence and faced less stress when they encountered difficult conversations, which was consistent with previous findings. A few studies in neurological communication skills training have offered some evidence-based templates for curriculum development. The next step is to develop and implement a formal target curriculum in difficult conversations for Chinese neurology residency programs. At the end of training, residents should be prepared to effectively communicate complex and difficult information to patients and families.

Our results noted barriers in developing and implement difficult conversation training including emotions, fears, time constraints, and a lack of opportunity; these are similar to results have been described previously in other medical and surgical specialties. Another important barrier was the...
expertise of the teaching faculty. Our residents were often excluded when they encountered difficult conversations in clinical practice that were being held by faculty, which led them lose opportunities for observing and learning. Therefore, it is important to consider the development of communication curricula in residency with the goal of equipping the teaching faculty with skills to effectively teach and assess these skills. Efforts should be made to ensure that residents have opportunities to observe and be involved in complex communication encounters throughout their clinical training.

There are some limitations in our study. First, this survey included only residents. Program directors were not included, which might result in reporting bias. Program directors have unique perspectives on their program’s successes and weaknesses. Future studies including program directors’ evaluation will be necessary for curriculum development. Second, the representativeness of the data is limited. The five hospitals were not randomly selected from all hospitals qualified to provide neurology residency training in China but were all grade-A, class-3 hospitals selected from the affiliated teaching hospitals of medical schools. They represent the highest level of neurology residency training in China.

Conclusions
This survey provides a contemporary assessment of the current status of education on the topic of difficult conversations in neurology residency training. Our results suggest that there is an unmet need to further develop and implement educational activities by teaching residents to lead difficult conversations. Targeted communication curriculum in difficult conversation should be further developed and implemented for the neurological residents in China.

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Declarations
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Contributions
LXZ, BW, LYW, XC and BH carried out the studies, participated in collecting data. LXZ and JN drafted the manuscript. MY participated in the statistical analysis. JN, YCZ, BP and LYC designed the study and questionnaire. All authors read and approved the final manuscript.

Ethics approval and consent to participate
The study was approved by the Ethics Committees of Peking Union Medical College Hospital, and informed consent was assumed if the respondent chose to complete the questionnaire.

Consent for publication
Not applicable.

Competing interests
All authors declare that they have no competing interests.

Figures
Figure 1

Frequency of various clinical scenarios regarding difficult conversations reported by residents

Figure 2

Confidence of the residents in dealing with a difficult conversation independently
Figure 3
Frequency of clinical scenarios of difficult conversations that residents reported having confidence to manage

Figure 4
Frequency of clinical scenarios of difficult conversations that residents reported as being stressful to manage
Can communication skills in difficult conversations be improved by formal training?

Figure 5

Frequency of feedback form the faculty after dealing with a difficult conversation

Figure 6

Supplementary Files
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