Level of Knowledge of Medical Practitioner of Diagnosing and Managing Swallowing Difficulties in Hospitalized Setting of Dhaka City

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Abstract
Aim: To have a clear idea and explore the existing practice of medical practitioner about the proper diagnostic system and management of patient with adult dysphagia in a hospitalized setting.

Materials and Methods: This is a quantitative type of cross sectional survey study where 60 samples were assigned purposively from in Dhaka Medical College Hospital, Shaheed Suhrawardy Medical College Hospital, Enam Medical College Hospital, BRB Medical College Hospital. The self-modified a questionnaire was used for the study.

Statistical analysis: Data was analyzed by using descriptive statistical analysis (SPSS= Statistics package for social science) method.

Results: On average, most of the participants 67% (40) are males and 33% (20) are females. The maximum number participants, 82% (49) in the age range (23-34) years. The researcher has showed the area of specialty of the respondents according to the inclusion criteria. In the study 11.7% (7) participants are gastroenterologist, 10% (6) are orthodontist, 16.7% (10) are ENT, 41.7% (25) are medicine specialist and 20% (12) are neurologist. Maximum number of participants working station 46% (28) are in Dhaka Medical College Hospital. The duration of the study of the respondents on dysphagia out of the 60 respondents 30 studied for 2-3 hours. The respondents first encounter a patient with dysphagia. 46.7% (28) have seen in the period of 2012-2016. The frequency of the participants dealing with a patient having dysphagia the responses were categorized 46.7% (28) responded sometimes. The participants understand the role of SLT on diagnosing and managing dysphagia 52% (31) responded with yes.

Conclusions: Dysphagia has emerged as a common complication due to stroke. More than 50% persons are affected by dysphagia after stroke (Smithard et al., 2007). This study consisted with medical
practitioner from neurology, medicine, ENT, orthodontics and gastroenterology department. Both specialist and interns were part of this study. The referral level to SLT is also not satisfactory. Among 60 participants only 11 refer to SLT whereas 49 never or seldom refer to SLT. This showcases the lack of awareness on the role of SLT in diagnosing and managing of dysphagia. So, the proper collaboration of medical practitioner and SLT should be made so that the patient can get a proper treatment that will improve their condition.

**Keywords:** Dysphagia, Medical practitioner, Level of Knowledge

**Introduction**
Swallowing difficulties or dysphagia can be stated as the complication in the proper movement of food from mouth to the stomach (Smithard, Smeeton & Wolfe, 2007). It is evident that, it works as a symptom or a consequence of various pathological conditions. Speech and Language Therapists are considered as the primary health professionals for assessing, diagnosing and treating dysphagia (Royal College of Speech & Language Therapists, 2006). So this study is conducted to explore the level of knowledge of the medical practitioner have regarding dysphagia. Swallowing difficulties or dysphagia can be stated as the complication in the proper movement of food from mouth to the stomach (Smithard, Smeeton & Wolfe, 2007). It is evident that, it works as a symptom or a consequence of various pathological conditions. Speech and Language Therapists are considered as the primary health professionals for assessing, diagnosing and treating dysphagia (Royal College of Speech & Language Therapists, 2006). So this study is conducted to explore the level of knowledge of the medical practitioner have regarding dysphagia. As dysphagia is a life-threatening condition so it is imperative to ensure the proper management system to identify dysphagia and treat it which will need the proper construction and collaboration of an eligible MDT team in the hospitalized settings (College of Audiologists and Speech-Language Pathologists of Ontario, 2007). The main goal of the MDT in a health care centre should be on managing the increase length of complexity and to attend to the client’s need of any disturbance and also get acquainted with the ever-developing knowledge regarding the fact (Cooke & O’Brien, 2010). Many of the authors have understood the importance of a MDT team in diagnosing and managing dysphagia (Leow, Huckabee, Anderson, Beckert, 2010). The next step will be each of the members should perform their assigned task properly and also meaningful and effective communication is needed within the team with acceptance to some ground rules (Yule, Flin, Maran and Paterson-Brown, 2006). On the other hand, other studies across the world have proved that effective communication is the most important thing in a MDT approach (Mills, Neilly & Dunn, 2008). Although the MDT approach to diagnose and manage dysphagia is rather new; different Asian countries like Malaysia have shown collaboration on this aspect (Sharma, Harun, Mustaffa Kamal and Noerdin, 2006) which we deeply loss. This current study is being done to measure the awareness and competency of medical practitioner about dysphagia diagnosis and its treatment. Since there is no literature in Bangladesh regarding this topic, it’s a humble attempt to do a study similar like the one of Mustaffa Kamal in Malaysia but in a smaller scale.

**Materials and methods**
Considering the objectives of this study, the investigator had selected the cross-sectional descriptive survey design model as it seemed appropriate for the investigator’s study (Hicks, 2000). The study had
taken place in Dhaka Medical College Hospital, Shaheed Suhrawardy Medical College Hospital, Enam Medical College Hospital, BRB Medical College Hospital. The study population of this study were the specialist of medicine, neurology, gastroenterology, ENT and orthodontics department of Dhaka Medical College Hospital, Shaheed Suhrawardy Medical College Hospital, Enam Medical College Hospital, BRB Medical College Hospital. The investigator had used the purposive sampling method (Hicks, 1999). Considering the limited resource and time it seems the most reliable procedure to use to match the inclusion and exclusion criteria. The researcher needed a proper tool to collect information which would seem eligible for the sample selected. In order to collect the required data, the investigator modified a questionnaire from a thesis paper of Rahayu Mustaffa Kamal of Malaysia (Mustafa Kamal, Ward & Cornwell, 2013) and by the help of the supervisor. According to Hicks (1999), researcher is the main instrument to collect information for a research. So, in this study the investigator had used a self-inventory set of questionnaire based on the prior research to collect information. The investigator first enlisted the hospitals where adult with swallowing difficulties (dysphagia) are being given intervention. After that, the investigator had contacted the authority first and then the medical practitioner and got their time or appointment to collect the data. To do that the investigator first sent consent form to get permission and the investigator then personally addressed them and collected the data by a simple interview procedure. The method that the investigator had used to analyze the collected data is descriptive statistical analysis. This procedure enabled the investigator to analyze a large amount of data (Franekel & Wallen 2000). The investigator also used a computer program named “Statistical Package for the Social Sciences, version-20 (SPSS-20)” as the tool of analyzing the collected data. The study was approved by the Institutional Review Board (IRB) of BHPI (CRP/BHPI/IRB/12/2020/409), the academic Institute of Centre for the Rehabilitation of the Paralysed. Voluntary participation from the participant’s was considered. Participants were provided with a written consent form. The Investigator collected written permission to conduct the research from the participants. Participants were informed verbally about the aims and objectives of the study and investigators role as well. Participants also assured that the study would have no harm to the participants physically or mentally because it was a survey study and was not involve any experiments. Confidentiality was maintained by the investigator by keeping the name, address and personal information of the client confidential and as data was not shared with others except the supervisor of the investigator. Participants were also being informed that they had full rights to withdraw themselves or refuse to answer any question any time during the study.

**Result**

The researcher has demonstrated the findings of his research. Among the 60 participants the researcher has showcased different types of opinion in a unified manner by table, diagram involving pie and bar chart.

Gender of the Participants shown in the figure 01.
The chart shows that the male and female ratio who participated in the study. The figure shows that, among the respondent’s 67% (40) are male and 33% (20) are female.

Age of the Participants shown in the figure 02.
This chart showcases the age range of the participant of this study. The chart shows that, 82% (49) participants are aged within the limit of 23-34, next 13% (8) are in the range of 35-45 and the rest 5% (3) are in 46-55 range.

Respondent’s area of specialty shown in the figure 03.
In this chart, the researcher has showed the area of specialty of the respondents according to the inclusion criteria. In the study 11.7% (7) participants are gastroenterologist, 10% (6) are orthodontist, 16.7% (10) are ENT, 41.7% (25) are medicine specialist and 20% (12) are neurologist.

Participant’s duration of studying dysphagia shown in the figure 04.
Out of the 60 respondents 30 studied for 2-3 hours, 15 had a duration of 3-4 hours, 9 participants were within 4-5 hours and 6 participants was in the 5-6 hours range.

Participant’s number of attending special courses or training on dysphagia shown in the figure 05.
This chart shows if the participants have done any special course or workshop on dysphagia. 95% (57) didn’t do any training, courses or workshop and 5% (3) attended special training and workshop.

Participant’s role as a health professional of dysphagia shown in the figure 06.
The role of the participants as health professional in diagnosing and managing swallowing difficulties. The positive responses are predominant in recommending safe food and fluid intake which is 53.3% (32). The positive responses to referring patient to SLT and other professional are consecutively 18.3% (11) and 30% (18), 48.3% (29) screen swallow function of the patient, both 48.3% (29) and 43.3% (26) administer clinical and instrumental evaluation and 38.3% (23) monitor patient during mealtime. In all the question except recommendation of safe food and fluid intake the responses are negative.

Participant’s involvement in a team to identify and manage dysphagia shown in the figure 07.
The involvement of the participant in a team to identify and manage dysphagia. 37% (22) respondents were a part of such team and 63% (38) had no involvement in such a team.

Awareness about the role of Speech and Language Therapist on diagnosing and managing dysphagia shown in the figure 08.
This chart indicates if the participants understand the role of SLT on diagnosing and managing dysphagia. 52% (31) responded with yes and 48% (29) responded with no.

Referral level of participant’s to Speech and Language Therapist shown in the figure 09.
The participant’s referral level of patient with dysphagia to SLT. 35 respondents never refer, 14 seldom refer, 2 refer half of the time, 6 usually refers and 3 participants always refer.

Reason for not referring shown in the figure 10.
This chart shows the reason of not referring of the 49 participant that seldom or never referred. 39% (19) doesn’t refer as there are no SLT in their workplace and 61% (30) are not sure about the role of SLT in diagnosing and managing dysphagia.

Discussion
The researcher put together some traits of swallowing difficulties to meet with the objective of the research. The result clearly shows that the involvement of medical practitioner with patient with dysphagia.

The researcher altogether collected information from 60 respondents. Out of the 60 participants in the study, 23 encounters patient with dysphagia most of the time, 28 sometimes and the rest 9 have responded a few. But according to the information in the study most of the participants haven’t gone through any special training or workshop related to dysphagia. To be honest with the number, out of 60 participants only 3 had undergone special training. As a result of that they are not in accustomed to the ever-evolving treatment procedure and management techniques.

The only positive response was in the recommendation of safe food and fluid intake 53.3% (32) participants. For the rest of the questions, the positive responses were referring to SLT and other
professionals were 18.3% (11) and 30% (18), the percentage of positive responses were low as well in screening 48.3% (29) and also in administering clinical and instrumental evaluation, both 48.3% (29) and 43.3% (23) and same goes for monitoring patient during mealtime 38.3% (23) out of 60 participants. The participants were also asked if they had any involvement in a team working with dysphagia. 37% (22) worked in a team involving identification and management and 63% (38) didn’t work in any kind of team.

The participants were also asked about the symptoms that they emphasize or consider as main factors in diagnosing dysphagia. The emphasis were give on mostly anterior leakage (drooling), oral residue and coughing/chocking during or after the meal. The responses were 66.7% (40), 58.3% (35), 63.3% (38) consecutively in positive manner.

When the participants were asked about referring patient with dysphagia to SLT, the maximum response were on seldom and never. 49 participants had responded seldom or never out of 60 respondent which indicates that they are not aware of the role of SLT in managing dysphagia.

The researcher also asked the reason of not referring and 30 participants answered that they were not sure about the role of SLT in identifying and managing dysphagia and 19 respondents didn’t have a SLT in their workplace. This also means not being aware of the working station of SLT.

This research project was done within a small scale due to the lack of time and money and was done in some hospitals of Dhaka city. Further studies should take into account of other cities and districts and should be done in a larger scale to be more effective.

**Conclusions**

Dysphagia has emerged as a common complication due to stroke. Several study has been done in UK and Australia on the prevalence of dysphagia after stroke and the result are staggering. More than 50% persons are affected by dysphagia after stroke (Smithard et al., 2007). This is the first research in Bangladesh on the level of knowledge of medical practitioner on dysphagia. This study was done with 60 participants among which there were both male and female. This study consisted with medical practitioner from neurology, medicine, ENT, orthodontics and gastroenterology department. Both specialist and interns were part of this study. The result of the study indicates lack of knowledge in their duty as health professionals on managing dysphagia and it shows the room for improvement and the scenario is quite indifferent when comes to the identification of the symptoms where anterior leakage (drooling), oral residue (food left in mouth) and coughing/chocking during or after mealtime were enforced more often.

The referral level to SLT is also not satisfactory. Among 60 participants only 11 refer to SLT whereas 49 never or seldom refer to SLT. This showcases the lack of awareness on the role of SLT in diagnosing and managing of dysphagia.

The study shows that, there is medical practitioner who are providing care to those with swallowing difficulties but there is no established way to diagnose dysphagia and also the medical practitioner are not quite eligible to treat patient having dysphagia. So, the proper collaboration of medical practitioner and SLT should be made so that the patient can get a proper treatment that will improve their condition.

**Acknowledgement**

We are very thankful to all the participants for their voluntary participation.
Conflicts of interests
All the authors declared that they do not have any conflicts of interest.

Funding
The study is solely a self-funded and academic work.

References


Gender of the participants:

![Pie chart showing gender distribution]

**Figure-1: Gender of the participants**

In this chart, the researcher has differentiated the male and female ratio who participated in the study. The figure shows that, among the respondent’s 67% (40) are male and 33% (20) are female.

Age range of the participants:

![Bar chart showing age distribution]

**Figure-2: Age range of the participants**

This chart showcases the age range of the participant of this study. The chart shows that, 82% (49) participants are aged within the limit of 23-34, next 13% (8) are in the range of 35-45 and the rest 5% (3) are in 46-55 range.
Area of specialty of the respondents:

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastroenterologist</td>
<td>11.70%</td>
</tr>
<tr>
<td>Orthodontist</td>
<td>10%</td>
</tr>
<tr>
<td>ENT</td>
<td>16.70%</td>
</tr>
<tr>
<td>Medicine</td>
<td>41.70%</td>
</tr>
<tr>
<td>Neurologist</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Figure-3: Respondent’s area of specialty**

In this chart, the researcher has showed the area of specialty of the respondents according to the inclusion criteria. In the study 11.7% (7) participants are gastroenterologist, 10% (6) are orthodontist, 16.7% (10) are ENT, 41.7% (25) are medicine specialist and 20% (12) are neurologist.

Duration of study of participant’s regarding dysphagia:

<table>
<thead>
<tr>
<th>Duration Range</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3 hours</td>
<td>30</td>
</tr>
<tr>
<td>3-4 hours</td>
<td>15</td>
</tr>
<tr>
<td>4-5 hours</td>
<td>9</td>
</tr>
<tr>
<td>5-6 hours</td>
<td>6</td>
</tr>
</tbody>
</table>

**Figure-4: Participant’s duration of studying dysphagia**

The chart indicates the duration of the study of the respondents on dysphagia. Out of the 60 respondents 30 studied for 2-3 hours, 15 had a duration of 3-4 hours, 9 participants were within 4-5 hours and 6 participants was in the 5-6 hours range.
First encounter with a patient with dysphagia of the participant’s:

<table>
<thead>
<tr>
<th>Period</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017-2019</td>
<td>31.7%</td>
</tr>
<tr>
<td>2012-2016</td>
<td>46.7%</td>
</tr>
<tr>
<td>2007-2011</td>
<td>8.3%</td>
</tr>
<tr>
<td>2001-2006</td>
<td>8.3%</td>
</tr>
<tr>
<td>1995-2000</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Figure-5: First encounter with a dysphagia patient**
This figure indicates the period where the respondents first encounter a patient with dysphagia. The chart shows that, 31.7% (19) participants have seen in period of 2017-2019, 46.7% (28) have seen in the period of 2012-2016, the percentage is 8.3% (5) in both 2001-2006 and 2007-2011 period and 5% (3) are in the period 1995-2000.

Frequency of getting a patient with dysphagia:

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A FEW</td>
<td>15%</td>
</tr>
<tr>
<td>SOMETIMES</td>
<td>46.7%</td>
</tr>
<tr>
<td>MOST OF THE TIME</td>
<td>38.3%</td>
</tr>
</tbody>
</table>

**Figure-6: Participant’s percentage of attending patient with dysphagia**
In this chart, the researcher showed the frequency of the participants dealing with a patient having dysphagia. The responses were categorized in three set of responses. 15% (9) responded a few, 46.7%
(28) responded sometimes and 38.3% (23) responded most of the time.

**Participant’s number of attending special courses or training on dysphagia:**

![Pie Chart](Image)

*Figure-7: Special training or workshop on dysphagia*

This chart shows if the participants have done any special course or workshop on dysphagia. 95% (57) didn’t do any training, courses or workshop and 5% (3) attended special training and workshop.

**Participant’s involvement in a team to identify and manage dysphagia:**

![Pie Chart](Image)

*Figure-8: Involvement on a team to identify and manage dysphagia*

This chart shows, the involvement of the participant in a team to identify and manage dysphagia. 37% (22) respondents were a part of such team and 63% (38) had no involvement in such a team.
Awareness about the role of Speech and Language Therapist on diagnosing and managing dysphagia:

**Figure-9: Awareness about the role of Speech and Language Therapist**
This chart indicates if the participants understand the role of SLT on diagnosing and managing dysphagia. 52% (31) responded with yes and 48% (29) responded with no.

**Referral level of participant’s to Speech and Language Therapist:**

**Figure-10: Referral level of participant’s to SLT**
This chart demonstrates the participant’s referral level of patient with dysphagia to SLT. 35 respondents never refer, 14 seldom refer, 2 refer half of the time, 6 usually refers and 3 participants always refer.
Reason for not referring:

This chart shows the reason of not referring of the 49 participant that seldom or never referred. 39% (19) doesn’t refer as there are no SLT in their workplace and 61% (30) are not sure about the role of SLT in diagnosing and managing dysphagia.

Participant’s role as a health professional of dysphagia:

<table>
<thead>
<tr>
<th>Traits</th>
<th>Response (Yes)</th>
<th>Response (No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refer patient with swallowing difficulties to Speech &amp; Language Therapist</td>
<td>18.3% (11)</td>
<td>81.7% (49)</td>
</tr>
<tr>
<td>Refer patient to health professional other than Speech &amp; Language Therapist</td>
<td>30% (18)</td>
<td>70% (42)</td>
</tr>
<tr>
<td>Screen swallowing function of patient</td>
<td>48.3% (29)</td>
<td>51.7% (31)</td>
</tr>
<tr>
<td>Administer through clinical swallowing examination</td>
<td>43.3% (26)</td>
<td>56.7% (34)</td>
</tr>
<tr>
<td>Administer instrumental evaluation on patient. (e.g. FEES, VFFS)</td>
<td>35% (21)</td>
<td>65% (39)</td>
</tr>
<tr>
<td>Recommend safe food and fluid intake</td>
<td>53.3% (32)</td>
<td>46.7% (28)</td>
</tr>
<tr>
<td>Monitor patient during mealtime</td>
<td>38.3% (23)</td>
<td>61.7% (37)</td>
</tr>
</tbody>
</table>

Table-01: Participant’s role as a health professional of dysphagia

This chart shows the role of the participants as health professional in diagnosing and managing swallowing difficulties. The positive responses are predominant in recommending safe food and fluid intake which is 53.3% (32). The positive responses to referring patient to SLT and other professional are consecutively 18.3% (11) and 30% (18), 48.3% (29) screen swallow function of the patient, both 48.3%
(29) and 43.3% (26) administer clinical and instrumental evaluation and 38.3% (23) monitor patient during mealtime.

In all the question except recommendation of safe food and fluid intake the responses are negative.