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Exploring facilitators and barriers associated with oral care for inpatients with dysphagia post-stroke

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Objective: To explore the attitudes, facilitators and barriers in providing oral care for inpatients with dysphagia post-stroke as perceived by healthcare professionals.

Background: Dysphagia is a common complication of stroke and is associated with a higher incidence of aspiration pneumonia, malnutrition and dehydration. In the acute phase of stroke recovery, a dental professional is not usually part of the multidisciplinary team caring for the patient and oral care is the responsibility of the healthcare professionals in the stroke unit. There is a lack of high-quality evidence to demonstrate the most effective method of providing oral care for patients with dysphagia post-stroke.

Materials and methods: This was a single-site study conducted with healthcare professionals working in the Stroke Unit of Cork University Hospital in Ireland, using focus groups and a qualitative thematic analysis approach.

Results: A total of three focus groups were conducted in the Stroke Unit with 17 healthcare professionals. The focus groups included representation from all healthcare professional groups providing direct clinical care to patients on the Stroke Unit including geriatric medicine, dietetics, speech and language therapy, healthcare assistance, nursing, occupational therapy and physiotherapy. A qualitative thematic analysis was carried out and seven overarching themes emerged from the data. Three themes related to facilitators to providing oral care for this patient group: (i) a focus on oral care in both policy and practice, (ii) expanding professional roles in the provision of oral care, (iii) perceived importance of oral care in recovery and rehabilitation. Four themes related to barriers to the provision of oral care for this patient group: (i) lack of confidence and concerns related to the perceived risk for patients with dysphagia, (ii) unique challenges of patient and stroke-related factors, (iii) lack of resources and time and (iv) perceived importance of oral care in recovery and its relative importance with competing demands.

Conclusion: Members of the stroke multidisciplinary team believe that they all have a part to play in the delivery of oral care for patients with dysphagia post-stroke. Opportunities exist for the development of multidisciplinary interventions to improve the oral cavity assessment and oral care provided in the Stroke Unit.

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KEYWORDS

dysphagia, multidisciplinary, qualitative, stroke

1 | INTRODUCTION

The World Health Organisation defines stroke as “rapidly developed clinical signs of focal (or global) disturbance of cerebral function, lasting more than 24 hours or leading to death, with no apparent cause other than of vascular origin”.¹ Stroke is the second most common cause of death and a leading cause of adult disability in the European Union.² Due to a predicted increase in the proportion of people over the age of 65 years, along with improved survival rates, the number of people living with stroke in the European Union is estimated to increase by 27% between 2017 and 2047.³

Dysphagia is a common complication of stroke, with an incidence of up to 78%.⁴ Dysphagia is associated with a higher incidence of aspiration pneumonia, malnutrition and dehydration.⁵ Patients report feelings of anxiety, depression and embarrassment associated with their difficulties eating, drinking and swallowing in the immediate aftermath of stroke.⁶ Most people who develop dysphagia as a result of stroke will regain their ability to swallow in the initial weeks of recovery, but a small percentage will have dysphagia that persists for weeks or months.⁷

Aspiration pneumonia as a complication of dysphagia post-stroke is important because it carries a high mortality rate for this patient group. The 30-day mortality rate from aspiration pneumonia is 21% overall and 30% in healthcare-associated aspiration pneumonia.⁸ Frail older patients with aspiration pneumonia have a significantly increased mortality within 30 days after admission.⁹

Aspiration pneumonia occurs as a result of the inhalation of saliva or a foreign substance that is contaminated with pathogenic bacteria.⁵ Poor oral health is associated with a higher risk of aspiration pneumonia.¹⁰ Patients post-stroke have been shown to have poorer oral health than those who have not experienced a stroke. A systematic review showed that patients post-stroke experienced more tooth loss and worse periodontal health and a higher caries rate. These patients were also less likely to visit a dentist.¹¹ Older adults with dysphagia have also been shown to have a higher prevalence of periodontal disease and dental caries than older adults with a healthy swallow reflex.¹²

Currently, there is a lack of high-quality evidence for the most effective method of providing oral care to patients with dysphagia post-stroke. A Cochrane Review by Campbell et al¹³ examined the provision of oral care for all patients after a stroke and found that there was limited evidence to support any oral care interventions, because of a lack of high-quality research.

Brady et al¹⁴ conducted a Cochrane Review investigating staff-led interventions for improving oral hygiene in patients post-stroke. They concluded that oral health care interventions improve staff knowledge and attitudes, improve denture cleanliness and reduce aspiration pneumonia in inpatients post-stroke. They acknowledged, however, that there is a dearth of research on oral care interventions post-stroke. Subsequently, there are no specific guidelines available on best practice in oral care for patients with dysphagia post-stroke.

There are, however, guiding principles for patients with dysphagia in general that can be applied when providing oral care for this particular group. These guiding principles advocate for the use of safe techniques and suitable equipment to minimise the risk of aspiration of fluid or toothpaste during an oral care regime.^{15,16}

In the acute phase of stroke recovery, a dental professional is not usually part of the multidisciplinary team caring for the patient.^{17,18} During this period, providing oral care for patients who are care-dependent or require assistance usually is the responsibility of healthcare assistants or nurses working on the ward, without advice or support from the dental team. As a result of this, oral hygiene may not be prioritised or may be forgotten in the midst of medical interventions and other treatments. Improving this situation requires an understanding of the difficulties that healthcare professionals encounter when providing oral care.

Accordingly, this study aimed to explore health professionals attitudes, facilitators and barriers in providing oral care for inpatients with dysphagia post-stroke.

2 | METHOD

Ethical approval was received from the Clinical Research Ethics Committee of the Cork Teaching Hospitals in October 2021 (ECM 4 (e) 19/10/2021 & ECM 3 (e) 16/11/2021). This was a single-site study conducted in the Stroke Unit of Cork University Hospital in Ireland, using focus groups and a qualitative thematic analysis approach.

The research team comprised a Specialist in Special Care Dentistry and PhD student (CC), a Senior Lecturer in Restorative Dentistry and PhD Supervisor (MH), a Clinical Specialist Speech and Language Therapist (SLT) in Stroke (AB) and a Consultant Stroke Physician and Geriatrician (LH).

2.1 | The setting

This study took place in a model 4 tertiary referral hospital and a University teaching hospital in the south of Ireland. This Hospital provides tertiary and supra-regional services for acute medicine, surgery and critical care. The hospital is one of two national thrombectomy stroke centres in Ireland. The Stroke Unit consists of 31 hyperacute and acute stroke beds, both single and shared occupancy. There is a multidisciplinary team including doctors, nurses, healthcare assistants (HCAs), occupational therapists, physiotherapists, speech and language therapists, social workers, dieticians and clinical neuropsychologists. There is no in-house dentist or dental hygienist. There is currently no formal training programme for oral care. There is a local policy/guideline developed by nursing staff in place for oral care. This policy document includes a locally developed oral cavity assessment tool which is referenced by the participants in later transcripts. This policy advises that an oral cavity assessment should be completed by a nurse for every patient admitted to

the ward. If required, support with daily oral care is usually provided by a healthcare assistant as part of the patient's personal care. If the patient has dysphagia, however, a nurse must carry out oral care for the patient if support is required. Speech and language therapists support oral care before and/or after a swallowing assessment as required also.

2.2 | Participants

Participants were recruited through purposive sampling. To achieve representation from all healthcare professional groups, the research team attended the weekly multidisciplinary audit meeting in the Stroke Unit to introduce the study and recruit participants. A message advising staff about the study was also sent on the staff group messaging service after the audit meeting in order to include staff who were not able to attend the audit meeting in person. Participant information leaflets were distributed to all attendees at the audit meeting. Healthcare staff were eligible to take part in the study if they provided direct clinical care to inpatients in the Stroke Unit of the hospital.

The research team returned to the Stroke Unit on three separate pre-determined dates to carry out the focus groups. Participant information leaflets were distributed to all participating healthcare professionals and prior written consent was gained from all participants. The focus groups took place in the Stroke Unit and were led by CC. Note taking was completed by MH. The focus group discussions were digitally recorded, transcribed verbatim and checked by CC for accuracy against the recordings. Digital recordings and transcriptions were stored securely and anonymously.

Since AB is a senior member of staff in the Stroke Unit and has a particular interest in oral care for this patient group, she was not present for the focus groups, to reduce the risk of bias and any influence on discussions.

2.3 | Topic guide

Following a review of the published literature and discussion among the research team, a topic guide was created and used to guide the focus group discussion (Table 1). This topic guide was not

prescriptive, however, and participants were allowed to converse naturally on each main topic.

A reflexive thematic analysis was conducted. CC reviewed the transcripts and compared them for accuracy against the digital recordings. CC then read and reread the transcripts to gain familiarity with the data. Transcripts were uploaded to NVivo 11¹⁹ and CC then recorded codes for each unit of meaning identified in the data. Following this, the generated codes were compared for similarities and differences, and codes were then grouped into overarching themes (Table 1).

3 | RESULTS

A total of three focus groups were conducted in the Stroke Unit, lasting between 25 and 43 min. Seventeen Healthcare Professionals took part in the focus groups. Of these participants, 15 were female and two were male. The focus groups had representation from all Healthcare Professionals providing direct clinical care to patients in the Stroke Unit (Table 2).

Several themes emerged from the focus group discussions (Table 3).

3.1 | Facilitators

Three themes emerged that related to facilitators for providing oral care and oral hygiene advice to this population. (i) A focus on oral care in both policy and practice, (ii) Expanding professional roles in the provision of oral care and (iii) Perceived importance of oral care in recovery and rehabilitation.

3.1.1 | A focus on oral care in both policy and practice

Six participants mentioned how they felt that the current oral health assessment tool in use on the ward, was helpful in the delivery of oral care to patients. These participants indicated that it was useful

TABLE 1 Topic guide for focus group discussions.

| Topic area | Questions |
|--|--|
| Education and training in oral care | What education or training have you received in oral care? What education or training have you received in relation to oral care for patients with dysphagia? |
| Barriers to providing oral care to inpatients with dysphagia | What barriers do you believe exist with regard to providing oral care and oral hygiene advice to patients with dysphagia post-stroke? |
| Facilitators to providing oral care to inpatients with dysphagia | What facilitators do you believe exist with regard to providing oral care and oral hygiene advice to patients with dysphagia post-stroke? |
| Role in providing oral care to inpatients with dysphagia | What role do you feel you play (if any) in providing oral care and oral hygiene advice to patients with dysphagia post-stroke? Do you feel confident in providing oral care and oral hygiene instruction for patients with dysphagia post-stroke? |
| Denture care | Are there any particular problems you encounter in caring for patients who wear dentures on the ward? |

TABLE 2 Characteristics of participants.

| | Gender | Number of participants |
|--------------------------------|--------|------------------------|
| Focus Group 1 | | |
| Dietician | Female | 1 |
| Occupational therapist | Female | 1 |
| Healthcare assistant | Female | 1 |
| Nurse | Female | 1 |
| Physiotherapist | Female | 1 |
| Focus Group 2 | | |
| Doctor | Male | 1 |
| Nursing student | Female | 1 |
| Physiotherapist | Female | 1 |
| Nurse | Female | 1 |
| Occupational therapy assistant | Female | 1 |
| Healthcare assistant | Female | 1 |
| Focus Group 3 | | |
| Speech and language therapist | Female | 2 |
| Physiotherapist | Male | 1 |
| Nurse | Female | 2 |
| Nursing student | Female | 1 |

TABLE 3 Overarching themes which emerged from the data following reflexive thematic analysis.

| |
|--|
| Facilitators |
| A focus on oral care in both policy and practice |
| Expanding professional roles in the provision of oral care |
| Perceived importance of oral care in recovery and rehabilitation |
| Barriers |
| Lack of confidence and concerns related to the perceived risk for patients with dysphagia |
| Unique challenges of patient and stroke-related factors |
| Lack of resources and time |
| Perceived importance of oral care in recovery and its relative importance with competing demands |

mainly as a screening tool to identify those who needed more frequent oral care.

It just observes the oral cavity.....it kind of goes through the whole cavity like everything to do with it really

(P1.5 Nurse)

depending on the score it gives you the frequency that the oral care should be carried out

(P2.4 Nurse)

Speech and language therapists on the ward use a noticeboard over the patient's bed to communicate key messages about the patient

and any swallowing problems they may have. Two participants mentioned the usefulness of these in identifying patients who have dysphagia and adapting to their oral care needs.

Sometimes there is a SaLT board over the bed and it would tell..... how frequently they need to be checked for their oral hygiene and things like that
(P1.2 Dietician)

In all three focus groups, participants noted that the presence of suction at the patient's bedside was significant in helping to provide appropriate oral care for these patients. Participants also believed that the free availability of toothbrushes, toothpastes and mouth swabs on the ward, also enhanced their ability to provide oral care.

suction at every bed side and we are very lucky to have that.
(P3.2 Physiotherapist)

it's also just really handy that there are toothbrushes and toothpaste available on the ward to just go and grab
(P1.1 Occupational Therapist)

Most of the time we do have the suction toothbrushes and the pink swabs
(P3.1 Speech & Language Therapist)

3.1.2 | Expanding professional roles in the provision of oral care

All professions represented in these focus groups believed that they had a role to play in the provision of oral care for this patient group. Many suggested that there is scope to expand what they do to further enhance patients' oral health mainly through encouraging the patient to do oral care at the end of their therapy session.

I don't do enough for them
(P1.2 Dietician)

You know the way we might document in the suction chart at the end of the bed, maybe there should be a little tick box as we finish that we did oral hygiene as well.

(P1.4 Physiotherapist)

I should be probably also carrying out oral care as part of that assessment before I give them anything orally and after as well

(P3.1 Speech & Language Therapist)

There was a strong emphasis on teamwork and multidisciplinary working among the health care professionals, with some mentioning the importance of support and advice they receive from the Speech & Language Therapists in providing appropriate oral care for patients.

the speech and language therapists are very good to say as well how often the oral care should be done.
(P2.4 Nurse)

we know how clued in ye all are between health care assistants and the nurses with how patients with dysphagia are managing.
(P3.1 Speech and language Therapist)

In relation to their specific roles in supporting oral care, physiotherapists reported that they provide oral suction to help to clear secretions in the mouth and that they also liaise with nursing staff to encourage them to provide further suction throughout the day.

we would be liaising with the nurses saying continue the yankauer suction to clear their mouth or you know those green swabs
(P2.3 Physiotherapist)

A Speech and Language Therapist reported that her role was to carry out the oral care assessments and alert the nursing staff when someone needs extra precautions for oral care.

if you have a patient where you know they tend to get residue stuck on one side of their mouth or something I try to write up on the care plan, like check this left side of mouth after eating or whatever or you know the odd time if it is someone where you saying leave their dentures out because it's a bigger risk.
(P3.1 Speech & Language Therapist)

Health Care Assistants reported that they had the most 'hands-on' role in providing oral care to this population by directly providing oral care for patients.

We wouldn't do the suctioning but like that now with the swabs we would clean around their mouth and cleaning their tongue if they will stick out the tongue we can clean around the mouth.
(P3.3 Health Care Assistant)

We usually set up an oral care tray at the bedside for the patients so that's where it encourages it and tries to remind them to take care of their oral care and stuff and if they do need assistance, during personal hygiene in the morning.....we wash and then after dinner and supper and things like that
(P1.3 Health Care Assistant)

Nursing staff reported that they carry out and promote good oral hygiene with patients and are responsible for delegating specific oral care to the Health Care Assistants

to promote independence as well but to flag if there were any problems yeah then delegate with health care assistants or nursing staff to promote it too.
(P2.4 Nurse)

You would always have the worry of aspiration no matter what do you know but it still needs to be done.
(P1.5 Nurse)

The participating dietician reported that promotion of good oral hygiene and encouraging toothbrushing after meals was part of her role.

we typically encourage them to brush their teeth and do oral care after meals and things like that
(P1.5 Dietician)

The doctor in this focus group felt that his role was mainly to do the swallow screening and promote hydration.

that's a facilitator in that you know if they can have as much free fluids as they want then give them some water if they don't have it.
(P2.1 Doctor)

Occupational therapists described their role as one of promotion of independence and encouraging toothbrushing and oral care as part of that.

working on that you know to be as much independent as possible.
(P2.5 Occupational Therapist)

3.1.3 | Perceived importance of oral care in recovery and rehabilitation

Many participants mentioned the importance of oral care as a facilitator to recovery from stroke. Participants mentioned the medical risks of having poor oral hygiene which may lead to aspiration pneumonia. The importance of good oral hygiene as a pre-requisite for implementing a 'free water protocol' for the patient was also mentioned in this context.

patients with dysphagia are more prone to aspiration pneumonia and if their oral care is really poor then and they aspirate say on any infection that they have in their mouth then it leads to more complications down the line
(P1.2 Dietician)

they are prone to aspirations as it is, not to mind to be aspirating something if it's not clean

(P3.6 Nurse)

fundamentally very important that their airways are clean and clear and then whatever then is being aspirated if its saliva then at least that saliva is somewhat of a clean nature

(P3.2 Physiotherapist)

Participants felt that good oral hygiene was also important for overall holistic care, including patient dignity and comfort.

If you were actually were sick yourself you would want a clean mouth so it's the same for a patient.

(P3.3 Health Care Assistant)

I suppose for patient comfort as well. They are not sitting there with their mouth coated I suppose.

(P2.3 Physiotherapist)

The importance of using oral care as a means of promoting independence and a return to 'normal' activities for the patient was also highlighted by participants. This also demonstrates that the ability to participate in and carry out oral care for themselves may need to be considered as a rehabilitation goal.

It is also really important I think for just a patients sense of normality a little bit like you know we really encourage people to try and go through their day as normally as they would at home so just getting up and brushing your teeth or you know having your mouth be cleaned if it needs but at least it makes you feel a bit normal, you know

(P1.1 Occupational Therapist)

3.2 | Barriers

Four themes emerged from the data relating to barriers to providing oral care and oral hygiene advice to this population: (i) Lack of confidence and concerns related to the perceived risk for patients with dysphagia, (ii) Unique challenges of patient and stroke-related factors, (iii) Lack of resources and time, (iv) Perceived importance of oral care in recovery and its relative importance with competing demands.

3.2.1 | Lack of confidence and concerns related to the perceived risk for patients with dysphagia

Participants in these focus groups overwhelmingly felt that a lack of knowledge about oral care for this population led to feelings of

uncertainty and cautiousness when providing oral care or giving oral hygiene advice. Participants were particularly concerned about the risk of aspiration in relation to using unthickened fluids for tooth brushing:

I wouldn't be aware you know I would give them general advice but I wouldn't know if there were any specifics or whatever

(P2.3 Physiotherapist)

I wouldn't feel very confident using a normal oral suction

(P3.1 Speech and Language Therapist)

I suppose even the fact that they are on say thickened fluids or whatever and then you are providing oral care with unthickened fluids you would be a bit cautious

(P1.2 Dietician)

All participants reported that they had not had any undergraduate or postgraduate teaching or practical training on the topic of oral care for patients with dysphagia:

there was just a broad overview of dysphagia and nothing on oral care

(P1.4 Physiotherapist)

I did dietetics then for my Masters and obviously we learnt a lot about dysphagia and nutrition; obviously I suppose good oral hygiene but there was nothing specifically that we went in depth into

(P1.2 Dietician)

if I knew what to do or how to partake in oral care it definitely would be something I would do but I suppose I don't do it because I am not trained and I don't probably know enough about it

(P1.2 Dietician)

nothing specific to dysphagia and stroke

(P2.3 Physiotherapist)

we have never had specific training or even in college we never had specific training on oral hygiene

(P3.1 Speech and Language Therapist)

No we didn't get any training we were just learning it in here really

(P3.3 Healthcare Assistant)

It was only one theory section that's it, nothing else and we just learned from the job that's it.

(P3.4 Nurse)

No we wouldn't have had practical
(P3.1 Speech and Language Therapist)

in the Occupational Therapy Masters that I did there
wasn't really any oral hygiene
(P1.1 Occupational Therapist)

3.2.2 | Unique challenges of patient and stroke-related factors

Patient-related factors were mentioned as barriers to providing oral care and advice to this patient group. Participants noted that the neurological, cognitive and visuo-perceptual difficulties associated with stroke often led to difficulties for the patients themselves in carrying out their own oral care. They also felt that these neurological complications also affected their ability to aid the patients with oral care or perform it for them:

its hard to brush your teeth with your left hand if you
are right handed
(P1.4 Physiotherapist)

If they have apraxia and they don't even know how to
use a toothbrush properly any more
(P1.1 Occupational Therapist)

if they have reduced understanding after their stroke
they may not be able to follow instructions
(2.1 Doctor)

You don't know how good their oral hygiene is it may
not have always been the best coming in and espe-
cially if you have had someone who has a bit of a
decline and they have lost weight and their dentures
don't fit as well anymore.
(P3.1 Speech & Language Therapist)

Patient confusion, delirium, cognitive impairment and reluctance to accept personal care were also mentioned as barriers to care. Participants mentioned that patients' reluctance to accept oral care can affect the quality of care provided. Participants also mentioned that the simple action of having to look at their face in the mirror can be distressing for a patient, and this makes oral hygiene very difficult:

when you have someone agitated like that you might
prioritise the sponges rather than the toothbrush be-
cause it is softer to get in but not for a good deep
clean then
(P3.6 Nurse)

You have a 55 year-old woman who looks after herself
and suddenly got this wonky face you know, it's very
distressing and that can impact on oral care I think a lot.
(P3.2 Physiotherapist)

I found a lot of people especially elderly they are not
used to brushing their teeth so when you are on the
ward they get agitated and refuse to do it. And I guess
if they have any pain or anything it doesn't help either.
(P2.5 Occupational Therapy Assistant)

Refusals, sometimes they literally try to bite the
toothbrush and things and nearly hurt themselves at
times.
(P1.3 Healthcare Assistant)

sometimes you get people who are really resistant
and who won't open their mouths and it can be really
hard even with the best will in the world
(P3.1 Speech and Language Therapist)

Stroke patients who wear dentures were also mentioned by partici-
pants. Prolonged hospital stays and weight loss added to the complex-
ity of needed oral care due to their dentures becoming ill-fitting. Several
participants mentioned that denture loss is a significant problem in the
unit and the subsequent lack of dentures affected the patients:

Are they clean or do they fit the mouth or are they
aspirating them
(P3.2 Physiotherapist)

they have had the dentures for years and they
were kind of getting away with them being badly
fitting before they came in or had a stroke or had
dysphagia.
(P3.1 Speech and Language Therapist)

If they are in their dinner tray and it's down in the
canteen and they are gone and they have nothing to
eat with for two months and it's horrible.
(P3.2 Physiotherapist)

There was one who put her dentures in the bed sheets
this morning because she was afraid in case she was
going to lose them
(P3.3 Healthcare Assistant)

lots of people have been in a hospital for a long period
of time and they lose a lot of weight and their den-
tures may not fit them
(P2.1 Doctor)

3.2.3 | Lack of resources and time

Participants mentioned the lack of oral care resources and access to dental services as significant barriers to delivering appropriate care to this patient group. Patients sometimes arrive on the ward with no oral hygiene products and are reliant on the ward to provide these. Difficulties accessing key items such as mirrors, denture fixative and suction toothbrushes affects the delivery of oral care. Access to dental services is also a problem in the Stroke Unit. Emergency dental care is available only through Cork Dental Hospital; however, participants noted that routine dental care is lacking for this patient group:

We don't have that many mirrors.....it's very difficult to do it without a mirror

(P3.1 SLT)

we don't have denture fixatives as standard on the ward so you end up having to ring the families and ask them to bring it in if someone doesn't have it

(P3.1 SLT)

A lot of patients would come in with nothing at all.

(P1.5 Nurse)

Oralieve can be sometimes in short supply and they don't have enough stock with that I think

(P3.6 SLT)

We don't have access to the dental hospital we don't have routine access it's like if something is falling out or breaking out of your mouth great but otherwise we have very limited access to dental services

(P3.1 SLT)

Participants raised particular issues in relation to caring for patients with dentures. They expressed frustration at the lack of lack of denture storage pots on the ward and believed that this is contributing to the loss of dentures:

Denture pots I don't know when I last saw them..... Yeah we have all the lids whereas a time there about a month ago where the patient salads were coming up in dentures pots but we couldn't even get them to do mouth care, that's how bad things were

(P3.6 Nurse)

then you are losing dentures then as a result.....getting replacements are impossible.

(P3.6 Nurse)

we are ending up using coffee cups for dentures

(P3.1 Speech and Language Therapist)

Again I suppose the denture pots to have if we ever have them, they are not great anyway do you know because they are so flimsy

(P3.6 Nurse)

Participants also mentioned problems with the oral care aids that are available on the ward. No several participants commented that they felt the suction brushes are too rigid and difficult to use. As a result of this, they sometimes use sponge swabs for oral care because they are easier and more comfortable for the patient:

I don't know hospital wide were we supposed to have completely gotten rid of those oral swabs but you do end up using them and they have their place because if you have people with dysphagia who are pooling loads in their lateral sulcus so I find you do end maybe using one of those to scoop it out

(P3.1 Speech and Language Therapist)

It's softer to get in for the patient as well

(P3.4 Nurse)

If you could get something in between like if the toothbrushes were a bit more flexible the suction ones.....if we had them a bit shorter and a bit more flexible, the handle, I think it would work a bit better.

(P3.6 Nurse)

3.2.4 | Perceived importance of oral care in recovery and its relative importance with competing demands

Several participants mentioned that oral care is not perceived as important in the context of overall personal care and rehabilitation on the stroke unit. They reported that the oral health assessment can be forgotten about when the patient first arrives on the ward due to competing priorities for their time:

Just because there isn't an emphasis really not a big emphasis on it

(P1.2 Dietician)

it isn't something that I have thought to ask about

(P2.1 Doctor)

I suppose we don't make time to do oral care

(P2.4 Nurse)

sometimes you be running from one patient to the next and you forget it like you do forget it

(P3.3 Healthcare Assistant)

Participants also mentioned the lack of appropriate staff as a barrier to providing care. According to the policy on the Stroke Unit, Health Care Assistants are not allowed to carry out suctioning in the oral cavity, so the patients who need suction toothbrushes for oral care rely on the nurses to do this for them. Nurses on the Unit, however, are busy with other more complex tasks and completing oral care for a patient often falls down the list of priorities. Feelings of frustration were expressed by both nurses and HCAs about this situation, with both groups believing that oral care for this patient group would be done more often and more reliably if HCAs were allowed to do it:

if a care assistant is helping that person I still have to go in and do their oral care do you know and I wonder from a care assistant point of view is that not upsetting but do you know even inhibiting them as well.... they would be well able once you have the bit of training the way any of the rest of us would have
(P3.6 Nurse)

We can do this we are not stupid
(P3.3 Healthcare Assistant)

It's ludicrous it's just nursing policy gone mad
(P3.2 Physiotherapist)

It would make more sense if ye were to upskill the HCA's
(P3.1 Speech and Language Therapist)

The lack of time to carry out oral care assessments and oral care was mentioned by all healthcare professional groups. In a very busy stroke unit with severe time pressures and patients with high medical complexity, oral care is not prioritised and can be forgotten about:

it's a busy ward so sometimes say if they are on two hour oral care regime you know it is not always possible because we don't really have the time unfortunately to carry out
(P1.5 Nurse)

Yeah some patients might need hand over hand assistance to do it as well so there is also that again it's come back to the amount of times that you can sit there and do it with them
(P1.1 Occupational Therapist)

the time is a big thing
(P1.4 Physiotherapist)

I think it's all about the time you know
(P3.2 Physiotherapist)

4 | DISCUSSION

This study provided an opportunity to explore the topic of oral care for patients with dysphagia from a multidisciplinary point of view.

Multiple facilitators and barriers emerged from this research. Participants felt that oral care is important for this patient group but all also agreed that despite this, it is not seen as a day-to-day priority. The reason for this appears to be multifactorial, involving a combination of lack of staff confidence, a lack of appropriate equipment, and a perception that, although oral care is important, it is not as important as other personal hygiene practices.

Guidelines for the management of patients with dysphagia post-stroke advise that oral care interventions should be included as part of the patient's care plan on the stroke unit.^{20,21} The guidelines do not give specific advice or direction for members of the stroke team on how to provide this care or what specific interventions to implement. It is clear from this study that members of the team lack confidence and knowledge in the oral care management of these patients. Several participants spoke about seeking advice and support from the speech and language therapists if they were unsure about any oral care-related issues. The speech and language therapists in this study, however, mentioned that they often are not sure what to recommend from an oral hygiene perspective for these patients.

The lack of knowledge of appropriate and safe oral hygiene practices resulted in staff relying on the use of foam swabs rather than toothbrushes to provide oral care. Several staff mentioned that although they felt foam swabs did not clean the teeth as effectively, they sometimes used them as they felt they were a more gentle option. Although these foam swabs have been the subject of a Medical Devices Safety Alert in the United Kingdom,²² a similar advisory has not been issued for the Republic of Ireland and these swabs are freely available on this stroke unit.

Support for personal care and oral care for patients is primarily the role of the healthcare support workers in this Stroke Unit. For patients with dysphagia, however, the healthcare support workers are not allowed to provide or support oral care and the patient must wait until a nurse is available to provide that care. The healthcare workers in this study expressed feelings of frustration in relation to this. They would like to be able to help these patients but feel that even though these patients have a substantial need for high-quality oral care, they are waiting longer and sometimes do not receive the oral care they need due to pressures on nurses time with other duties.

None of the participants had received specific training on how to deliver oral care or provide oral care advice for patients with dysphagia post-stroke. This lack of dysphagia-specific oral care training is also apparent in the United Kingdom, where Talbot et al²³ and Horne et al²⁴ reported a significant lack of oral care training in acute stroke settings. Opportunities exist within the Stroke Unit to provide information and training for the wider multidisciplinary team on oral care advice and practices for these patients. Research on the most effective method of providing training is lacking in this area, however.¹⁴

The study findings are consistent with those of similar studies completed in other countries. Hammond et al²⁵ explored the barriers and facilitators associated with the provision of oral care on an acute stroke ward in Adelaide, (Australia) through semi-structured interviews with both nurses and speech and language pathologists. The barriers identified in that study also include those identified in the current one including education, oral care not being prioritised, patient cooperation and equipment. Facilitators identified included education, guidelines, multidisciplinary input, oral health assessment tools and access to dental services.

In the qualitative element of their mixed methods study, Horne et al²⁴ explored these barriers and facilitators in a stroke unit in Manchester, (England). Through two focus groups with nursing staff, therapy assistants and clinical support workers, barriers identified included a lack of protocols and assessment tools, education and oral care not being prioritised. These themes also align with the themes which emerged from this study.

There are several strengths and limitations associated with this study. The selection of a focus group structure for this research allowed exploration of not just the healthcare professionals' opinions on oral care for such patients, but also the dynamics of the relationship among the multidisciplinary team.²⁶ The participants represented all healthcare professionals providing direct clinical care in this stroke unit, and so the themes which emerged provide a true multidisciplinary insight into the barriers and facilitators that are operative.

Bias was considered during the study design and coding of the data. As mentioned in the Methods section, AM did not take part in the focus groups in order to avoid an inadvertent influence on focus group discussions. Researcher reflexivity²⁷ was considered with CC reflecting on the positionality, biases and beliefs of the researcher throughout the thematic analysis process.²⁸

One of the limitations of this study is that it was conducted with health professionals working in the stroke unit at Cork University Hospital in Ireland. The specific facilitators and barriers which emerged consequently may not apply to all stroke units and may reflect more local issues within the unit.

Bias may have been introduced to our research through participants being aware that the discussion group facilitator was a dentist with a particular interest in the care of older adults. This may have influenced the discussion and comments made.

5 | CONCLUSION

Members of the stroke multidisciplinary team believe that they have a part to play in the delivery of oral care for patients with dysphagia post-stroke. Although hospital policies help to facilitate the provision of appropriate oral care for this population, multiple barriers have been identified. A positive finding of this study was that all members of the stroke multidisciplinary team believe that they have a part to play in the delivery of oral care for patients with dysphagia post-stroke.

AUTHOR CONTRIBUTIONS

Claire Curtin: conceptualisation, design, methodology, data analysis, writing – original draft, writing – review and editing. **Anne Barrett:** conceptualisation, design, methodology, data analysis, writing – review and editing. **Francis M. Burke:** conceptualisation, design, writing – review and editing. **Gerald McKenna:** conceptualisation, writing – review and editing. **Liam Healy:** conceptualisation, design. **Martina Hayes:** conceptualisation, design, methodology, data analysis, writing – review and editing, supervision.

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DATA AVAILABILITY STATEMENT

Data available on request due to privacy/ethical restrictions.

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REFERENCES

- Aho K, Harmsen P, Hatano S, Marquardsen J, Smirnov VE, Strasser T. Cerebrovascular disease in the community: results of a WHO collaborative study. *Bull World Health Organ.* 1980;58(1):113-130.
- Wilkins E, Wilson L, Wickramasinghe K, et al. *European Cardiovascular Disease Statistics 2017.* European Heart Network; 2017.
- Wafa HA, Wolfe CD, Emmett E, Roth GA, Johnson CO, Wang Y. Burden of stroke in Europe: thirty-year projections of incidence, prevalence, deaths, and disability-adjusted life years. *Stroke.* 2020;51(8):2418-2427.
- Martino R, Foley N, Bhogal S, Diamant N, Speechley M, Teasell R. Dysphagia after stroke: incidence, diagnosis, and pulmonary complications. *Stroke.* 2005;36(12):2756-2763.
- Wirth R, Dziewas R, Beck AM, et al. Oropharyngeal dysphagia in older persons – from pathophysiology to adequate intervention: a review and summary of an international expert meeting. *Clin Interv Aging.* 2016;11:189.
- Martino R, Beaton D, Diamant NE. Using different perspectives to generate items for a new scale measuring medical outcomes of dysphagia (MOD). *J Clin Epidemiol.* 2009;62(5):518-526.
- Smithard DG, O'Neill PA, England RE, et al. The natural history of dysphagia following a stroke. *Dysphagia.* 1997;12(4):188-193.
- Lanspa MJ, Jones BE, Brown SM, Dean NC. Mortality, morbidity, and disease severity of patients with aspiration pneumonia. *J Hosp Med.* 2013;8(2):83-90.
- Falcone M, Blasi F, Menichetti F, Pea F, Violi F. Pneumonia in frail older patients: an up to date. *Intern Emerg Med.* 2012;7(5):415-424.
- van der Maarel-Wierink CD, Vanobbergen JN, Bronkhorst EM, Schols JM, de Baat C. Oral health care and aspiration pneumonia in frail older people: a systematic literature review. *Gerodontology.* 2013;30(1):3-9.
- Dai R, Lam OL, Lo EC, Li LS, Wen Y, McGrath C. A systematic review and meta-analysis of clinical, microbiological, and behavioural

- aspects of oral health among patients with stroke. *J Dent*. 2015;43(2):171-180.
12. Ortega O, Parra C, Zarcero S, Nart J, Sakwinska O, Clavé P. Oral health in older patients with oropharyngeal dysphagia. *Age Ageing*. 2014;43(1):132-137.
 13. Campbell P, Bain B, Furlanetto DLC, Brady MC. Interventions for improving oral health in people after stroke. *Cochrane Database Syst Rev*. 2020;(12):CD003864. doi:10.1002/14651858.CD003864.pub3
 14. Brady M, Furnaletto D, Hunter R, Milne V, Lewis S. Staff led interventions to improve oral hygiene for individuals post stroke. *Cochrane Database Syst Rev*. 2006;4:CD003864.
 15. NHS Health Education England. Mouthcare Matters. Cleaning the mouth of an adult with a neuro-disability. <https://mouthcarematters.hee.nhs.uk/wp-content/uploads/sites/6/2019/09/2-RHN-FS-Cleaning-the-mouth-of-an-adult-with-a-Neuro-Disability.pdf>. Accessed July 5, 2023.
 16. Lim M. Basic oral care for patients with dysphagia. *J Clin Pract Speech Lang Pathol*. 2018;20:142-149.
 17. Langhorne P, Ramachandra S, Collaboration SUT. Organised inpatient (stroke unit) care for stroke: network meta-analysis. *Cochrane Database Syst Rev*. 2020;23(4):CD000197.
 18. Ringelstein EB, Chamorro A, Kaste M, et al. European Stroke Organisation recommendations to establish a stroke unit and stroke center. *Stroke*. 2013;44(3):828-840.
 19. Lumivero Pty Ltd. Nvivo (1.7) [Computer Software]. Burlington; 2020. <https://lumivero.com/>
 20. Dziewas R, Michou E, Trapl-Grundschober M, et al. European Stroke Organisation and European Society for Swallowing Disorders guideline for the diagnosis and treatment of post-stroke dysphagia. *Eur Stroke J*. 2021;6(3):LXXXIX-LXXCV.
 21. Royal College of Physicians. *National Clinical Guideline for Stroke* 2016. <https://www.strokeaudit.org/Guideline/Guideline-Home.aspx>. Accessed July 5, 2023.
 22. Medicines and Healthcare Products Regulatory Agency. *Medical Device Alert. Oral Swabs with a Foam Head*. 2012. <https://www.gov.uk/drug-device-alerts/medical-device-alert-oral-swabs-with-a-foam-head-heads-may-detach-during-use>. Accessed July 5, 2023.
 23. Talbot A, Brady M, Furlanetto DL, Frenkel H, Williams BO. Oral care and stroke units. *Gerodontology*. 2005;22(2):77-83.
 24. Horne M, McCracken G, Walls A, Tyrrell PJ, Smith CJ. Organisation, practice and experiences of mouth hygiene in stroke unit care: a mixed-methods study. *J Clin Nurs*. 2015;24(5-6):728-738.
 25. Hammond L, Conroy T, Murray J. Exploring oral care practices, barriers, and facilitators in an inpatient stroke unit: a thematic analysis. *Disabil Rehabil*. 2022;1-9:796-804.
 26. Kitzinger J. The methodology of focus groups: the importance of interaction between research participants. *Social Health Illn*. 1994;16(1):103-121.
 27. D'cruz H, Gillingham P, Melendez S. Reflexivity, its meanings and relevance for social work: a critical review of the literature. *Br J Soc Work*. 2007;37(1):73-90.
 28. Berger R. Now I see it, now I don't: researcher's position and reflexivity in qualitative research. *Qual Res*. 2015;15(2):219-234.

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