

Oak House Kitchen Training: Trial Implementation Report.

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We would also like to thank James Ball and Preston Walker from Oak House Kitchen for their expertise in training the chefs locally in food modification.

It is also important to acknowledge that the Covid-19 pandemic affected the ability to perform several key aspects of the pilot on a temporary basis. Tasks that were unable to be rescheduled and were able to be carried out within social distancing regulations were prioritised. By continuing to support participants to remotely access modules substantial loss of research data was prevented. However, the impact of staff absences and other priorities overtaking nursing at this time, meant that the timeline for this pilot had to be extended. In addition, there was no longer a static population of staff on the pilot ward which will be reflected in the total number of staff completing the modules.

1 Introduction

- 1.1 The introduction of the International Dysphagia Diet Standardisation Initiative (IDDSI) in 2016 has meant that staff responsible for the delivery of texture modified food in hospital settings are required to provide food with the correct texture for clients with dysphagia. This is due to increased reporting of choking incidents around “soft diets “(Central Alert System, 2017). Staff involved in food management need enhanced knowledge of Dysphagia as well as the practical skills to provide safe, consistent and visually appealing texture modified food (Ilhamto et al, 2014). Historically, this type of education and training has only been offered to those in a health or allied health role. To date, there are limited studies that explore the chefs’ role in preparing texture modified food. Involving chefs in the development of meals alongside the introduction of objective testing methods should reduce texture variation and the associated risk of choking and aspiration.
- 1.2 The study aimed to investigate the impact of the implementation of the Oak House Kitchen training programme on the food management system within a hospital setting. This training is trademarked to Oak House Kitchen (Oak House Kitchen, 2017) and allows users to plan effectively for the production of texture modified foods, manage production of appropriate textured diets (that pass Oak House testing and IDDSI audit), control safety in its delivery to patients within the setting, and manage contingencies if any processes are disrupted e.g., breakdown of equipment or loss of staff.
- 1.3 This report presents the findings of a pilot study that targeted all staff involved in the preparation, distribution or assisted feeding of texture modified food and drinks within an identified area of a hospital setting.

2 Background

- 2.1 Prior to the development of IDDSI (2016) previous modification frameworks were unsuccessful in providing a standardised terminology across the UK that was required for food and liquid descriptors. Evidence of local variations of terminology usage, increased deaths related to errors in food textures given to clients/patients, and the Central Alert Service (CAS) publishing a national patient safety alert, support the recommendation for health boards to implement the IDDSI framework (NPSA, 2011; Boaden, 2011; CAS, 2017; NHS Improvement, 2018). The IDDSI website provides an implementation plan for various professionals involved in texture modification, including food service and catering staff; outlining specific tasks that this group would require to prepare to implement IDDSI and testing methods (IDDSI, 2016). However, within the framework, there is no clear guidance to direct the food management service in the production and provision of safe texture modified meals.
- 2.2 Following the publication of the IDDSI, the “Eating, Drinking and Swallowing Competency Framework” (EDSCF) was published by the Royal College of Speech and Language therapists (RCSLT) in 2020. This framework was funded by Health Education England for a range of health and social care professionals to be assessable in their knowledge and practice in supporting individuals with difficulties in eating and drinking. The framework provides the flexibility to be used in different working environments and across a range of professions; however, the framework does not provide the direct training resources required for such a diverse range of staff and professions.
- 2.3 The prevalence of swallowing difficulties increases with age as well as being concomitant to age-related diseases, e.g., lack of dentition, decreased strength for chewing, dementia, stroke and other neurological conditions. The modification of food texture typically reduces the effort at the oral stage to control the food bolus and reduces the risk of choking. Modifying regular foods by chopping or blending either by mechanical or non-mechanical means is a standard way of managing dysphagia within the nursing/care home setting (Garcia et al., 2018). It is estimated that between 15- 45 % of patients in long-stay provisions are recommended a texture modified diet; the variance in percentage reported in studies may reflect the lack of robust data in this emerging field (Keller et al., 2012; Germain et al., 2006). Symptoms of dysphagia that are not clinically managed can increase the risk of reduced nutrition, pneumonia, poorer rehabilitation, longer hospital stays and increased risk of death (Bray et al., 2017; Palli et al., 2017). Effective texture modification of meals and its appropriate implementation can reduce morbidity and mortality and the associated costs for health care services.

- 2.4 Historically within the local context, Speech and Language Therapists (SALT) have been responsible for assessing and managing patients with dysphagia. However, it is evident that this is not sustainable, as the SALT services operate during office hours on weekdays only with limited staffing resources. Therefore, the SALT service has become more consultative and involved in training other disciplines in dysphagia.
- 2.5 Nationally, there is limited information regarding the food production team involvement in preparing and delivering modified meals. Ilhamto et al., (2014), reported that staff tended not to follow standard recipes for modification, which the authors felt might lead to variance in the level of texture provided. Also, they found that there tended to be an ad-hoc approach to food modification. Ilhamto et al., (2014) cautioned that such improvised approaches to food modification might lead to decreased safety for clients/patients and mealtimes that were stressful for support staff and clients due to choking episodes and the inability of clients to complete a meal. Staff involved in food management need enhanced knowledge in dysphagia as well as the practical skills to provide safe, consistent and visually appealing texture modified food. Involving chefs in the development of meals alongside the introduction of objective testing methods should reduce texture variation.
- 2.6 This study explores how the commencement of the Oak House Kitchen training modules impacts on the safety of texture modified diets within an identified area of the food management system within the local hospital. The aims of the study were: 1) to determine if ward staffs' perceptions and knowledge regarding texture modified food and drinks has increased after undertaking Oak House Kitchen online modules, 2) to compare pre and post training IDDSI audit results for the preparation of texture modified food by chefs, 3) to determine if the implementation of the Oak House Kitchen training helps to improve staff awareness and knowledge of IDDSI at all points of the food delivery system from kitchen to ward?

3 Methodology

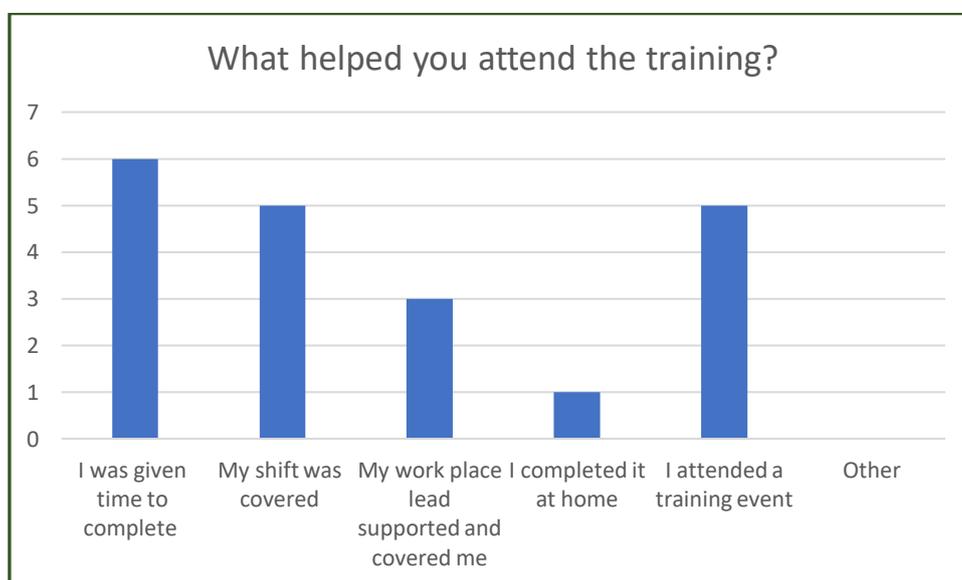
- 3.1 This study will be a single case study examining the phenomena of texture modification management within an identified ward in a hospital setting. The case study design will not allow for generalisation of results but instead, for this novel area of research, will generate a broader and more in-depth understanding of the subject (Thomas, 2016). This case study will use a mixed methods approach, obtaining both quantitative and qualitative data from staff undertaking training and completing questionnaires. The topic of food modification needs to address the quantitative enquiry around knowledge and competence however, authors have also commented on the importance of understanding the phenomenological experience of frontline staff who prepare or deliver texture modified food (Garcia et al.2018). The strength of this mixed methods approach is that it will develop a breadth of understanding of the study of texture modification that using either qualitative or quantitative methods in isolation would not provide (Agerfalk, 2017; Creswell and Creswell, 2018; Shaw et al.,2013; Tashakkorri and Teddlie, 2010; Walliman, 2011). The benefits of gaining a better understanding of the results and gaining novel insights to potentially develop further research.
- 3.2 The project took place within a hospital setting on an Island which is independently governed, with its own local health and social care policies. The study sample will be the main kitchen staff within a hospital and an identified ward area, that have had no previous training packages to address texture modification of food in line with the IDDSI framework. All participants will have an identified level on the EDSCF and include the Head Chef – responsible for procurement and menu management, other kitchen staff involved in the preparation of texture modification, ward staff including food distribution and care staff.
- 3.3 The study participants were asked to complete an anonymous questionnaire once the online modules from Oak House Kitchen (2017), hosted on the local platform ‘Metacompliance’, had been completed (see appendix 1).
- 3.4 The IDDSI identify eight standardised definitions of modified food and drinks ranging from 0 to 7. The measurement of texture modified foods within the pilot study, for the assessment of modified food production, only included food levels 4 to 6 as these were the most frequently produced within the pilot ward. A food descriptor of these levels can be found in appendix 2.

4 Findings - Chefs

4.1 The respondents were divided into two categories; chefs – responsible for food production; and ward-based staff – responsible for distribution and supporting nutritional intake. The second category included ward-based kitchen staff and health care staff. The findings will be discussed as categorised above to reflect the variance in questions posed.

4.2 Six chefs, including the head chef, were trained using the Oak House Kitchen dysphagia modules level 1 and 2 and the specific training resource for chefs. The chefs’ experience of working with dysphagic diets ranged from 1 to 2 years to more than ten years. Two chefs had more than ten years of experience, with the other four ranging between 1 and 10 years. The primary way that chefs reported to have learned about preparing texture modified food was by attending a specific event with just one saying that someone in their workplace had shown or explained to them what was involved in the process.

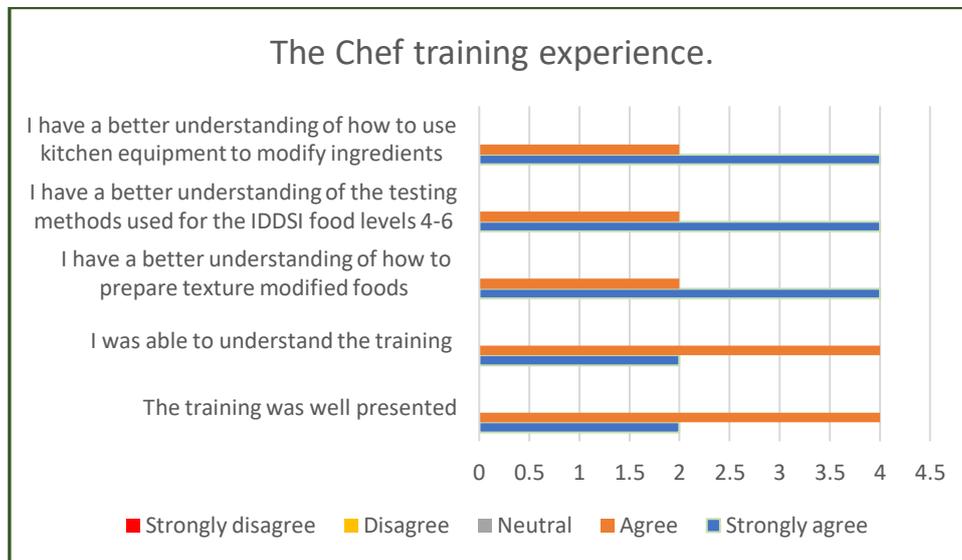
4.3 100 % of the chefs completed the Oak House modules, passing the criteria within each module to be competent in knowledge and skills. The Chefs reported that their workplace had supported them in completing the online modules and practical training. Every Chef was provided with time to complete their training, with their shift being covered, with three chefs noting that their workplace lead covered their shift so that they could complete the training. The Head Chef completed it at home as he reported that there was less distraction.



Graph 1. Distribution of Factors Enabling Training – Chefs Responses.

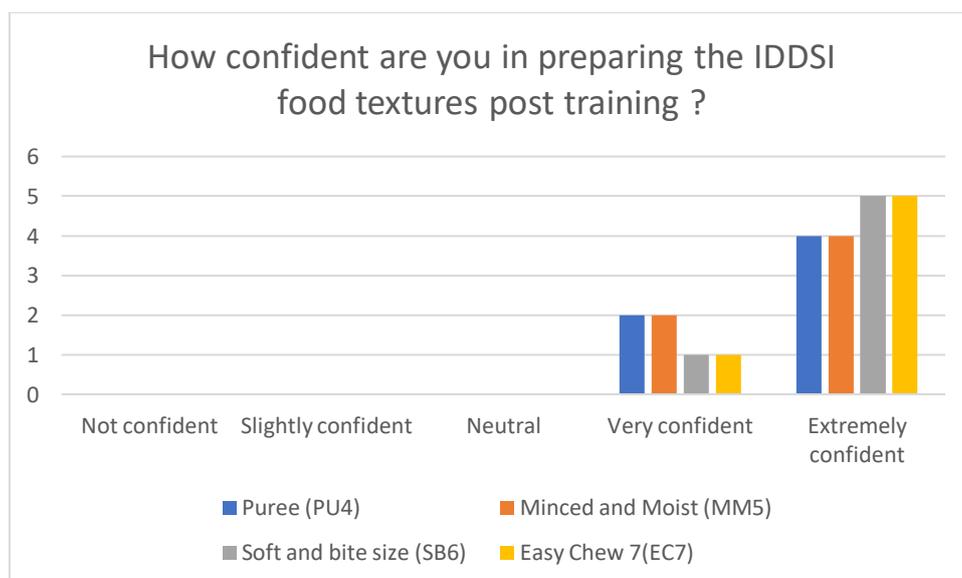
4.4 Post training, all the chefs either agreed or strongly agreed that the training provided by Oak House Kitchen was well presented and that they were able to understand the content of the training. In addition, all the chefs reported that they agreed or strongly agreed that they had a better understanding of how to use their kitchen equipment to texture modify food and test the

prepared food using the IDDSI testing methods. There was no neutral or negative experience of the training.



Graph 2. Perceptions of Chefs Knowledge and Skills Post Training.

4.5 All chefs responded 'very confident' or 'extremely confident' for all food production levels. Within the categories puree (PU4) and minced and moist (MM5) it was noted that 33.3% of respondents were not as confident in this area of food modification compared to 16.67% being less confident with soft and bite size (SB6) and easy chew (EC7). 100% of respondents indicated that they felt able to test all the IDDSI food levels post training.

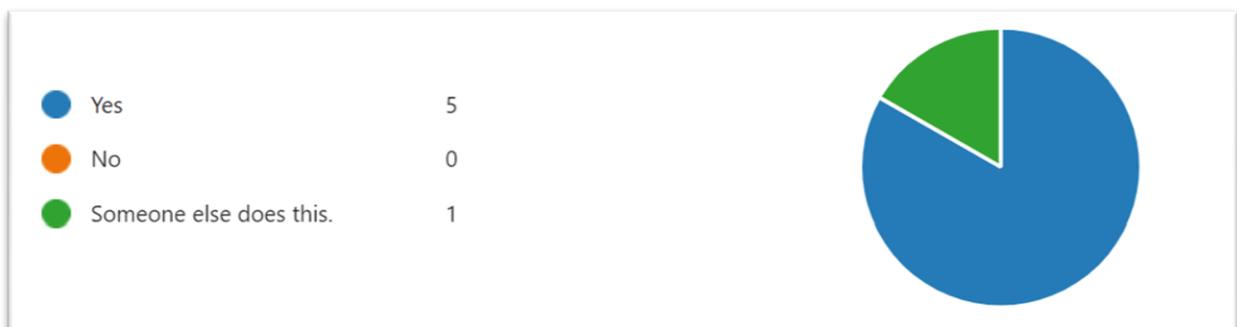


Graph 3. Distribution of Confidence in Preparation of Modified Foods Post Training.

4.6 Additional comments made regarding training and future direction of the IDDSI implementation included 'refresher training every two years', 'there should be a recognised qualification as an IDDSI Chef', 'the training was extremely helpful', 'we need a self-contained IDDSI kitchen'.

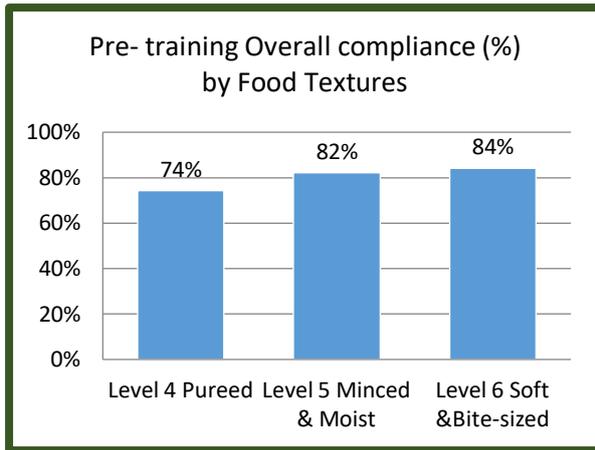
4.7 Questions regarding food modification preparation procedures were incorporated. Most respondents commented that they had enough extra or replacement equipment if any of the tools they used to texture modify food were broken. Only one chef indicated that someone took the responsibility to check the kitchen equipment for preparing texture modified food. The majority stated that they did this as part of their role.

Do you routinely check if the kitchen equipment is present and in working order for preparing texture modified foods?

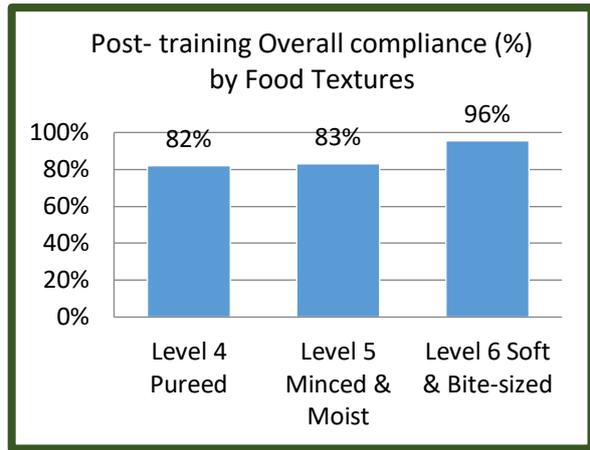


Graph 4. Safety Check of Equipment for Food Modification.

4.8 Texture modified meals were prepared by the chefs and tested pre and post training for compliance using the IDDSI auditable tests. The Head Chef noted that he held the IDDSI audit sheets but didn't disclose how the results were disseminated to the other chefs. Testing took place at point of production and 15 minutes later in the clinical ward area. The compliance pre and post testing remained above 70 %. There were increases in percentage of compliance across all textures with PU4 and SB6 showing the greatest gains in compliance to the auditable IDDSI test. Post training SB6 rose to 96 % from 84 %. No level reached a 100% compliance.



Graph 5. Food Texture Compliance Pre-Training



Graph 6. Food Texture Compliance Post-Training

5 Findings – Ward-Based Staff

5.1 The ward-based respondents completed the Oak House Kitchen modules consisting of 7 modules at level 1 and 7 modules at level 2, each designed to be completed in 15-20 minutes. Level 1 aims to provide sufficient knowledge and understanding of the Eating, Drinking and Swallowing Competency Framework (2020) at a public health and awareness level, and include an introduction to dysphagia, consequences and management of dysphagia. The level 2 modules aim to provide sufficient understanding and knowledge set out in the framework at a Care Plan Implementation level.

5.2 A total of 26 respondents completed the questionnaire, of which 11 completed both the level 1 and 2 dysphagia training which was available through the local health service online training platform. The respondents included all staff groups in the ward that were involved in the process of food safety. The distribution of respondents by group can be seen in table 1. It is interesting to note that of the 26 respondents, 10 were kitchen staff but only 1 stated they had completed the online training. The following is an analysis of the results of 11 respondents to meet the aims of the pilot trial however, findings of interest will be made to provide discussion for future research.

Staff Group	Respondents Completed Online Training	Total Respondents
Registered Nurses	7	11
Unregistered Healthcare	2	5
Student	1	1
Housekeeping Kitchen Staff	1	9
Total	11	26

Table 1. Distribution of Respondents by Staff Group

How does your workplace provide training on texture modified foods?	
Modules or online training	11
Training with the Speech Therapist	2
Learn from others	5

Table 2. Distribution of Training Modes

Were there any challenges when accessing the modules available?	
My log in to meta compliance did not work	1
Not able to access due to IT problems	3
Didn't have allocated time to complete the modules	3

Table 3. Challenges to Accessing Training

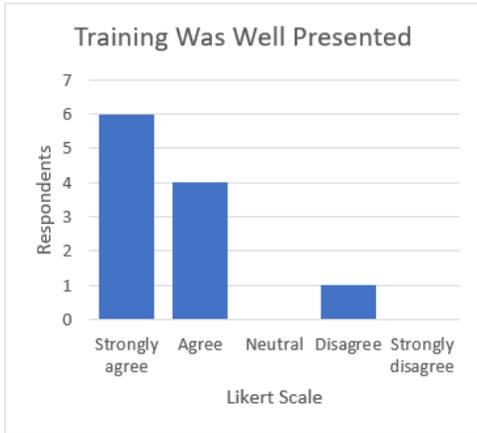
5.3 Seven respondents (63.64%) who completed the online modules also accessed training in dysphagia or food modification in other formats. Workshops, delivered by the Speech and Language Therapist, and informal sessions were undertaken prior to the implementation of the Oak House Kitchen training programme (table 2). Seven of the eleven respondents (63.64%) experienced challenges in completing the modules which were due to IT issues (36.36%) or lack of allocated time to complete them (27.27%).

5.4 Table 4 shows the distribution of the respondents who were enabled to complete their training. This was facilitated through protected time and having their shift covered. The respondents included nurses and ward-based kitchen staff.

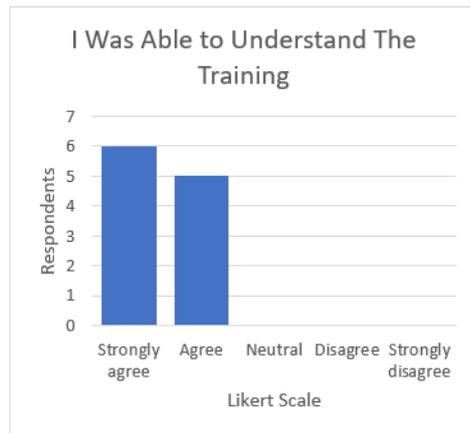
If you have answered 'No' please state what factors facilitated your training:	
I completed them at home;	2
I was given time to complete them;	4
My shift was covered in order for me to complete the training	2
My workplace lead supported and covered me	1
I attended a training event	1

Table 4. Distribution of Facilitation of Training

5.5 54% of respondents strongly agreed the training was well presented, 36.36% agree and one respondent (9%) disagreed (graph 7) with 54% and 45.45% strongly agreeing and agreeing respectively that they were able to understand the training (graph 8).

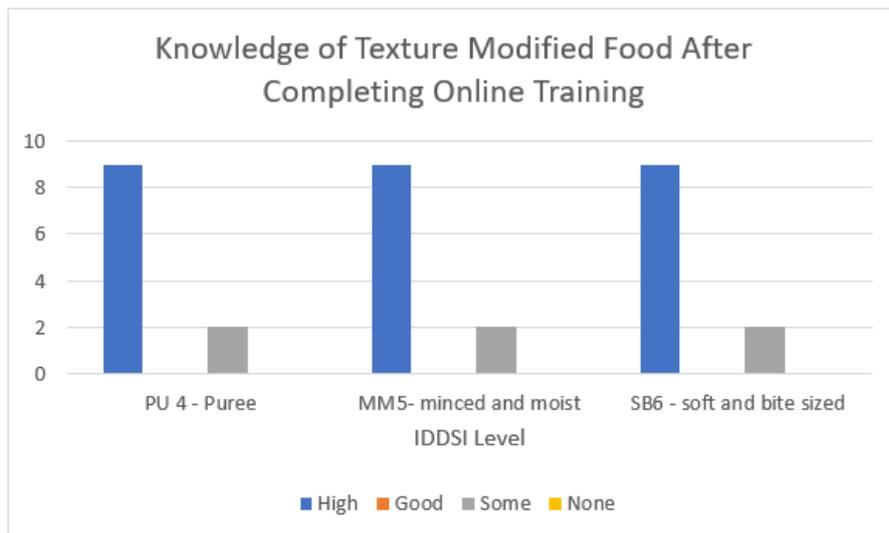


Graph 7. Perception of Training Presentation – Ward-Based



Graph 8. Level of Training Content - Ward-Based

5.6 Ward-based respondents answer to the statement ‘I have a better understanding of texture modified foods and IDDSI levels’ were ‘strongly agree’ 54% and ‘agree’ 45.45%. Self-reported knowledge of the IDDSI levels post-training were 81.8% rating ‘high’ with 18% rating ‘some’ (graph 9). A pre-training self-rating score would have been able to provide comparable data.



Graph 9. Self-Reported Knowledge of Texture Modified Food Post-Training.

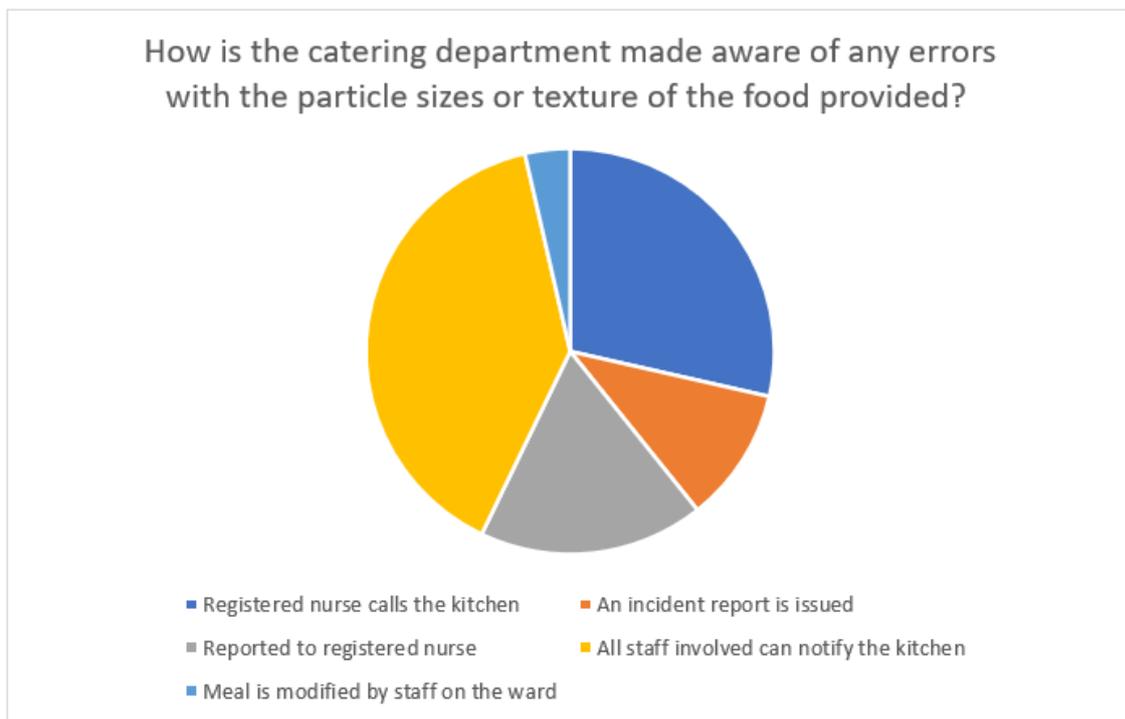
5.7 Tables 5 and 6, and graph 10 demonstrate the respondent’s knowledge regarding the local protocols for ensuring the safe distribution and reporting on texture of modified foods to patients. Within the questionnaire, more than one answer could be selected. The range of responses below suggests that the process isn’t standardised.

Which of the following procedures are on the ward to ensure the patient has the correct IDDSI level?	
Sign above the patient's bed	9
Nursing hand over information	7
Sign in the kitchen for level	10
Nursing/medical notes	7
Menus	1
A list in the ward kitchen and whiteboard for textures	1

Who typically notifies the food production staff (kitchen) about the level or type of texture modification for patients at your setting?	
Registered nurse	8
Healthcare assistant	7
Dietician	2
Speech and language therapist	3
Housekeeping staff	4
Don't know	1

Table 5. Distribution of procedures to ensure safe food delivery.

Table 6. Distribution of texture modification notification to kitchen staff.



Graph 10. Notification of Errors in Modified Food Distribution.

6 Discussion

- 6.1 From the data collected three key themes have emerged: training, perceived understanding and feedback to kitchen and safety.
- 6.2 It is clear from the pilot study data that there are opportunities for further discussion and research regarding the training needs of the organisation across the provision for food modification, delivery and service user safety. The evidence for both key areas identified that the implementation of the Oak House Training programme was beneficial. It is important to note that the chefs received practical training from the Oak House Kitchen chefs and many of the respondents at ward level had also attended face to face sessions previously which had been delivered by the SALT service. A single mode of educational delivery for skills-based knowledge is appropriate however, the practical application of any skill requires a practical educational component or assessment is redundant. A blended learning approach is standard practice in skills-based education across health service provision and should be considered for any competency based framework.
- 6.3 Online training was supported during the pilot study by the managers of the respective areas. The technical challenges faced by the respondents were from a local infrastructure perspective. Online training hosted externally may negate these issues. The quality of the training accessed was fit for purpose and further discussion regarding the content of the modules and individual work groups scope of practice needs further exploration. The modules map to the EDSCF however, some aspects of level 2 competence may not fit with the role of ward-based kitchen staff who distribute food. Further discussion regarding the implementation of IDDSI across the organisation and the competency levels required to meet the EDSCF framework, particularly for registrants, needs timely attention.
- 6.4 The data across all respondent groups identified that there is no consistent approach to communication, distribution and safety mechanisms as all levels. Standard operating procedures are either not in place or not understood by the respondents. IDDSI audits need to be undertaken and shared with the food production team. It would be of interest to review incident forms to identify how concerns regarding texture modified foods are reported. A collaborative approach with all stakeholders would be recommended. The variance at ward level regarding communication, responsibility and signage also needs timely attention.

7 Conclusion

7.1 This report demonstrates that the aims of the pilot study have been met and that ward staffs' perceptions and knowledge regarding texture modified food and drinks has increased after undertaking Oak House Kitchen online modules. The comparison of pre and post training IDDSI audit results for the preparation of texture modified food by chefs showed an increase in compliance and that the implementation of the Oak House Kitchen training helps to improve staff awareness and knowledge of IDDSI at all points of the food delivery system from kitchen to ward. It has also highlighted key areas for the organisation's attention noted in the recommendations.

8 Recommendations

- Review IDDSI implementation guide in line with the EDSCF for the organisation.
- Investigate a blended learning approach for the educational requirements of the scope of practice within teams across the organisation.
- Develop standard operating procedures within all departments for the modification, distribution and communication of texture modified foods.
- Further research, once systems and processes have been established, for the food management system of texture modified diet throughout the organisation.

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Appendix 1

Chef Questionnaire

1. What is your job title?
2. How many years of experience do you have producing texture-modified foods (current and past settings)?
3. What was the main way that you learned about food texture modifications for use at your current setting?
4. Have you completed the chef training for texture modification online by Oak House Kitchen?
5. What helped you attend the training?
6. Rate the following statements about your chef training
 - The training was well presented
 - I was able to understand the training
 - I have a better understanding of how to prepare texture modified foods
 - I have a better understanding of the testing methods used for the IDDSI food levels 4-6
 - I have a better understanding of how to use kitchen equipment to modify ingredients
7. Rate your confidence in preparing the different IDDSI food levels.
8. Do you routinely check if the kitchen equipment is present and in working order for preparing texture modified foods?
9. Do you have a backup plan for preparing texture modified food if kitchen items are missing or broken?
10. If there is a backup plan what is it?
11. Do you know how to audit all the IDDSI levels 4-6?
12. Do you keep the record audits from your food preparation of IDDSI food?
13. Do you ever ask the patient how the food tasted/ looked?
14. Please comment on any of the training you have undertaken or any further comments about implementing texture modification in your work area.

Ward Based Questionnaire

1) What is your job title?

2) Which of the following procedures are on the ward to ensure the patient has the correct IDDSI level?

You can choose more than 1 option

3) Who typically notifies the food production staff (kitchen) about the level or type of texture modification for patients at your setting?

4) How does your workplace provide training on texture modified foods?

5) Have you completed the dysphagia training (level 1 and 2) available on MetaCompliance?

6) Were there any challenges when accessing the modules available?

7) If you have answered 'Yes', to question 6, please specify by choosing any of the following options you consider as applicable:

8) If you have answered 'No', to question 6, please state what factors facilitated your training:

The training was well presented

I was able to understand the training

I have a better understanding of texture modified foods and IDDSI levels

I have a better understanding of why patients need texture modified meals

I have a better understanding of swallowing difficulties

I have a better understanding of how to support patients with swallowing difficulties in my work place

I have a better understanding of how to test the texture modified food to ensure it is correct for the patients – puree, minced and mashed, soft and bite size.

9) How is the catering department made aware of any errors with the particle sizes or texture of the food provided? more than one option is available to select

10) Do you ever get patient feedback about the food?

11) If yes, how do you report this back to catering?

12) Do you feel able to provide feedback to the catering staff about the IDDSI texture modified food?

13) If no to the previous answer why not?

14) Please comment on any aspect of the training you have undertaken or any further comments about implementing texture modified food in your work area

Appendix 2

IDDSI Descriptors Levels 4 to 6

Food descriptor	Term	Colour on chart	Description
Level 4 – Puree	PU4		<ul style="list-style-type: none"> • Usually eaten with a spoon (a fork is possible) • Cannot be drunk from a cup because it does not flow easily • Cannot be sucked through a straw • Does not require chewing • Can be piped, layered or moulded because it retains its shape, but should <i>not</i> require chewing if presented in this form • Shows some very slow movement under gravity but cannot be poured • Falls off spoon in a single spoonful when tilted and continues to hold shape on a plate • No lumps • Not sticky • Liquid must not separate from solid
Level 5 – Minced and Moist	MM5		<ul style="list-style-type: none"> • Can be eaten with a fork or spoon • Could be eaten with chopsticks in some cases, if the individual has very good hand control • Can be scooped and shaped (e.g. into a ball shape) on a plate • Soft and moist with no separate thin liquid • Small lumps visible within the food <ul style="list-style-type: none"> • Adult, equal to or less than 4mm width and no longer than 15mm in length • Lumps are easy to squash with tongue
Level 6- Soft and bite sized	SB6		<ul style="list-style-type: none"> • Can be eaten with a fork, spoon or chopsticks • Can be mashed/broken down with pressure from fork, spoon or chopsticks • A knife is not required to cut this food, but may be used to help load a fork or spoon • Soft, tender and moist throughout but with no separate thin liquid • Chewing is required before swallowing • ‘Bite-sized’ pieces as appropriate for size and oral processing skills <ul style="list-style-type: none"> • Adults, 15 mm = 1.5 cm pieces (no larger than)

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