



Cultivating Independence: Developing a Guidebook to Facilitate Healthy Eating Competencies in Adults with Mental Disorders

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Abstract

Facilitation of independent living in the community is high on the Maltese national agenda for individuals with mental health disorders (MHD). Thus, this research project aimed to create a tailored educational tool to help promote independence and self-care among individuals with MHD. The study focused on: 1) Comparing food preferences and consumption of adults with MHD to national dietary guidelines; 2) Evaluating the skills of adults with MHD for procuring healthy meals independently; 3) Producing the educational resource. Social workers who regularly work with adults with MHD were interviewed, exploring their clients' awareness, practices and abilities related to independent healthy living. Data obtained served to inform the development of a guidebook/cookbook to meet identified common needs. Key findings revealed that adults inconsistently adhered to dietary guidelines and preferred unhealthy foods. Mental health symptoms and institutionalisation hindered their food sourcing, food storage and cooking abilities. Subsequently, the book produced followed the Transtheoretical model, Self-efficacy theory and andragogy principles. It was highly pictorial, motivational and designed to aid learning. Study limitations included a small sample of social workers, lack of time for trialing the book and having only a Maltese version. Further research is warranted to assess effectiveness of the tool.

KEYWORDS: EDUCATIONAL GUIDEBOOK/COOKBOOK, INDEPENDENT LIVING SKILLS, HEALTHY EATING COMPETENCE, ADULTS WITH MENTAL HEALTH DISORDERS, MALTA

Introduction: Understanding Mental Health

Mental disorders encompass a range of health problems, such as depression, anxiety, bipolar disorders, schizophrenia and mania. A number of recent reports have noted that there has been a rise in prevalence of mental disorders, with COVID-19 making the situation worse (Kupcova et al, 2023); This trend highlights the need to understand better how individuals with such disorders are challenged or facilitated to achieve an independent life in society.

Mental disorders are ailments that significantly impair the ability of individuals to function, think, and behave appropriately in social situations such as with families, friends, or at work (Njoku, 2022). Thus, mental illnesses greatly affect daily life and can make it hard to get along with others. This is further reinforced by another study, which states that mental disorders are a leading cause of disability and drive overall health disease burdens due to direct and indirect psychological, physical, social, and emotional effects (World Health Organization, 2017).

Literature Review

Challenges Faced by Individuals with Mental Disorders

McIntosh et al. (2011) noted functional status limitations in particular skill areas for people with mental health problems: for example, people with depression had trouble staying on task, while executive functioning made people with bipolar disorder have manic episodes. According to a study published in the *Frontiers in Psychology*, patients with major depression, bipolar disorder and schizophrenia found difficulty in recalling episodic memory, sequencing, and processing speed, all of which impair functioning skills (De Assis Da Silva et al., 2021). Sane (2018) concluded that socially acceptable behaviour or reactions can also be difficult for individuals with mental health disorders. Table 1 highlights how some skills needed for independent living are lost or hard to learn. This may prevent the individual from practising independent living skills (ILS), resulting in a loss of skills or an inability to acquire them (Abaoglu et al., 2017).

Table 1 Impact of Mental Disorders on Independent Living Skills

Disorders	Impact on living skills
Depression	Poor appetite and motivation to cook, eat and drink; self-isolating and apathy (Simmons et al., 2016).
Memory Impairments (Common in bipolar disorders, early dementia, and Alzheimer's)	Forgetting to eat, forgetting relatives or acquaintances, and having issues handling monthly bills (National Institute on Health, 2020).
Overactivity in Mania	Eating on the go and having inadequate decision-making skills due to delirium (Purse & Gans, 2022).
Psychotic Symptoms (Common in schizophrenia, depression, and bipolar disorders)	Hallucinations, confusion, and negative symptoms, like social withdrawals and lack of pleasure (National Health Service, 2021).
Eating Disorders	Avoid cooking to limit food consumption; insufficient energy for everyday tasks; and repetitive inactive behaviour that makes the individual lose functioning skills (S. Caruana, personal communication, November 17, 2022).

In order to thrive, individuals with mental health disorders must also have their basic physiological and safety needs met. As a result, essential factors such as proper nutrition, a sense of purpose, and a supportive community environment are deemed essential components of an empowerment process (Jacob, 2015). This underscores the pivotal role played by community-based resources, which often provide tailored treatment, supportive therapy, and facilities designed to cater to the specific needs of individuals facing mental health issues yet who have the potential for residing in the community (Jacob, 2015).

Food and Mental Health

Correll et al. (2017) have reported a link between physical and mental health by evidencing a premature mortality rate among individuals diagnosed with schizophrenia, depression, or bipolar disorder due to cardiovascular disease (CVD) generally caused by poor diet, medications and obesity. . An increase in weight is a well-established side effect during the ongoing treatment of mental syndromes, with damage to blood vessels, blood clots, and blockages leading to heart attacks (De Hert et al., 2018). People with mental illnesses often rely on comfort foods to make them feel safe, thus, turning to binge eating (Lautieri et al., 2022). In fact, eating carbohydrates or sugary foods helps our bodies produce serotonin, which makes us feel happier or less irritable (Troisi & Wright, 2017). In general, poor nutrition can affect mental health by developing or worsening mental health symptoms (Imam, 2021). Wallace and Milev (2017) support consuming food sources high in probiotics, such as yoghurt, pickles, and olives to help for a healthy brain and for treating anxiety and depressive disorders.

A Mediterranean-style dietary pattern reduces the risk for CVD among individuals with mental disorders as it consists of more plant-based foods, such as fruits and vegetables, whole grains, and olive oil, compared with other diets (Ventriglio et al., 2020). The preferred animal protein is fish, with consumption of small amounts of meat, eggs, and poultry (School of Public Health, 2018). Plant-based foods rich in vitamin B12, magnesium, and omega-3 fatty acids reduce inflammation in the body, reducing the secretion of cortisol and stress levels (Earth911, 2022). The Maltese National Dietary Guidelines and the Healthy Plate graphic are based on the Mediterranean diet principles (Health Promotion & Disease Prevention Directorate, 2015). The plate contains a variety of nutritious foods from six different food groups and the recommended portion size of each group.

Promoting Understanding and Competence

The Mental Health Foundation and the Department of Health and Public Health of England have outlined core principles for providing quality mental health treatment (Skillsforcare, 2014). One key principle emphasises fostering dignity and respect for individuals by valuing their knowledge and experiences. Moreover, understanding cultural variations is crucial for delivering inclusive and adaptable support regardless of race, religion, socio-economic status, or disability (IHSS Training Academy, 2013). This may include support that respects local food preferences (Contento, 2011).

Andragogy

In Malta social workers are professionals who work with adults with mental illness helping them to hone and improve independent living skills. An understanding of andragogy, the learning approach to use with adults, could be useful in their endeavours. Andragogy has several basic features such as being self-directed, experience-based, problem-centred and relevant. Often learners already have some prior knowledge of the subject and take responsibility for their own learning. Learning is also designed to be applicable to the learner's real-life experiences. Even though some individuals with persistent mental diseases may lack motivation for self-directed learning, interventions need to use strategies to inspire them to utilise any learning material as applicable to their life (Bouchrika, 2022). Indeed, another andragogical principle is taking a problem-centred rather than content-centred approach (Culatta, 2018). This implies that the learners are provided with material they are not yet comfortable with, but which will be beneficial (Culatta, 2018). Instructions catering for a range of backgrounds are given along with basic guidance for learners to discover for themselves without depending on others.

Motivation

Due to mental health ailments, intrinsic motivation may be inhibited in certain individuals (Contento, 2011). Contento (2011) identified a list of potential mediators to motivation that should be considered in any strategy to increase motivation for any given behaviour. Concern over the issue or problem, perceived dangers, anticipated advantages and outcomes, values, self-efficacy, and social influence are a few of such mediators.

Self-efficacy

Self-efficacy is the most powerful factor in action and behaviour change, comprising the skills and confidence to apply abilities successfully and consistently (Lopez-Garrido, 2020) even in the face of obstructions or limitations Contento (2011). People with mental disorders can have a range of skills, and be or not be homemakers, thus creating a distinction in confidence and self-efficacy to do things (Contento, 2011). According to Contento 2011, to build mastery and self-efficacy it is necessary to provide individuals with guided practice to help them grasp behavioural skills by giving clear instructions and direct experiences. Moreover, giving continuous feedback on achievements and difficulties can help learners overcome uncertainties and grow.

Contento (2011) further asserts that the transtheoretical model (TTM) is one health behaviour theory that relies heavily on self-efficacy. This model is used to address motivational problems in behaviour change based on one's stage along a continuum from precontemplation, to contemplation, preparation, action and maintenance of a behaviour (Prochaska & Velicer, 1997). Applying the TTM to adult training sessions helps trainers tailor their approach to learners' behaviour change stages. Learning materials can address specific needs and challenges. For example, materials for precontemplation learners may focus on raising awareness and motivation, while those for preparation or action stages may emphasise skills and strategies.

The Research Study

Study Aims and Research Questions

In this study, the researcher aimed to understand the capabilities and needs of individuals with mental health disorders, especially regarding nutrition and food-related skills, with the aim of fostering independence and self-care. The ultimate goal was to provide social workers with a resource to educate the adult service users they were supporting about the importance of clean, nutritious food and responsible shopping and cooking practices, promoting healthy independent living. The research centred on two exploratory aspects: Uncovering the food preferences of people with mental disorders as compared to national dietary guidelines; assessing this population's existing skills and areas requiring improvement to enable independent meal preparation. The results then led to the development of an original guidebook/cookbook tailored to address the uncovered needs and challenges for people with mental health disorders. The two research questions were:

Which of the foods that are recommended for adults based on the national dietary guidelines do adults with mental disorders prefer to eat and which of these recommended foods do they seldom eat?

What abilities/skills do adults with mental illness already have and which abilities/skills are perhaps lacking in order for the adults to be able to buy, store and cook healthy snacks/meals independently?

Methodology

The study employed qualitative research methods outlined by Berg (2007) to apply a phenomenological framework, drawing on the theories of Husserl, Heidegger, Merleau-Ponty, and Schutz, to investigate social workers' experiences with mentally ill service users across different contexts. Ethnomethodology, inspired by Garfinkel (1967) was also applied to understand how individuals negotiate meanings in their interactions and to delve into social workers' philosophical ideas and knowledge about mental illness, independent living skills, and healthy behaviours. This approach aimed to identify gaps and enhance support for individuals with mental illness in their daily lives.

The study also embraced a critical approach (Creswell & Plano Clark, 2017) and constructivist paradigm (Creswell & Creswell, 2018). The researcher engaged in critical self-reflection, examining any personal biases as their own positionality and social location that could have influenced the approach to the project. The researcher also kept in mind how knowledge is constructed and how learning occurs in a social context. Additionally, constructivism helps review multiple perspectives, thus helping to promote critical thinking and challenge assumptions, leading to more innovative and effective results.

Research Design and Sample Recruitment

The research design was based on 2 phases: The baseline phase which was exploratory and the second phase which involved the Guidebook/Cookbook development. (See Figure 1).

Baseline study

For the baseline the researcher employed purposive sampling and targeted organisations with a greater focus on mental illness, including Richmond Foundation and Mount Carmel

Hospital. The idea was to conduct interviews with warranted social workers with over three years of working experience with 30- to 60-year-old mentally ill service users. Approval was obtained from the University of Malta Faculty Research Ethics Committee (FREC) and University Research Ethics Committee (UREC) before data collection started. Intermediary organisations, relevant government authorities and NGOs who engaged social workers to work with people with mental disorders, were contacted, and potential interviewees recruited only after receiving approval. Each interviewee received an information letter and consent form granting them the right to refuse or withdraw from participation without providing a reason, with all collected data promptly deleted.

Through the interviews the researcher sought to uncover the social workers' insights on adult service users' eating habits, food preparation skills, competencies and challenges, as well as their food-related attitudes, knowledge and skills. It also sought the social workers' views on the potential for earning of the people with mental disorders, foods these service users would be willing to start producing, and the way to present the textual/graphical material in the proposed guidebook/cookbook in a manner that promotes effective learning and understanding among the target adults. (See Table 2).

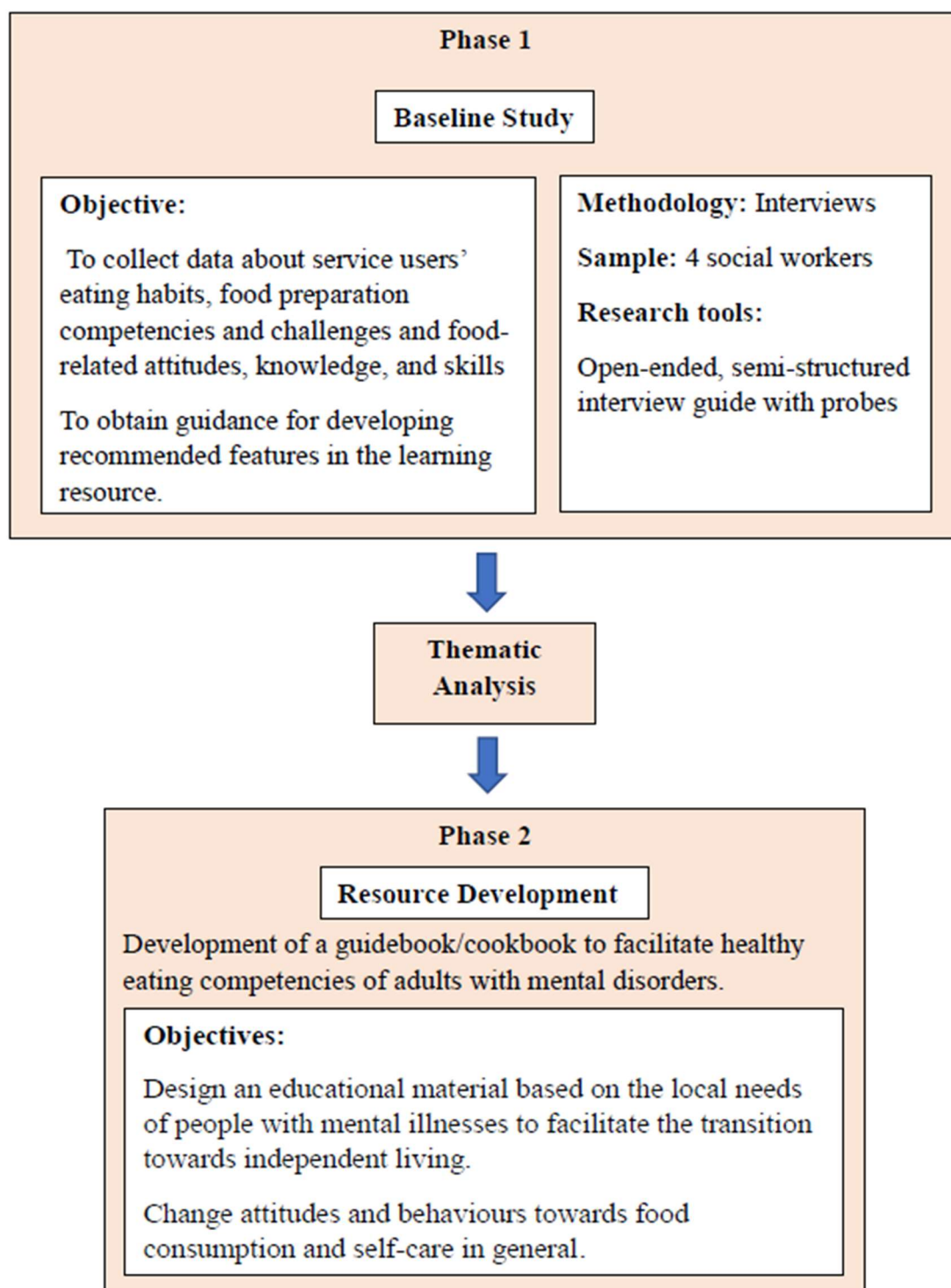


Figure 1 Two-phase research design

Table 2 Sections and objectives in the interview guide

Main Objective		
Identify the existing capacities of mentally ill individuals, investigate their behaviours in connection to daily life, and determining the conditions they must accomplish to design a guidebook/cookbook based on users' needs that will assist them in achieving independence.		
Section	Section Name	Specific Objectives
A	Service users' profile	<ul style="list-style-type: none"> Learn more about the service users' general information, their type of disorders and if these conditions affect their manipulative skills, safety, or sequence of actions.
B	Service users' eating patterns, food preferences and the factors affecting behaviours	<ul style="list-style-type: none"> Identify the service users' eating routines, snacks, and meal-eating choices. Assess whether service users follow a specific diet and if they successfully stick to the eating plan. Investigate the service user's initiative levels for comes to snack and cooking making, emphasising their skills. Investigate whether service users' have an accessible environment and enough support to instigate good shopping, storing, budgeting, and cooking skills.
C	Service users plans, practical activities, strengths, and limitations	<ul style="list-style-type: none"> Assess whether service users can plan meals, assemble them with items in their pantry, and read food labels. Examine the preferred recipes of those with mental illness and their probability of attempt.
D	Development of the guidebook/cookbook	<ul style="list-style-type: none"> Gather insights onto the type and level of information to include in the guidebook, with reference to the use of images and language. Generate advice from other professionals about additional book features or material that the researcher is unaware of.

Face validity of the interview questions was obtained through collaboration with a professional expert in the area. The insights gained from this exercised resulted in the improvement of the interview guide by reducing the number of questions to ensure that the interview duration is not long. Interviews were eventually scheduled during the social workers' work hours and conducted either in person or remotely. Interviews lasted approximately one to one and a half hours, with each participant interviewed once.

The small sample of four social workers, missing perspectives from professionals like occupational therapists and social support workers could be considered limitations which hindered data richness and a holistic view. Additionally, the fact that interviewees were identifiable by the researcher may have prevented them from making some critical comments or expressing the reality of the situation.

Analysis of Data

Data analysis involves summarising and organising data to understand its meaning and significance (Trent & Cho, 2014). Microsoft Word was used for data transcription, and 'Otranscribe' helped expedite audio transcription by providing adjustable playback speed.

After transcribing interviews, the researcher identified participants who wished to review parts of the transcripts based on signed consent forms. Familiarity with the transcripts and interview notes was gained through multiple readings.

The researcher manually coded data, prioritising information relevant to research questions (Saldaña, 2013). Tables were compiled for each participant, followed by pattern recognition and grouping of codes into themes. Memo writing linked codes and interpretations, documenting impressions, ideas, and emerging insights (Hesse-Biber & Leavy, 2011). Interpretations were derived from coded data by identifying patterns, and connections among themes. The results of the data analysis will be presented in relation to choices made during the development of the original guidebook/cookbook.

Phase 2: Resource Development

Justifications for Selecting a Guidebook/Cookbook

In line with the literature on support for people with mental health disorders, cooking interventions with other members and assistance through an individual care plan serve as a therapeutic session in a rehabilitative environment (Farmer et al., 2017). Thus, creating a resource in the form of a physical guidebook/cookbook was found ideal as it enhances sensory engagement and offers flexibility in learning pace, accommodating those who need breaks or revisit specific sections. With social workers needing access, physical copies ensure convenience, constant availability, easy notations, and tactile reading.

Guidebooks/cookbooks can cater to various learning styles, incorporating visual aids for step-by-step guidance and larger fonts for visually impaired users. They also benefit individuals who prefer text-based learning and can offer interactivity through personal questions for a hands-on experience, assisting kinaesthetic learners (McDonough et al., 2012).

In contrast to some distracting websites or apps, purpose-written guidebooks remain focused and free from distractions, making them suitable for an audience dealing with mental health issues, with their calming, straightforward layouts and clear language (Ueno et al., 2023).

Applying Principles of Andragogy

The educational guidebook/cookbook focused on problem-centred content in relation to identified service users as learner's' needs as perceived by social workers. It was developed using andragogy principles for adult learners by providing practical solutions that individuals can apply to their daily lives, whilst respecting any life experiences and through harnessing any existing knowledge and skills. In particular, the researcher tried to incorporate practical information for the social workers to help transmit to and train their service users to utilise in real-life or simulated learning situations.

Use of the Baseline Investigation

The data gathered from the interviews with the social workers was used to inform the guidebook/cookbook development. Table 3 better explains the main findings from the baseline study and how they were utilised. In this section, the pseudonyms P1, P2, P3 and P4 are used in place of the interviewees' actual identities.

Table 3 An overview of the baseline study results with related possible information for the guidebook/cookbook

Baseline Study Results	Remarkable Quotations from Social Workers	Relevant Information for the Guidebook
All social workers mentioned foreign service users.	“Maltese, African regions, European, English” (P1, P2, P4)	Include some ingredients and dishes from different cultures to foster a sense of belonging (Contento,2011).
All participants mentioned that service users’ suffer from similar health concerns such as diabetes, cholesterol, blood pressure and obesity.	<p>“Service users usually experience common physical health issues, including obesity, diabetes, CVD, high cholesterol, and high blood pressure” (P1, P2, P3, P4)</p> <p>“Sometimes service users require alternative meals.” (P3)</p>	Including recipes low in fat, sugar, and salt, as well as recipes with plant-based fats, more natural non-plain sugar sweeteners and more herbs and spices for flavouring.
All respondents remarked on nonlinear eating routines.	“A person with mania will probably eat more snacks because he/she will not have the patience to sit for food to cook. A person with OCD will most probably be more careful about what type of snacks to prepare and consume to avoid dirtying the kitchen. A person with certain apathy will take a yoghurt, or fruit or prepare a basic sandwich or cereal and not prepare a full meal.” (P2)	Indicate the recommended serving sizes as per the National Dietary Guidelines for adults with lower energy needs.
Storing and freezing leftover foods is absent in residential homes. Residents find it difficult to store specific food items.	<p>“Residents rarely muster the fortitude to prepare small servings of food. We aim to avoid overwhelming service users by providing information and planning in manageable quantities.” (P3)</p> <p>“Service users sometimes ask that to do with extra portions, the shelf life of products when freezing or putting them in the fridge, and how to preserve leftover foods.” (P1)</p>	Sharing some suggestions with recipes on how to store leftover prepared foods and reducing the serving sizes of recipes to decrease food waste. Includes the correct labelling when storing foods, the shelf life of prepared recipe and suggestions for utilising leftover ingredients.

Table 3 An overview of the baseline study results with related possible information for the guidebook/cookbook (cont)

Baseline Results	Remarkable Quotations from Social Workers	Relevant Information for the Guidebook
Service users love eating foods high in carbohydrates, traditional and fast-food items and replace drinking water with coffee or coke.	“Residents opt for plates filled with carbohydrates such as pasta dishes, bread, homemade pizza, wraps or burgers. Traditional recipes such as ‘Balbuljata’ were also suggested as favourites for the residents.” (P3)	Modifying recipes to fit the service users eating demands such as homemade burgers, bread pizza, cannoli, balbuljata, zucchini noodles and brownies. Promote flavoured drinking water or homemade lemonades. Thus, adults will recognise the significance of a healthy lifestyle over a temporary diet plan.
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Most service users lack shopping skills such as buying unnecessary items.	“When left to their own devices, most service users deviate from the shopping list and buy fast food items such as cheese pastries (pastizzi).” (P1)	Cultivate the essence of a grocery shopping list and tips on how to stick with it such as not going shopping on an empty stomach or when in a bad mood. Wise shopping practices suggestions such as looking at expiry dates, comparing prices and benefiting from store discounts are all relevant in such a case.
All 4 social workers mentioned that service users determine assistance on the proper attire for safety and hygiene, weighting, measuring, and chopping techniques with appropriate sizes.	“Find it difficult to do daily tasks” (P4). “When the Occupational therapist did the assessment of how to hold and cut a knife, he did not even know how to do it”. (P4)	Provide easy weighting and measuring techniques such as weighting at eye level or keeping the measurements of the dry ingredients a level to the measuring spoon. Basic hygienic procedures prior to beginning cooking such as washing hands according to the WHO method and fundamental step-by-step chopping skills with exact numerical measurements will be helpful.

Table 3 An overview of the baseline study results with related possible information for the guidebook/cookbook (cont)

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One Social worker mentioned that service users lack portion size control.	“Service users lack portion size control, which can lead to overeating and potential health issues” (P1)	All constituent quantities must be inputted in accordance with the dietary recommendations for adult Maltese portions.
Social workers recommended the need for a section on physical activity for complete self-care.	“I feel that during the interviews you focused more on nutrition, and all its preparation skills, but no emphasis is put on physical activity. Physical activity is also an important aspect in self-care” (P2)	Basic and brief physical activities that involve the movement of various body parts, such as the arms and legs.

To create an effective guidebook, social workers were also asked about the Service user’s willingness to learn. Social workers said that this depends on the person and whether they accept their advice and try to be resilient. However, unfortunately, low income, fewer working hours to support mental health, or reliance on social benefits were identified by social workers as financial barriers to healthier eating, thus emphasising the need for inexpensive ingredients. In addition, the loss or lack of functioning skills because of a period of institutionalisation, or the inability to perform activities of daily living for reasons such as never having resided in the community due to supported housing or hospitalisation were also highlighted as needing to be addressed. Some service users’ frequent desire for fast or processed foods was discussed, so healthier alternatives to these foods would need to be considered to address this vulnerability. A social worker remarked that residents need to understand that a single food item can be presented in multiple forms, such as potatoes can be served whole, blended, pureed, sliced, or mashed; therefore, encouraging food innovation and versatility in simple ways. All these factors would need to be kept in mind for an ‘educational’ resource development.

It was also recommended to have the same healthy eating recipe book for both social workers and service consumers. Inclusivity would also be essential with respect to language. Social workers suggested that the guidebook/cookbook would be produced in both English and Maltese, so locals and foreigners would be able to follow it easily.

Based on the baseline study, the researcher also sought to identify the service users' stage of change according to the TTM. However, when analysing the social workers' descriptions, it emerged that service users were typically at different stages, so the proposed guidebook would ideally be tailored to address different stages of change for a more broadly usable product.

Planning the Educational Guidebook/Cookbook

Selecting the Content

Interview results emphasised the need for meal planning, recipe adaptations, storage options, a detailed shopping list, and basic cooking guidance in the resource to promote independence and psychological wellbeing in service users with chronic mental illness.

As a result, the guidebook features a one-week meal plan with affordable dishes for all meals. Recipes are designed for quick and easy preparation to avoid overwhelming users. Motivational quotations are included to support and uplift service users with diverse mental health conditions.

All recipes provide seasonality tips and advice on managing leftovers and repurposing staple ingredients such as bread into breadcrumbs. Recipes follow Maltese adult dietary guidelines, promoting balanced nutrition through recommended daily servings from various food groups. The Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) (Harvard T.H. Chan, 2023) diet was also kept in mind in the choice of dishes to create a generalisable product to accommodate most service users, even those with Alzheimer's disease, through good use of wholemeal grains, green leafy vegetables, beans, poultry, nuts, and olive oil. The recipes were thoroughly tested and revised to ensure optimal quantities, texture and flavour.

With respect to actual shopping for food, the benefit of reading food labels for making healthy choices low in fats, sugars and salt was highlighted. The parts of the food label which provided pertinent information were indicated and their use explained.

The guidebook also includes a user-friendly shopping list template to aid in remembering items and prevent impulse buying. Recipes are adapted to have some ingredient overlap, promoting cost efficiency. Additional money-saving tips are provided, like searching for lower-priced items, utilising discounts smartly, adhering to the shopping list and avoiding emotional shopping.

Effective meal preparation requires proper planning and skill; thus, assumption of prior knowledge was avoided and step-by-step instructions, such as holding a knife and ways to create basic cuts in wedges, cubes, minced, sliced, mashed, were provided. Clear descriptions were also presented on how to accurately weigh and measure ingredients using the appropriate tools for dry and wet components. The book also emphasises safety and hygiene before and during cooking by adhering to the WHO hand-washing guidelines, tying back hair, wearing an apron and hair net, properly cleaning cooking surfaces and utensils, correctly storing food in the refrigerator, and safely handling sharp tools.

The book was eventually given the title 'Self-Care Cookbook' to emphasise the personal, motivational and practical approach adopted.

Choosing the Structure

The guidebook/cookbook structure was chosen after deciding on the content, to make the resource more organised and adhere to a logical and clear presentation. Table 4 illustrates the book layout highlighting justifications based on the analysed interviews and Prochaska and Velicer's (1997) TTM.

Table 4 The different guidebook/cookbook sections and justification for their placement



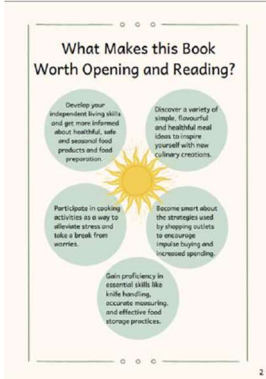

Section Structure	Step by step imagery from guidebook sections	Justification																																																
Front page		<p>It serves as the first point of contact between the reader and the guidebook/cookbook. It is the first impression that the reader gets and can influence their decision to read the guidebook or not. It sets expectations to the reader</p>																																																
Quotation		<p>To provide inspiration, context, or additional information related to the topic of the guidebook. They can help to reinforce key messages or themes and provide a fresh perspective on the topic.</p>																																																
What makes the guidebook/ cookbook worth engaging?		<p>To cater to service users in the precontemplation stage of the Transtheoretical Model (TTM), the educational guidebook included a section on the benefits of participating in the cookbook. Thus, this section needed to be placed at the beginning of the guidebook/cookbook, as Precontemplation is the stage before a person makes a change, to inform the reader and encourage the individual to think about making changes.</p>																																																
Weekly meal plan	 <table border="1"> <thead> <tr> <th></th> <th>Breakfast</th> <th>Lunch</th> <th>Snack</th> <th>Dinner</th> <th>Dessert</th> </tr> </thead> <tbody> <tr> <td>Monday</td> <td>Oat Porridge</td> <td>Bread Pudding</td> <td>Yoghurt with fruit</td> <td>Roasted Pumpkin Soup</td> <td>Miniature Biscuits</td> </tr> <tr> <td>Tuesday</td> <td>Cereal Bars</td> <td>Fish Tacos</td> <td>Baked Kebab Chips</td> <td>Almonds (Fish week)</td> <td>Fruit Salad</td> </tr> <tr> <td>Wednesday</td> <td>Scrambled Eggs</td> <td>Custard Pudding</td> <td>Hummus and Vegetable Dip</td> <td>Pork Meatballs with Zucchini Fries</td> <td>Avocado Chocolate Mousse</td> </tr> <tr> <td>Thursday</td> <td>Apple Smoothie</td> <td>Pasta Focaccia</td> <td>Tuna Tarts</td> <td>Stuffed Pepper Soup with Olive Corn Cakes</td> <td>Green Yoghurt with Honey</td> </tr> <tr> <td>Friday</td> <td>Egg Muffins</td> <td>Vegetable Focaccia</td> <td>Spiced Nuts</td> <td>Chicken Biscuits with Roasted Beets</td> <td>Biscuits</td> </tr> <tr> <td>Saturday</td> <td>Chia Pudding</td> <td>Honeycomb Burgers</td> <td>Apple Chips</td> <td>Pineapple Chicken Zucchini</td> <td>Brownies</td> </tr> <tr> <td>Sunday</td> <td>Oatmeal with Raisins</td> <td>Chicken Curry with Rice</td> <td>Popsicles</td> <td>Baked Fish</td> <td>Honeycomb Ice Cream</td> </tr> </tbody> </table>		Breakfast	Lunch	Snack	Dinner	Dessert	Monday	Oat Porridge	Bread Pudding	Yoghurt with fruit	Roasted Pumpkin Soup	Miniature Biscuits	Tuesday	Cereal Bars	Fish Tacos	Baked Kebab Chips	Almonds (Fish week)	Fruit Salad	Wednesday	Scrambled Eggs	Custard Pudding	Hummus and Vegetable Dip	Pork Meatballs with Zucchini Fries	Avocado Chocolate Mousse	Thursday	Apple Smoothie	Pasta Focaccia	Tuna Tarts	Stuffed Pepper Soup with Olive Corn Cakes	Green Yoghurt with Honey	Friday	Egg Muffins	Vegetable Focaccia	Spiced Nuts	Chicken Biscuits with Roasted Beets	Biscuits	Saturday	Chia Pudding	Honeycomb Burgers	Apple Chips	Pineapple Chicken Zucchini	Brownies	Sunday	Oatmeal with Raisins	Chicken Curry with Rice	Popsicles	Baked Fish	Honeycomb Ice Cream	<p>To appeal to service users in the 'Contemplation' stage of TTM Model, the weekly meal plan comes after the understanding on what makes the guidebook worth engaging. In the second stage, people may begin to make change, thus, order is required to keep service users focused. A weekly meal plan prepares the readers on the recipes that are coming. Thus, gives more organisation and helps to keep track with the cooking selections for the week.</p>
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Monday	Oat Porridge	Bread Pudding	Yoghurt with fruit	Roasted Pumpkin Soup	Miniature Biscuits																																													
Tuesday	Cereal Bars	Fish Tacos	Baked Kebab Chips	Almonds (Fish week)	Fruit Salad																																													
Wednesday	Scrambled Eggs	Custard Pudding	Hummus and Vegetable Dip	Pork Meatballs with Zucchini Fries	Avocado Chocolate Mousse																																													
Thursday	Apple Smoothie	Pasta Focaccia	Tuna Tarts	Stuffed Pepper Soup with Olive Corn Cakes	Green Yoghurt with Honey																																													
Friday	Egg Muffins	Vegetable Focaccia	Spiced Nuts	Chicken Biscuits with Roasted Beets	Biscuits																																													
Saturday	Chia Pudding	Honeycomb Burgers	Apple Chips	Pineapple Chicken Zucchini	Brownies																																													
Sunday	Oatmeal with Raisins	Chicken Curry with Rice	Popsicles	Baked Fish	Honeycomb Ice Cream																																													

Table 4 The different guidebook/cookbook sections and justification for their placement (cont)





Section Structure	Step by step imagery from guidebook sections	Justification
<p>Hygiene and safety rules in the kitchen</p>		<p>The third stage of TTM Model, 'Preparation'. Here people are ready to act. Thus, before cooking, it is necessary to ensure that the food being prepared is safe to consume. Also, before chopping or weighing and measuring, it is important to ensure that the cooking surfaces, utensils, and hands are clean and free from any contaminants that could spread to the food. Similarly, before going shopping, it is important to have a good understanding of food safety and hygiene principles to help ensure that the food being purchased is safe and of good quality.</p>
<p>Correct weighing and measuring</p>		<p>The correct weighing of ingredients follows handwashing and precedes cooking, as hands need to be cleaned before grabbing ingredients/utensils for measurements as well as it is essential to have accurate ingredient measurements for the recipe to be successful.</p>
<p>Holding the knife and different cutting skills</p>		<p>Holding the knife and different cutting skills come after weighing and measuring ingredients because it is important to have the necessary ingredients prepared before starting the cutting process. Additionally, proper handling of a knife is crucial to prevent injuries and ensure efficient cutting. Mastering knife skills is also important before moving on to recipes that require specific cuts or techniques.</p>
<p>Grocery list and tips to consider when buying</p>		<p>First, one must read about appropriate washing, weighing, and cutting differences. Then, after being well-informed, the proper implementation of cooking begins, hence going shopping. Then, one proceeds to apply the acquired knowledge in the same way it was acquired.</p>

Table 4 The different guidebook/cookbook sections and justification for their placement (cont)

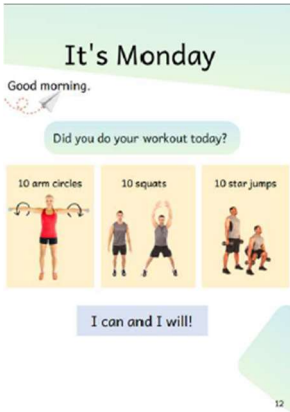
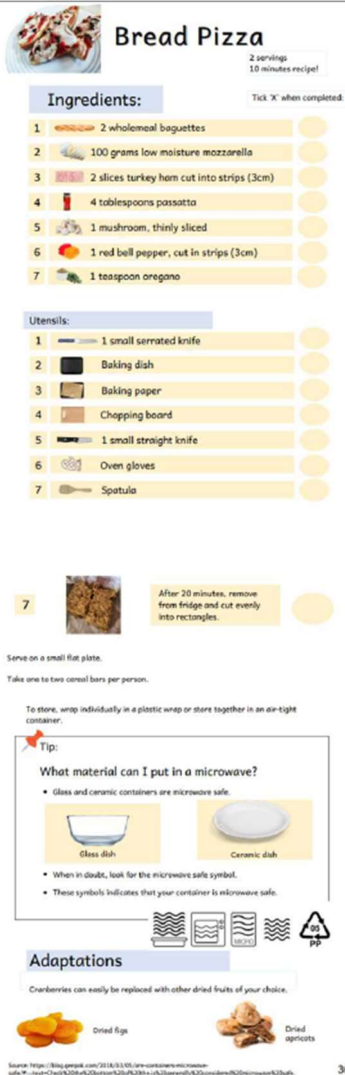
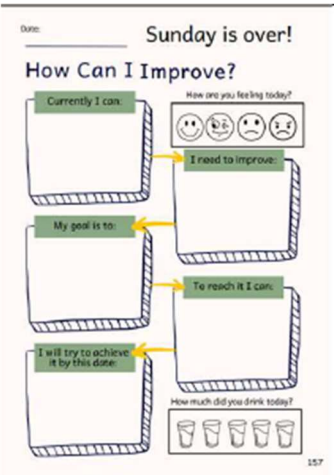

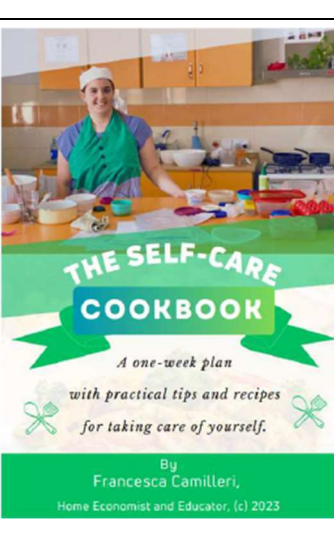
Section Structure	Step by step imagery from the guidebook sections	Justification
<p>Day of the week, physical activity, and quotation page</p>		<p>It helps create a sense of structure and organisation in meal planning, especially as it represents the day of the meal plan. Having a day of the week page in every meal plan can help one to save time and money by planning meals in advance. Physical activity in the weekly page facilitates staying on track with fitness goals as it is an important component of a healthy lifestyle. Benefiting from quotations will give a sense of inspiration to the readers, positivity, inspires creativity and comfort in the service users' daily lives.</p>
<p>Recipe structure: (Ingredients, utensils, methods, tips, storage, and adaptations)</p>		<p>The structure of a recipe with the ingredients lists first, followed by the utensils list, and then the method, is a widely accepted convention in recipe writing that can help to promote organisation, accuracy, and clarity in the cooking process. As the recipe must first be implemented to reach the storage procedure, storage information was presented last. This is TTM Model 'Action' stage where people have changed their behaviour and trying to keep it. Hence, tips and adaptations come after the recipe as they are additional information whilst at the same time encourage a sense of experimentation and curiosity amongst the reader. Thus, TTM Model 'Maintenance' stage comes in as people prevent from relapsing to earlier stages, hence, adaptations and tips may be required to make further changes, improve, and keep them hooked towards trying something new.</p>

Table 4 The different guidebook/cookbook sections and justification for their placement (cont)

Section Structure	Step by step imagery from guidebook sections	Justification
<p>End of day evaluation</p>		<p>At the end of each day, the "Maintenance" stage in the TTM takes centre stage. During this stage, conducting a behaviour evaluation becomes essential. This evaluation serves as a critical tool for monitoring progress, making necessary adjustments, and ultimately achieving one's goals.</p>
<p>Drink ideas for the week</p>		<p>Placed after food recipes as usually drinks are served after meal to help digest the food and provide a refreshing end to the meal. Also, drink recipes tend to be less complex than food recipes. By placing them after the food recipes, it allows the reader to focus on the more complex recipes first before moving onto the simpler drink recipes.</p>
<p>Back cover page</p>		<p>Provides closure to the guidebook/cookbook, as well as a sense of inspiration thus a call for action. Acts as a TTM Model 'Termination' Stage with no desire to return to unhealthy behaviours.</p>

The structure portrayed in Table 4 reflects the developmental approach adopted, which led to the educational guidebook addressing the different stages of learning that the reader might go through as they engage with the material. The researcher provided gradual progression through the recipes as a logical trajectory, but also with phased introduction of some higher-level knowledge and skills.

Selecting the Design

The guidebook's design was thoughtfully planned with the target audience and the main aims in mind; primarily promoting behaviour change through increased self-efficacy. The front page was specifically designed to be visually appealing, aiming to capture the attention of readers in various stages of readiness for change, including the initial stage of precontemplation.

The guidebook's cover page utilises colours strategically to evoke specific emotions. Olive green, chosen as the primary colour, represents restfulness, health, happiness, and calmness, countering feelings of tension and symbolising hope for new beginnings in mental health beginnings (MSEd, 2024). Purple fosters a sense of innovation and productivity, while beige imparts warmth and comfort, particularly beneficial for readers with anxiety disorders.

Within the guidebook's pages, light yellow and light blue are introduced, signifying optimism and energy, ideal for those dealing with depression or lethargy. These colours also enhance readability by creating a strong contrast with the black text.

In keeping with the literature on 'Guidelines for Accessible Information', the researcher recognised the need to employ a sans serif font in the proposed guidebook/cookbook as this is easier to read due to a simpler design. It also employs 12-point font size and includes non-text elements like pictures and photos to aid users with limited reading abilities (Turner-Cmucha, 2015).

The researcher opted for a step-by-step and bullet-point format for recipe presentation, enhancing clarity and ease of navigation. Each step is numbered and accompanied by a real-life photo, making it easier for readers to understand and follow instructions. To improve accessibility, space was provided for readers to tick off completed steps, aiding organisation during the preparation stage (TTM Stage 3) and progress tracking during the action stage (TTM Stage 4). Adaptations and tips were presented in a similar format, ensuring ease of use for those in the maintenance stage (TTM Stage 5).

This design adheres to pedagogical principles by offering clarity through visual aids, headings, concise language, and interactive elements. The inclusion of markings and improvement pages fosters active learning and self-correction. Furthermore, the use of sans-serif fonts, ample white space, and navigation aids like page numbers enhances accessibility and readability. Ultimately, the improvement pages encourage reflection, self-identification of areas for development, and self-correction among service users.

Guidebook Evaluation

The draft version of the guidebook was shared with four social workers, and their feedback has been largely positive. They appreciated several aspects of the guidebook, specifically:

- **Tailored Content:** The guidebook effectively caters to the specific needs of service users with chronic mental illnesses, making it a valuable resource for addressing their challenges related to meal planning, cooking skills, and psychological wellbeing.
- **Step-by-Step Approach:** The guidebook's step-by-step approach was well received, as it provides clear and structured guidance, making it easier for service users to follow.
- **Flexibility and Adaptability:** Social workers noted that the guidebook's flexibility in adapting recipes to individual preferences and dietary needs is a valuable feature.
- **Motivational Elements:** The inclusion of motivational elements and progress tracking was seen as a positive aspect, encouraging service users to stay engaged and motivated.
- **Visual Emphasis:** The visual elements in the guidebook were appreciated for their role in making the content accessible to service users with limited reading skills.
- **User-Friendly Design:** The guidebook's design was praised for being appealing and user-friendly, providing an inviting and easy-to-understand experience for service users.

While the feedback has been mostly positive, one social worker suggested including an interactive section on reading recipes to enhance clarity. Additionally, incorporating QR codes for step-by-step recipe videos and audio accompaniment to cater to various learning styles was recommended for future improvements. Overall, there was consensus that the guidebook aligns with a service user-centred approach and the social workers considered it a valuable potential resource for use with adults with chronic mental illnesses.

Conclusion

Main Findings and Guidebook Development

The baseline study found that most adults with mental disorders struggled to follow recommended dietary guidelines and had inconsistent meal patterns. Social workers observed a preference by the service users for unhealthy, carbohydrate-rich foods, despite a desire for traditional dishes and soups. They often prioritised comfort foods over essential groceries and meal preparation ingredients. Negative symptoms like apathy, mania, and perfectionism, along with limited cooking skills due to institutionalisation, posed challenges to preparing nutritious meals from scratch. Social workers also noted a need for guidance on proper food storage practices, including optimal storage locations for specific items.

The study's findings led to the creation of an educational guidebook for social workers assisting service users with mental disorders. The guidebook was designed in line with adult learning principles, pedagogical strategies, and the Transtheoretical Model (TTM). It aimed to ensure clarity, motivation, accessibility, interactivity and reader reflection. Recipes in the guidebook were thoughtfully chosen to align with service users' preferences and adhere to the MIND diet and Dietary Guidelines for Maltese Adults. Meals were planned for a week, including appropriate servings of food from different food groups and keeping in mind cost. The guidebook emphasised creative ways to increase vegetable intake, such as blending them into soups or using them as substitutes for carbohydrates. Vegetables were also featured in appealing forms like zucchini

fries and kale chips. Snacks and desserts were based on nuts and fruits. Detailed instructions on food safety, hygiene, and chopping skills were provided, including precision in measurement. Pictorial step-by-step guidance for each recipe, along with information on storage and recipe adaptations, was included, following a developmental approach to cooking.

Limitations

A small sample size of social workers may limit the applicability of the findings. The indirect approach to collecting feedback solely from social workers, not directly from service users, could introduce biases or inaccuracies. Time and resource constraints hindered more extensive research and testing. Lastly, some recipes require specific kitchen equipment that not all service users may have access to, potentially limiting their practicality.

Suggestions for Future Research

A key research recommendation is to conduct trials of the guidebook/cookbook with a larger sample of service users to assess its effectiveness and make necessary improvements. Evaluations should focus on its ability to promote independent living skills and self-care practices when adopted by social workers. Collecting direct feedback from service users is crucial for enhancing the guidebook to better meet their needs and preferences. Translating the guidebook into Maltese would improve accessibility.

Implications for Home Economics Education


The guidebook can be a useful tool for Home Economics education at different levels. At tertiary, post-secondary and secondary schools it can be shown as a resource when discussing how families and individuals can care for people with mental health disorders and also help improve their independent living skills and self-esteem. It can also be used as a tool for generating discussion around the importance of mental wellbeing and independence, providing a holistic approach to Home Economics education with a self-care perspective. In secondary schools' educators can use it as a structured highly visual teaching resource, explaining concepts related to safety and hygiene in the kitchen, correct weighing and measuring, meal planning, recipe modifications, cooking techniques and cutting skills, as well as healthy eating habits. This may be useful for students who are more visual learners or have literacy challenges. Assigning practical exercises based on the guidebook, such as following recipes or creating meal plans, allows students to apply their learning in real-world scenarios. Eventually, the guidebook's visual elements and motivational components can be complemented with multimedia to engage students more effectively. Moreover, the guidebook's adaptability and inclusivity make it suitable for addressing the diverse needs of students.

This study described the process involved in the development of a resource which can be used with adults with mental disorders and the health professionals who support them. It involved a baseline study to explore needs which then informed the actual development of the 'Self-Care Cookbook'. Content and design were chosen based on the baseline study findings; but also, in keeping with theoretical constructs and communication science. The guidebook's emphasis on independence aligns with the goals of Home Economics education, aiming to empower these adults with essential life skills for independence. Research studies such as this one can be a contribution to community wellbeing and social justice with all citizens, fulfilling a key vision of Home Economics as a discipline and Home Education training courses.

Biographies

Francesca Camilleri was born in Malta on October 17, 1998, and is a Maltese citizen. Her interest in Home Economics began with an advanced-level course in which she achieved good grades after only one year of study. Building on this early success, she enrolled at the University of Malta in 2018 and completed a three-year Bachelor of Science (Honours) in Home Economics. She furthered her education by completing a two-year full-time postgraduate course and obtained a Masters in Teaching and Learning in Home Economics with Health and Social Care. Francesca graduated in 2021 and 2023 respectively. She is currently employed as a Newly Qualified Teacher (NQT) at a local church school in Malta. At the same school, she teaches Home Economics at both primary and secondary levels. In addition to teaching, Francesca is also involved in community work, working part-time in care homes and institutions. This work is her first publication, and she is looking forward to continuing her professional and academic journey. **Email:** fran.camiller@outlook.com

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