

THE INTEGRITY OF GLUTEN-FREE MEALS IN THE MALTESE FOOD SERVICE INDUSTRY.

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by

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Declaration

I, Jimmy Aquilina, state that this is a novel study of work written exclusively by me and that all source material has been appropriately referenced. Additionally, I attest that no portion of the work referred to in this thesis has been submitted in support of any other course, degree, or qualification at this or any other university or institute of learning.

Student's signature

Abstract

Coeliac allergy is apprehension for individuals that cannot consume gluten. The number of gluten-free sufferers is escalating year after year. Coeliac disease is widespread, and studies reveal that around 1% of the global population has coeliac disease. There is no known cure for coeliac disease. Moderation and attention to eating habits are the only assurance of food safety for gluten-free sufferers. The main concern is when the food is consumed in food production establishments. As of 2014, all food eateries are legally bound to notify individuals who suffer from any allergy and to clearly show what food allergens are present in the food they offer. This law demands that chefs and servers need to be trained and knowledgeable about all food allergens. This study delved into the main stages of preparation, communication, understanding, and how food is served to gluten-sensitive individuals. Three research methods were employed to evaluate the procedures from the ordering stage until the food servicing. A focus group of gluten-sensitive individuals shared their concerns and the difficulties they face while dining out in local food eateries during a focus group discussion. One-to-one interviews with two chefs and two restaurant managers were held to scrutinize further the correct management of food by sharing the practices and procedures of their operations. Thirdly, a questionnaire was disseminated to two groups on Facebook to extrapolate their perception of the real situation for coeliacs when dining out in Malta and their major concerns when consuming food in the local restaurant business. This study identified a lack of knowledge on coeliac disease and its consequences from staff that work within the food industry. Knowing that this has an impact on the quality of their life, gluten-sensitive individuals do not feel safe when dining out at a local food eatery. Training is one of the key factors in improving the situation locally. A holistic study needs to be implemented and supported by local authorities and all stakeholders to introduce new policies in this regard and to follow the benchmarks of countries in adopting different ways and methodologies to provide a safe gluten-free meal. Ultimately, peace of mind for the coeliac clients.

Keywords: Coeliac, restaurants, training, management, safe dining

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1. Introduction

1.1. Background of the Study

Apart from the physiological need of a human being, the need to dine out in modern times has been boosted due to an increasingly hectic lifestyle, convenience, and demographic alterations. Eating out is a treat, and dining out gluten-free is a luxury on top of it. Unfortunately, individuals who cannot consume gluten do not have many dining options and feel safe. This surge in food consumption in various eateries has raised the risk of encountering health issues related to food containing allergies caused by touching, inhaling, or ingesting contaminated foods (Mayo Clinic, 2022).

A celiac diet is not a choice. Both the customer and the restaurant should be responsible when dining out from the customer's perspective. An individual who cannot consume gluten must be careful about what to order and select items from the menu suitable for him; however, the individual cannot determine what goes on in the kitchen. According to Food safety law, EC 178/2002 restaurant's responsibility is to ensure that the food is prepared in a safe environment and can be consumed by coeliac sufferers. However, this responsibility is compromised by several variances and logistics issues.

Within the hospitality business, a restaurant is there to make customers feel welcomed and valued, provide a friendly service, and serve and deliver a good meal. Although some restaurants are better than others, they face challenges when requesting gluten-free food. Like any other business, everything beyond the norm entails an extra cost. Apart from having gluten-free products available and stored appropriately, as this study will investigate, these products are already more expensive than the norm. A case in point is the bread. The manager must ensure he has trained staff to meet such orders or train and educate their staff with pertinent policies and procedures. Both the service and kitchen staff must follow them vehemently and without exception. However, ongoing training costs for any food-serving business and continuous staff turnover worsen the situation.

A separate kitchen or a segregated area is a must for a restaurant that proposes serving allergy-free food. Furthermore, such kitchens must have exclusive equipment, pots,

pans, and other utensils. The such operation comes as an additional investment and cost burden for the restaurant's operation.

The author's direct experience in the culinary industry led him to conduct an in-depth study on the subject. In this respect, this research aims to investigate the capability of restaurants or other dining establishments to provide safe meals for gluten-sensitive individuals, targeting to examine and determine the problems experienced by gluten-free customers and fill the existing gap that directly influences their quality of life.

1.2. Conceptual Setting of the Study

Food allergy is increasingly recognized as a public health burden, compared to the "second wave" of allergy epidemic just after asthma (Tang, 2018). The growth has increased in industrialised regions, especially in rapidly economically growing and developing countries (Leung, et al., 2017). Malta perfectly fits this analysis.

Coeliac Association Malta (CAM) is an organization founded in 1989 by individuals who are coeliacs themselves to support the well-being of coeliacs in Malta. It is a non-governmental voluntary association that struggles to create awareness of coeliac disease.

One of the main priorities of the association is to improve the lack of enforcement and implementation of the Food Information for Consumers Regulation (EU) No. 1169/2011 legislation to protect individuals diagnosed with allergens, including coeliacs. Although this legislation became effective in the EU in December 2014, very little has been done in Malta to implement it (CAM, 2022).

Consumers' demand for gluten-free food is always on the rise. According to a survey by the National Restaurant Association in the United States (US) in 2013, gluten-free food is one of the latest trends in restaurants (Hall, 2013). In this respect, holistic training on allergen prevention and consequences in the production and supply chain processes is crucial.

The food industry is among the most substantial sectors of a country's economy. All the food sector participants must ensure that they provide and sustain high levels of ethics

to avoid unnecessary situations where labelled food products are displayed and offered to consumers.

There has been a debate that the company's responsibility within the business system is to generate profit for a good return to the shareholders (Burgan, 2012). However, having this target as the only company's responsibility is unethical in situations where increasing the influence of the profit negatively affects third-person persons, including customers.

Companies within the food industry are responsible for ensuring that all the food products they distribute to the public must be safe enough to be consumed. The companies' responsibility is to notify the consumers about the details and ingredients of the proposed food with detailed labelling, including the present and even traces of allergens. This process entails the customers safely choosing the appropriate food to consume without the risk of health since there are always repercussions.

There are three crucial stakeholders in a successful food safety process. The Government is responsible for legislating, implementing, and supervising regulations to guarantee that food manufacturers produce safe products. Secondly, the manufacturers have the ethical responsibility to use the finest products, trained staff, and internal hygiene processes in their food manufacturing. Ultimately, consumers bear the responsibility to ensure that they consume only appropriate products and question their food (Members of the EU Platform on Food Losses and Food Waste, 2019).

There is also the element of cost. A comparative study in the US studied the prices of wheat-based foodstuffs and gluten-free products. The study revealed that gluten-free bread and pasta were twice the cost of wheat-based products (Anne R. Lee, 2007). Restaurants tend to charge an extra for allergen-free requests, attributing the dearer product costs, which is somehow felt discriminatory towards gluten-free clients. Is this charge justified? In this respect, is a fully-fledged gluten-free restaurant feasible?

The satisfaction of gluten-free customers is determined by how safe they feel when eating out, with reasonably-priced food quality and the corresponding knowledgeable service staff. Additionally, the complementary demand for more information and other

menu options for allergy sufferers is crucial for customer satisfaction (Plechlo, 2019). A qualitative study was done by Begen et al. in 2016 in the UK about consumer preferences regarding allergens when dining out. The researchers established that the safety and satisfaction of allergy sufferers increased when the trained and knowledgeable staff offered both verbal and written info on allergens. Nevertheless, the participants in this research found it embarrassing and challenging when ask serving staff for further information when ordering food.

1.3. Research Methodology

The methodology for the research involved three methods that solicited the problem's two major stakeholders: food-related businesses and gluten-sensitive consumers. Both quantitative and qualitative methods were employed to determine how gluten-sensitive individuals perceive restaurants. The subsequent three methods were employed.

- A Focus Group was formed for gluten-free sufferers to discuss the assessments of their concerns when consuming ready food.
- A semi-structured questionnaire was shared amongst the members of two Facebook pages, the *Celiac and Gluten-Free Malta* and the *Coeliac Association Malta*, to achieve their perspectives on their difficulties when dining out.
- As for the qualitative research, management members of four distinctive establishments were interviewed to establish the level of knowledge and training they received in preparing gluten-free meals.

The core of the research aims to investigate restaurants or any other dining establishments and their processes to provide a safe meal for gluten-sensitive individuals. The analysis will focus on identifying what the customers who require to live with a lifelong gluten-free diet expect when they dine out and their confidence level that their food is not contaminated.

The principal aim of this study is based on four assumptions. The first aim focuses on what gluten-free individuals look for before choosing where to dine and what knowledge and awareness servers and chefs have. The second aim is how customers seek what chefs can offer to accommodate their needs, while the third is what training is being provided for both servers and chefs and if it is appropriate. Finally, the last aim of this study is to identify whether it would be feasible to run a restaurant that can serve gluten-free individuals without any repercussions.

The gaps and barriers were pinpointed and related to the current literature and the study's research question and problem statement. The satisfaction of customers that suffer from ingestion was an understudied impression. Furthermore, online resources are becoming more popular for knowledge sharing, increasing popularity through social platforms. These platforms are crucial for information seeking, and knowledge sharing is essential for gluten-free individuals, particularly dining out.

In this study, online resources were utilized to investigate the Facebook group Coeliac Association Malta (CAM) members to express their challenges in food eateries. Customers' feelings on the Internet represent a valuable assessment regarding the quality of service (Aguiar, et al., 2018). Diners utilize websites to accumulate other diners' food safety and satisfaction views. The necessity for more studies on knowledge sharing amongst a group of individuals living with food allergies derives from a common need to assist individuals in offering adequate meals and providing safe restaurant services.

Food safety and the competence to acquire broad information regarding food allergens, ingredients, and probable cross-contamination are responsibilities for food allergy sufferers. Health reasons play a primary role in deciding what food to eat and avoid or inquire before buying. Nowadays, individuals are obtaining more confidence and influence over their choices while living with a food allergy to adopt a certain food-free diet (PRNewswire, 2017). However, the ideal alternative for allergy sufferers is to abide by dietary limitations (Stensgaard, et al., 2017), and eventually keep them safe (Begen, et al., 2016).

This study's objectives are to help develop broad information regarding service provided, menus, the level of awareness food eateries give to gluten-free individuals and

the fulfilment for this particular group of customers. Also, restaurant managers, chefs, and even service staff may use this research to assist them in obtaining a better understanding of the requirements of gluten-free individuals, plan new menus, and give appropriate training to staff for better communication skills to assist these customers.

1.4. Research Questions

As determined in this chapter, the objective of this Masters thesis was to investigate the proposed Hypothesis by evaluating the research of respective Literature and the interpretation of the conducted survey and two qualitative research methods in the form of a Focus Group and Interviews, based on the following statement:

- To identify the best practice for serving coeliac customers by investigating their needs.
- To identify the different needs of gluten-intolerant customers, would a chef be able to provide food according to the level of severity.
- To establish the type of food control and management and how knowledgeable chefs are about the disease and its consequences.
- To identify if it is feasible to have a gluten-free meal restaurant within Malta's local and foreign tourism, especially indicating if the food is free from contamination and bought from reputable suppliers.

2. Literature Review

2.1.

2.2. The conceptual background of Modern Restaurants

Making money from serving food and lodging dates back to China in the thirteenth century in the city of Hangchow. Hangchow was a 'wealthy and luxurious' city and was the largest city globally with about one million residents with a network of canals and roads constructed with 'stone and bricks.' (Kiefer, 2002). Marco Polo (circa 1254-1324) recounted his first-hand experience of this first model of food served on order and wrote, 'As soon as the customers have chosen where they will sit, they are asked what they want to have. The people of Hangchow are very difficult to please. Hundreds of orders are given on all sides: this person wants something hot, another something cold, a third something tepid, a fourth something chilled; one wants cooked food, another raw, another chooses roast, another grill....' (Gernet, 1956).

The word 'restaurant' featured on a sign of the first known food serving outlet in Paris in 1765 named 'Boulangier débiteur des restaurants divins' (Boulangier sells restoratives fit for the Gods), owned by a soup salesman named Boulangere. This sign referred to the soups and broths served in his outlet, which could reinstate the consumer's health. Boulangier's eatery was the first to list different food items, mainly soups, for the customer to choose from (Hayek, 2019).

The same dynamics of wealth and new economic proliferations were created in Paris in the aftermath of the French revolution in 1789 and were the foundation of the restaurant business model as is commonly known nowadays. According to the French restaurant guide *Gault et Millau*, the restaurant scene in Paris proliferated 'with the revolution, and especially after 1792, these great chefs...took their savings and opened restaurants.' (Gault & Millau, 2021). This incident eliminated the Guild rule that prohibited the sale of bread from a butcher and introduced new Republican ideas of '*Egalite et Fraternite*' that paved the way for restaurant openings. (Kiefer, 2002)

2.3. Food Allergies

Two thousand years ago, a Greek physician named Hippocrates acknowledged that food could trigger health problems (Lundy, 2007). Hippocrates lived between ca. 460 BC and 370 BC and already recognized that food was a direct cause of illnesses in some people. Many physicians have been treating illnesses throughout history by changing their patients' diet routines (Lundy, 2007).

The term *allergy* was first mentioned and suggested in 1906 by an Austrian Paediatrician named Clemens von Pirquet. He discovered that when his patients were injected with horse serum or smallpox vaccine and noticed they had a more vicious and quicker reaction to the second injection. He called the symptoms 'Serum sickness'. He named this new term for this antibody-antigen interaction an allergy (Valenta, et al., 2015).

Dr Theron G. Randolph (1906-1995) was a major contributor to the study of food allergies. He was granted training in a fellowship at Harvard Medical School and Massachusetts General Hospital. Dr Randolph authored over 390 articles, books, and presentations and was invited as a speaker in top meetings and congresses around the globe, such as The First International Congress of Food and Digestive Allergy in Vichy France (Lundy, 2007).

Food allergies are the abnormal reaction of the body's immune system after eating certain proteins in foods. The immune system is the human body's defence against infections and other invasive organisms that causes the disease. It is a network of cells, tissues, and organs like the bone marrow and the spleen, which produce and store the white blood cells or Leukocytes. These white cells are stored around the human body in tissues called Lymphoid. The leukocytes circulate through the body via the blood vessels and the lymphatic system, ready to attack and destroy any unwanted foreign object (Susan Wasserman, 2011).

The human body's immune system is designed to recognize bacteria and viruses and sends out antibodies to attack foreign invaders and prevent infection. When a person is allergic to a type of food, the immune system anomalously reacts as if the food is an

attack on the body. The immune system reacts to the protein found in the food, the allergen, by releasing the Immunoglobulin (IgE) protein to fight against the 'invasive' protein. The reaction occurs even when the allergen is present in very minute quantities. This 'over-reaction' of the Immune system can cause various symptoms in the human body, such as mild rashes and nausea; however, it may lead to a serious reaction called anaphylaxis. Anaphylaxis is a life-threatening allergic reaction in which symptoms can include tightening of airways, swollen throat, drop in blood pressure, pulse increase, and loss of consciousness. Untreated, anaphylaxis may cause a coma and lead to death (Wen & Kwon, 2016). The main causes of anaphylaxis are fish, shellfish, tree nuts, peanuts, milk, and eggs.

There is ongoing research to find a cure for food allergies. The only way to avoid food allergy reactions is strictly avoiding contaminated food. Even with lethal approaches for pathogenic microorganisms, for example, high-pressure processing and deep frying, the allergenic proteins are not destroyed (International Food Safety and Quality Network, 2020). Over-the-counter sold medicine, antihistamines mitigate mild reaction symptoms, and only an epinephrine injection can invert anaphylaxis (Amy Dodd, Anna Hughes, Nicholas Sargent, Andrew F. Whyte, Jasmeet Soar, and Paul J. Turnere, 2021).

2.4. Food Intolerances or Food Allergy?

Dr James T C Li (2019) from Mayo Clinic declared a clear distinction between being intolerant to food and having a food allergy. He explained that food intolerance is a reaction that does not involve the immune system but the digestive system. Food intolerance lacks the mechanism or enzyme needed to digest and break down a particular food. A person can also be intolerant to some natural chemicals in foods and be sensitive to food additives. Lactose enzyme or Lactase deficiency in the digestive system will manifest symptoms like bloating, stomach pains, and gas. Dr Li specified that a small amount of food to which a person is intolerant could be consumed without causing any problems. Furthermore, pills and drops can be taken before a meal to replace the enzyme deficiency, enabling the individual to consume food without side effects (Li, 2019). On the other hand, and as stated above, an allergic reaction is a violent reaction of the immune system to the allergen ingested, and the symptoms are severe and, occasionally, fatal.

Trained and knowledgeable people might know the difference between food allergy and intolerance; even though the two conditions seem identical, they might be confusing. Gluten is a protein mainly found in wheat, rye, and barley. Sometimes Celiac disease can be confused with gluten intolerance. The difference is that celiac disease, which is an inherited autoimmune disorder, can infect the small intestine, while gluten intolerance can create digestive problems like diarrhoea and abdominal pain (American Academy of Allergy, 2020)

Professor Mimi Tang (2017) wrote that Food allergy and anaphylaxis are becoming an increasing public burden in western countries. The cause is yet unknown (Tang, 2018). Scientists stated that the number of people with food allergies is rising, as is the number of allergic foods (Heine, 2018). The growth has increased in industrialized regions, especially in rapidly growing economies and developing countries (Leung, et al., 2017). It is not clear what is causing this increase. Among other hypotheses for such a surge, Profs. David Strachan (2018) came up with 'the Hygiene Hypothesis.' This theory was presented in the British Medical Journal in 1980 and suggested that we have become 'too clean' in our living conditions (Cahill, 2021).

Dr Jaqueline Pongracic, Head of the allergy department at the Children's Memorial Hospital in Chicago, stated that the incurrence of food allergies in children "skyrocketed" (Gupta, et al., 2011). In 2013, Cezmi Akdiz, the European Academy of Allergy and Clinical Immunology (EAACI), stated, "Current European statistics are worrying, especially given that there has been a seven-fold increase in hospital admissions for anaphylaxis in the past ten years". EAACI acknowledged that effective management of food allergies could only be achieved through education and prevention (Halken, et al., 2021). In the same year, The Centres for Disease Control & Prevention in the US stated that food allergies in children augmented by 50% between 1997 and 2011. Furthermore, they reported that the prevalence of peanuts and nuts tripled between 1997 and 2008 (Kristen D. Jackson, et al., 2013).

In an article on BBC News, Dr Alexandra Santos (2019) from King's College, London, stated that "the frequency of food allergy has increased over the past 30 years, particularly in industrialised societies. Exactly how great the increase is, depends on the

food and where the patient lives. For example, there was a five-fold increase in peanut allergies in the UK between 1995 and 2016” (Dr Alexandra Santos, 2019). Substantiating this argumentation, insurance claims in the US related to food allergies between 2006 and 2016 have increased by 377% (Fair Health, 2017).

However, there is still a lack of official data on the global spike in food allergies. In 2012, the World Allergy Organisation surveyed 89 countries on the prevalence of food allergies. Only 10% of these countries had accurate data. Fifty-two of the 89 respondents had no available data (L Prescott., et al., 2013)

Regarding Coeliac disease, research conducted at the Celiac Disease Centre at Columbia University shows an increase of 7.5% of diagnosed people with celiac every year over the past decades (Ratner, 2020). An analysis of 50 studies resulted in a persistent increase rate among all sexes and ages. The increase in women and children was higher, and a few geographical variations were also found. These analyses were mainly held in Europe. Another similar study held in the United States resulted that from 1950 to 2010, there was an average increase rate of 8% each year (Mayo Clinic, 2020). The prevalence of this disease is around 1% of the entire population, including diagnosed and undiagnosed cases. Other studies show that the current worldwide popularity of celiac disease is 1.4% based on blood tests and 0.7 % based on biopsy tests. This analysis showed that the occurrence in females was higher than in males, while in children was significantly much higher than in adults. In conclusion, sex, age, and location can vary in the popularity of celiac disease (Celiac Disease Foundation, 2008).

2.5. History of Coeliac Disease

Celiac disease was discovered by Aretaeus of Cappadocia, a Greek physician, in the first century AD. Initially, he entitled the disease 'Koulianos' after the word 'koelia', which means abdomen. He declared that nothing goes into the body if the stomach cannot retain the food that remains undigested and unprocessed. In the 18th century, Dr Mathew Baillie issued his interpretations concerning adult diarrhoea that causes undernourishment due to a gas-bloated abdomen (Imaware, 2020). Baillie recommended that some individuals who based their diet entirely on rice emerged to obtain a significant improvement. Regrettably, these suggestions were ignored. It was not until a

prominent English doctor, Dr Samuel Gee, that the present description of celiac disease was recognized. An important factor that he suggested to overcome this disease is by following a diet. He supported this argument after keeping a record of individuals that got better after starting a gluten-free diet (Imaware, 2020).

Latest statistics reveal that celiac disease affects one in every hundred children in the UK (Coeliac UK, 2022). In the 20th century, developments were formulated to challenge the problem head-on. In the 1920s, an original dietetic action erupted - the banana diet. The banana diet was the basis of coeliac therapy for decades. In 1914, Dr Sidney Valentine Haas, an American paediatrician, explained how he effectively treated eight children diagnosed with anorexia and celiac disease by consuming bananas. Eight of ten children Haas treated were clinically healed, while the other two passed away. Besides eating bananas, patients were obliged not to consume gluten like cereal, bread, and potatoes. The accomplishment of the banana diet was not because of eating bananas only but by avoiding the consumption of gluten (Haas, 1924).

Forty years later, more development was attained with the help of Dicke, a Dutch paediatrician. He discovered a pattern linking the health of children who have celiac disease and the bread shortage in the Netherlands due to World War II. During the period that bread was limited, the well-being of these children recovered, but when they started consuming bread again, their conditions worsened. A few years later, Dicke supported his argument by emphasizing how gluten developed from rye and wheat acts in celiac disease (Thompson, 2017).

Margot Shiner attained a key discovery in the 1950s. Shiner biopsied the distal duodenum, permitting doctors to relate celiac disease with the first-ever form of damage to the proximal small intestinal mucosa (Guandalini, 2007). Consequently, by the 1960s, the three major elements which triggered celiac disease were identified and summarised as follows:

1. Gluten triggers celiac disease;
2. There was detectable damage to the mucosa;
3. An instrument was recognized to find biopsies (Imaware, 2020).

2.6.National Diet Traditions for Gluten-free diners

Ourman (2017) mentions countries or regions that offer a relatively safe cuisine for coeliacs based on their cultural eating rituals and alimentary traditions. Latin American foods are rice or corn-based meals, grilled meats, and tapioca-based cheese bread. Similarly, Thai and Indian food is based on natural, gluten-free ingredients. Ourman also mentions two Mediterranean countries - Greece and, surprisingly, Italy. Both countries serve typical Mediterranean food based on fresh vegetables and fresh fish. The misconception that Italy's staple foods are pasta and pizza, the prevalence of coeliac-friendly food is endless. Risottos, polenta, cured meat, and cheeses (Ourman, 2017).

Even though the traditional Maltese cuisine is predominantly the Mediterranean, similar to the Italian and Greek cuisine, based on seafood and agricultural products, nowadays, the diet of the Maltese population has been influenced by Northern European cuisine and has become more westernized, which is a diet based on high sugar, high salt, and high-fat consumption (Cefai & Camilleri, 2011). This report established by the British government in 1939 illustrates that the Maltese diet comprised mostly of bread, seasonal vegetables, fish, and animal product. The World Health Organisation (WHO) reported fifty years later that the Maltese diet is an unhealthy one and that is rich in sugar and fats and low in fibre, emphasizing the necessity for fewer eggs, food based on sugar and fats, and less red meat while consuming more vegetables, fruits, fish and cereals (Cefai & Camilleri, 2011).

By the end of the 20th century, the Maltese consumed more dairy products, eggs, meat, and vegetable oils, although salt and sugar consumption was higher than suggested. However, the consumption of fish, fruit, and vegetables increased gradually. Cereals, predominantly Maltese bread and pasta, were yet the main energy resource in the Maltese diet; therefore, it altered from a diet that was low in fats and high in compound carbohydrates to a high diet in fats and low in compound carbohydrates. This shift from healthy diets to unhealthy fast foods has been the characteristic of various countries, particularly the western world. A recent survey from the Times Of Malta on food consumption with over 1,000 Maltese participants resulted that although the consumption of salad and vegetables was growing, pasta remained the most popular dish for both lunch and dinner, followed by beef and chicken, whereas

the Maltese bread is principal throughout all food breaks (MSO, 2016). Another study by Barbara (2018) about Malta's eating habits resulted in wheat products, mainly pasta and bread together with rice, being the major food supply within the Maltese diet. Barbara also stated that the essential cereal in Malta is wheat, of which 78% is bread, of which 99% is local white bread (Barbara, 2018).

2.7.National Action Plans

Sweden was a European pioneer in providing restaurants with an 'Allergy-free' certificate. Since 2015, Sweden's Asthma and Allergy Association has certified restaurants whose staff undergo a special training course that will enable them to know their food to advise their allergy suffering customer with the right options. Restaurant associations were partly responsible for the scheme's implementation (AllergicGirl.blogspot, 2008).

Jenny Kales of Nut-FreeMom.com distinguishes Canada as a 'preferred destination' for her family, that are food allergy sufferers (Smith, 2013). Quebec Food Allergy Association (QFAA) developed and managed a program: the Certification Program for Optimal Control of Allergen in Processed Food, that establishes uniformity in allergen control in food products which are tagged with a mark of conformity, the CAC (Certified Allergen Control) (Marketwired L.P., 2005).

The German Society of Allergology and Immunology (DGAKI) (2015) launched a 2-year project on an educational program to improve anaphylaxis-related knowledge. The program included nutritional counselling by an experienced nutritionist with continuous evaluation of the patients. The program also included the 'Anaphylaxis Passport' on all patients' information and diagnosis (Bellach, 2015).

Restaurants in Italy are marked with a star indicating that they are faithful to serving gluten-free food. These restaurants are accredited by the *Associazione Italiana Celiachia* (AIC), the Italian celiac association, which entails training and regularly supervising the establishments and adhering to its rules for practising safe gluten-free meals.

Italians with celiac disease who experience meals at a canteen within public services, such as canteens in hospitals and other public organizations, are eligible for a gluten-free meal. Article 4 of LAW 123/2005 of Italian law stipulates that: *"In the canteens of school and hospital facilities and the canteens of public facilities, gluten-free meals must also be served upon request by the interested parties"* (AiC, 2022). The law is not valid for canteens in the private sector; nevertheless, most canteens are already aligned to secure a safe meal for gluten-free individuals.

As regards the commercial sector, Article 5 in the same law exigence specialized training about celiac disease as part of the professional training and updating of the Local Public Health intended for hoteliers and restaurateurs, identifying the significance of knowledge of celiac disease and how to prepare gluten-free meals also in all food eateries (AiC, 2022).

2.8. Restaurant and Customers' Responsibility in Food Allergy Safety Management

Gluten-sensitive individuals' peace of mind will only improve if there is accurate information, knowledgeable staff, and more attention to the requirement of the sensitive client from the chef, the manager, and most importantly, staff training and food allergy management. The business and success of restaurants that do serve food to these clients depend on the customers themselves to seek their assistance. A conceptual study by Chalal and Kamil (2018) supervised an in-depth literature review on customer fulfilment in the restaurant business in Malaysia as gluten-sensitive individuals' tendency to eat out doubled in Malaysia. The study established that customer satisfaction depends on food and service quality without compromising their specific needs (Chalal & Kamil, 2018).

According to Webster Online Dictionary (2005), *customers* are 'persons with some specified distinctive characteristics that purchase a service or commodity.' Mills and Clay (2000) asserted that, for restaurant customers, the characteristics must include individual religious association, age, allergies, or other dietary requirements. (Mills & Clay, 2000).

Modern consumers' self-awareness and increased knowledge have raised the demand for the quantity and quality of information restaurants display on their menus (Thomas

& Mills, 2006). Studies consistently reveal that customers are directly influenced by the accuracy and detail of the menu description in their perceived evaluation of the restaurants' quality and price expectations (Wansink & Love, 2014) (McCall & Lynn, 2008). The offered menu information about the composition of the menu items provides serenity in the customers' perceived quality assurance and related risks (Hartwell & Edwards, 2009). In this respect, restaurant profitability is a direct consequence of customer loyalty (Hallowell, 1996)

Customer satisfaction is met by the quality of food and service and depends on offering additional menu options and providing further information for these customers' demands. Customer fulfilment among gluten-sensitive individuals can be increased by offering gluten-free meals by knowledgeable staff. By having this in place, restaurant businesses can benefit from serving gluten-sensitive customers and their respective families and friends simultaneously. Jones (2015) revealed that customers found it embarrassing and challenging to ask the serving staff more information when ordering. Once declared, the service offered at the restaurant should meet the customers' demand from all aspects, regardless of whether it is quality or the service provided (Jones, 2015).

Benjamin Lebwohl (2020) stated, "The long-suspected problem of gluten contamination in restaurant foods that have been reported by patients likely has some truth behind it" (Lebwohl, 2020). Wen and Kwon (2016) stated that despite numerous preventive approaches adopted by customers in the US, they still encountered staff within the restaurant industry that was untrained in managing food allergies and, above all, were ignorant of the severity of a food-related allergy attack. However, the same paper revealed that some customers were responsible for experiencing food allergies because they omitted to notify the restaurant about their condition, assuming that their eating was safe (Wen & Kwon, 2016).

Schroeder et al. (2007) mentioned the importance and relevance that the food service workers and the client possess a Risk Perception, an informed knowledge of suffering, and the severity of the food allergen reaction consequences. The stakeholder's risk perception level allows risk communication to be adopted in any food-related environment, and immediate and bold actions are taken. (Schroeder, et al., 2007).

Covello (2016) described risk communication as 'the process of exchanging information among interested parties about the nature, magnitude, significance, or control of a risk.' He identified five conceptual categories that encapsulate the difficulties in implementing effective risk communication flow; one of the difficulties included the 'characteristics and limitations of the public in evaluating and interpreting risk information'. The five characteristics are:

- ~ Wrong opinions of the degree of risks
- ~ Lack of interest in the potential risks and related information
- ~ Overconfidence in public in their ability to avoid consequences
- ~ Resistance and resilience to change
- ~ Over expectation about the regulation (Covello, 1992)

Various international studies consistently concluded that restaurant staff have a misconception that it is acceptable for allergic customers to consume a small number of allergens they suffer from (McAdams, et al., 2018) (Wen & Kwon, 2016). Gluten-free menus are very limited or non-existent in several dining outlets. Simultaneously, restaurant employees in front-of-house and kitchen lack knowledge about food allergens. A restaurant employee providing information regarding food allergens will boost the satisfaction of gluten-sensitive customers (Tarro, 2017). Knowledgeable service staff and the ability to provide for customers' needs is a challenge to restaurants; in this respect, restaurants that overcome this challenge can be a plus in increasing their customers.

Tailor-made training and information programs for all back and front-of-house restaurant staff can contribute to further efficient knowledge-sharing practices. With prevalence rates on the rise, food allergies and sensitivities are being noticed by many organizations, and since then, they have developed training and education programs for operators (Begun, 2015). Some of these programs focus on all food allergens while others are dedicated to gluten, but finally, the outcome is the same. Avoiding cross-contamination should start as soon as the product is delivered until the prepared dish is served to the client. Policies, procedures, and standards of practice (SOPs) must be

implemented to provide the safest food handling, from storage to production to service (Begun, 2015).

Despite implementing food preparation and production training, very limited training is pledged towards allergen training. Food hygiene prioritizes more than food allergen when food safety training is delivered. Nonetheless, food allergy training should be combined with each food safety program. Albeit many analyses show that staff training and knowledge is a significant issue in food safety, Schembri (2017) pointed out that although knowledge is being addressed within the training, unfortunately, the attitude and mentality are not (Schembri, 2017).

A study was done by Soon in 2018 regarding food allergy management amongst takeout food eateries. The number of allergic reactions when eating from these eatery outlets is always increasing, and the staff's lack of knowledge regarding food allergies is even worse. Additionally, a critical factor in food safety is clear communication about any food allergies has to be not only between the service staff and the customer but also between the service staff and the kitchen staff (Lee & Sozen, 2016). Offering training and providing information will increase staff members' knowledge, increasing customers' safety when dining out. Nevertheless, safety concerns of allergy sufferers are so important that they can stop dining out in food eateries. To tackle these concerns, customers make use more often to seek information regarding allergies (Tarro, et al., 2017).

Another issue within the catering industry is the high staff turnover, making the situation more complex since new staff recruited need to do food safety training. Ideally, the best scenario is that all recruits working in the food industry would have acquired the necessary training per their job description; this is not happening across the board. Schembri noted that studies held in major cities – New York (Madsen, 2010), San Paolo (Ajala, et al., 2010) and the UK (J. Leftwich, 2010) - concluded that a lack of knowledge of practice and food product information within the service staff. Employees do not always carry out food safety practices, although they know they should (Clayton, et al., 2002). It is also happening within the food preparation area in many countries regarding chefs. Allergen management training is not a priority for many employers because they are more interested in hiring people who know cooking and call themselves chefs. These

shortfalls can lead to significant problems for allergy sufferers because of inadvertent contamination of prepared food (Schembri, 2017).

Specific requirements in the work environment have to be introduced. All the making processes must be monitored on the manufacturing site to plan top-quality foodstuffs that are safe to be consumed by celiac sufferers. Sourcing, harvesting, breeding, and the transportation of the products have to be considered. The best way to safeguard the customer to consume food in the safest possible approach is by conducting a quality and assurance management plan at the first stage of production. Cross-contamination may occur at any stage of harvesting and storing grain and during the production of gluten-free products within the same establishment where gluten is manufactured. Cross-contamination can result in inaccurate formulation, usage of the same equipment, human mistakes, or wrong sanitation. Critical control points, preventive risks, and potential risks must be pinpointed during the process and the handling of gluten-free products.

Many cross-contamination causes are not tested or cannot even be established when dining in a food outlet. Unless a particular restaurant and the staff is knowledgeable and experienced in what questions to ask, what to look for, and the correct procedures that will provide gluten-sensitive individuals with a safe dining experience, and as far as all the possible sources of cross-contamination are investigated and removed, it is highly insecure that a gluten-free dish is gluten-free at all (Trabowski, 2016)

To reduce the risk of accidental contamination of products suitable during the production practices – the Hazard Analysis and Critical Control Points (HACCP) and Good Manufacturing Practice (GMP) design should observe all details conditions (Jaszczak, 2017).

Customers' satisfaction with gluten sensitivity depends on accessible information and the availability of gluten-free menus. Awareness plays a prominent role in compromising what food is safe to eat. Sharing knowledge and information is critical for gluten-sensitive individuals (L. Tarro, 2017). Besides the knowledge professionals provide, social media and online websites are the most popular for gathering the right information (Plechlo, 2019). People who suffer from gluten sensitivity might face health symptoms and complications if they do not follow dietary restrictions; consequently,

they will encounter uncomfortable challenges as customers. These individuals can use knowledge-sharing and knowledge-seeking to reduce symptoms risk and improve customer satisfaction (Plechlo, 2019). Likewise, quality and value for money, gluten-sensitive individuals enjoy a thriving awareness of food safety and are eager to claim better information on food prepared by the food industry (FAO/WHO, 2008)

2.9. Economic and Social Burden of Gluten-free Diet

According to Stevens & Rashid (2008), the food cost for a celiac individual is 242% more expensive than regular products (Stevens & Rahsid, 2008). This reality was confirmed by Lee et al. (2019), which compared a Market basket of regular and gluten-free products in five geographical states with a total difference of 183%. The decline in the price burden was noticed, and it was concluded that the reason behind this was that gluten-free product manufacture increased, augmenting its availability (Lee, et al., 2019).

Although most gluten-free products have adequately improved both in taste and texture, there are still poor-quality products. Food manufacturers rushed to introduce new gluten-free products, resulting in inferior quality products, and on most occasions, these manufacturers renounced quality for quantity (Yeakle, 2019).

Additionally, gluten-sensitive individuals report lower quality of life, negatively impacting their psychosocial well-being and directly affecting their family members. The quality of life and everyday functioning can be influenced by this allergy and can restrict opportunities for social interaction, such as dining out. The convenience of dining in a restaurant and sharing others' experiences and information about food allergens will encourage individuals to cope with gluten hypersensitivities (Berry, et al., 2018).

Knowledge seeking and sharing among gluten-sensitive individuals facing daily health problems led to lifestyle changes and individual behaviour. A study established how gluten-sensitive individuals express how subjective norms, perceived behavioural control, and attitude affect their knowledge-seeking and knowledge-sharing behaviour, eventually satisfying the customers when dining out. When people look at behaviour as

positive, they will deliberately behave differently. Also, the attitude of others about the behaviour and perceived control over the behaviour can influence the behaviour (Ajzen, 1985).

Parents with coeliac children have a particular apprehension and anxiety experience compared with a mature allergic sufferer (Deibel, et al., 1997). Very concerned parents may over restrain their kids' social development, disengaging themselves from others and sidestepping sociable events when food is offered (Cummings et al., 2010). As a result of gluten sensitivity, individuals also experience psychosocial, physiological, and economic difficulties.

2.10. Food Labelling

Food safety law EC 178/2002 specifies that the customer has the right to know what he/she is buying and that the available instructions are correct and up to date (Schembri, 2017). Pratten & Towers (2003) noted that 60% of customers encounter that restaurant menus lack detailed information and can mislead the customers, yet the customer still holds back from asking to avoid being overparticular. On one side, diners take it for granted that they can eat safely if no food allergies are specified, and on the other hand, the restaurateurs assume that the customer needs to let the server know about their respective allergy ordering time (Pratten & Towers, 2003). This discrepancy of assumptions between the restaurateur and the consumer was the main topic of the new legislation EU 1169/2011 (EU No 1169, 2011).

The prepared food needs to have accurate and available data. Catering services should take the opportunity to boost their businesses by presenting the necessary information regarding allergies to sensitive individuals. Implementing these practices and offering the required training to their respective employees will increase the number of these individuals dining in their restaurants (Schembri, 2017).

Packaging and labelling are as well significant in avoiding cross-contamination. Proper labelling must be applied to notify people with coeliac disease (Bailey, et al., 2011). Accurate labelling must indicate concrete and real conformation of the product. Labels must be compliant with legal obligations. Regarding food labelling, EU legislation

enforces requirements to stipulate clear facts about the listed ingredients. As per Directive EU 1169/2011, the manufacturer is constrained to ensure the legibility of the information given. The allergy list of ingredients is continuously being revised (EU No 1169, 2011).

Production of gluten-free products comprises the implementation of particular prerequisites. These commodities have to be without gluten, and they are present in many elements of confectionery products. As per the European Community Commission Regulator EU 1169/2011, the producers must fulfil the labelling of the end product (Jaszczak, 2017).

Food labelling is an intricate necessity. The general requirements are drafted in the coordinated Regulation (EU) No 1169/2011. Food sold through online shopping also needs to abide by the regulations on food labelling to present appropriate consumer information. Most labels presently on the market display smaller or bigger irregularities from the guidelines in Regulation (EU) No 1169/2011. Food packers and manufacturers must address these disputes accordingly (European Union, 2011).

Along with giving the knowledge to support the customer to appropriate food preferences, food labelling is a means within the marketing sector that manipulates the customers' demands and expectations concerning the displayed product's benefits. It is ambiguous that this marketing tool is constantly adopted ethically with the customer's interest in mind. (McLaren, 1995)

Within applied ethics, food ethics is a practice that solicits an ethical approach to foods. This concern is a significant apprehension to customers since food personally influences their biological, physical, social, and cultural environments (Mephan, 2000). Additionally, consumers depend on the food industry and therefore strongly believe the management puts their rights and interests primarily in food preparation (Korthals, 2006). As a result, striving to increase sales while acting ethically with consumers should not cause a conflict of interests within the food industry. Food Ethics is linked to concerns of responsibilities and trust from the manufacturers and retailers within the food industry. Trust is interpreted as the assumption that entities or individuals are honest, sincere, and good, albeit credibility entails entities or individuals possessing

these values (Hornby, 2008). Consumers who depend on food providers, like restaurants, are at risk of being oppressed. They may believe they cannot trust the food producers (Bromley, 2018). However, consumers foresee that food manufacturers support them in adopting a healthy diet, which can only be determined through ethical food labelling.

Trust is also related to understanding knowledge, accuracy, and involvement in public well-being. Hence, consumers anticipate that firms like food manufacturers shall abide by laws and ethical standards as part of their collective social obligation. The consumer will solely depend on the interest of law-abiding food operators if they identify this system as a source of correct and detailed data. Generally, consumers acknowledge the credibility of food labelling as more necessary than the quantity of information provided on labels (Pelsmacker, et al., 2005). Nevertheless, a reason consumers neglect labels is a lack of confidence in the organism that supplies the actual product, resulting in a lack of confidence in the information provided on the food label. The United States Food and Drug Administration (USFDA) published stringent procedures to establish that the customers are supported with trustworthy beneficial information on food labelling to make their lives much easier for a healthful diet and curtail complications within the consumers (Keller, 1997).

The appeal of food ethics to food preparation is driven not only by government enforcement but also by independent entities that play an important part in developing food preparation (Mephram, 2007). These entities must notice more that they observe ethical codes of conduct by, for example, adopting food labels to separate themselves from competitors within this industry. Further conclusions in ethical food labelling like bio- and eco-labelling social and fair trade supported an ideal opportunity to implement such differentiation (De Pelsmacker, 2005).

The European Union regulation 169/2011, on the stipulation of food information to customers on food products, was applied on 13th December 2014. The law obliged operators to provide obligatory nutrition information on food from 13th December 2016. This legislation combined 2 EU directives, the 2000/13/E.C. – Labelling, presentation, and advertising of foodstuffs and 90/496/EEC – Nutrition labelling for foodstuffs (European Commission, 2014).

The new legislation improved the legibility of the label information by specifying the minimum font size, background colour and style on the label of any prepacked foods bought from shops, distant selling, and online. The name of the allergen must be clearly stated. Food labels must also include nutrition information and origin information of fresh meat from pigs, sheep, goats, and poultry, besides clear allergen information. The labelling must include specific information on the origin of any refined oils and fats, and a clear indication of any 'formed meat', 'formed fish', and substitute ingredients must be clearly shown (European Commission, 2014).

A limitation of this law is that neither thresholds for the allergen declaration nor the presence of allergens resulting from cross-contamination are not covered (Bellach, 2015). This law stipulates that any 14 allergens must be indicated on any ready-to-eat food label.

These allergens are:

- Cereals
- Eggs
- Crustaceans
- Fish
- Peanuts
- Soybeans
- Milk
- Tree nuts
- Mustard
- Sesame
- Sulphur dioxide
- Celery
- Lupin
- Shellfish (European Commission, 2014)

3. Methodology

3.1. Introduction

Garg (2016) describes the research methodology as a methodical approach that involves designing and completing an objective study that includes predefined elements like the aims, population, techniques, and outcome considerations (Garg, 2016). This study investigates the problematics of coeliac customers in Maltese eateries and the feasibility of a restaurant that exclusively serves gluten-free meals. The research was carried out with three distinctive methods, a focus group, a questionnaire and an interview, to extrapolate the primary stakeholders in preparing, serving and consuming coeliac-friendly meals.

This chapter discusses the methodology applied in this study through an explanatory review of the three individual methods of data extrapolations and a general evaluation of the Validity and Reliability, Ethics, and Limitations of the study.

3.2. Focus Group

The focus group interviews a category of people on a particular subject who discuss the analyst's subject. This qualitative method extracts the group participants' valuable information, understanding, awareness, and attitude. During the focus group study discussion, the aim is to get as much possible information to develop the questionnaire. Qualitative information is significant in establishing structured tools to gather quantitative data through questionnaires (Newman and Ridenour, 1998).

A focus group study was performed with selective participants, which eventually will determine the questions for the questionnaire.

The author asked for adult volunteers by an advert posted on Facebook to all members of the page, *Coeliac Association Malta*, and four members, P1, P2, P3, and P4, accepted to participate. The participants were free to speak the language they felt comfortable with when expressing themselves, and the Maltese transcript was translated into English to facilitate the analysis and discussion.

The interviewers agreed to sign a consent form in Maltese and English to record the meeting. Audio microphones were placed 2 meters away from the members to have a more comfortable discussion ambience instead of being aware that they were interviewing. The meeting was held in a local cafeteria on 10th September 2021 and lasted about 2 hours.

The questions will be developed based on the literature review findings and established on the necessity of this analysis. The questions are intended to be short and with no additional questions. The members are permitted to speak out when they need to express their thoughts. The data collected from the focus group was transcribed (Appendix 2) and coded using the participant's first name.

Gluten-sensitive individuals may play an important part in developing any tool to mitigate food safety barriers (Schembri, 2017). The first difficulty is understanding the requirements and the gluten-sensitive individuals' attitudes toward the catering establishments by carrying out a focus group. This exercise generates a definite explanation of these individuals' concerns when they do not prepare the food. Their input could benefit from generating tools to recover crucial data about what they will be eating or the ingredients used. The awareness and assumptions of gluten-sensitive individuals of food catering are significant when debating concerns affecting their wellbeing.

The focus group analysis aimed to achieve two opportunities. The first, as explained beforehand, is to determine the appropriate set of questions to continue analyzing this phenomenon deeper. The second aim was to determine the awareness of gluten-sensitive individuals and what can be improved when they dine out and have their minds rest knowing that others are preparing their food.

3.3. The Questionnaire

The questionnaire (Appendix 1) targeted the customer's gluten-free food consumption by sending the questions to two groups on Facebook, the *Celiac and Gluten-Free Malta* and the *Coeliac Association Malta*, with 2,000 and 2,100 members, respectively. The experiment aimed to explore how members will respond to the actual situation for

coeliacs when dining out in Malta and their major concerns when consuming food in the local restaurant.

The set of questions was determined and extrapolated from the feedback gathered in the Focus group, as explained further in the chapter, and was mainly targeted at the customer's side of the gluten-free issue when eating out.

Zikmund (2003) stated that primary data is collected from the feedback of the chosen relevant population (Zikmund, 2003). The questionnaire probed to tackle the experience of the serving staff attitude, how safe the customers feel, and the challenges they face when ordering the food. The content included open-ended questions and structured, multiple-choice questions to invite the responders to describe their experiences related to their experiences when dining in Malta. The first three questions tackled the demographics of the respondents. The questionnaire probed into the experiences and expectations in Maltese restaurants from questions four to fifteen. Question fifteen queried the perception of celiacs on how restaurants charge for gluten-free meals.

This questionnaire was composed via Microsoft Forms and shared a link on the two Facebook pages. Additionally, demographics like gender, age, gluten-sensitive individuals, which type of restaurant they choose, how often they dine out, and if they experienced any symptoms after consuming the food. A correspondent excel sheet form was produced automatically containing the responses categories, enabling correlation analysis between the questions data. The extrapolated data helped define the sample that can develop the transferability of the analysis.

According to Amon et al. (2014), social media is becoming a prominent research analysis tool. They stated that Facebook enrolment is the most effective design within a short time (Amon, et al., 2014). Furthermore, Plechlo (2019) persisted that social media and online services demonstrate a trendy approach to collecting data in a society suffering from food allergies (Plechlo, 2019).

Purposive sampling is ideal and appropriate for this analysis because the proposal encourages the target population to disclose valuable experiences related to the study subject. Purposive sampling applies to asking people groups and consenting the analyst

to be more flexible to engage only particular individuals who conform to the criteria to participate (Salkind, 2012).

The questionnaire was posted online for all group members, and anyone could participate. The experiment was active between 21st January and 9th February of 2022 and consisted of seventeen questions, and eighty-four (84) respondents participated.

From the questionnaire results, the observation analysis aimed to collect data on the restaurants' experiences of gluten-sensitive individuals and their thoughts and customer satisfaction.

Detailed analysis of the obtained data will be performed, and the outcome will be interpreted in graphs with different results in the Findings chapter will be interpreted in the Discussion chapter.

3.4. The Interviews

The interview was conducted with two key stakeholders of the restaurant's operation that are directly involved in managing the requests and preparing the allergen-free demands. In this qualitative research, two Chefs and two Restaurant managers were approached by email and interviewed to explore and investigate the level of training and understanding they received in preparing gluten-free meals. A consent form will be attached to the email, so if they agree that they are willing to participate, they will reply with the consent form signed, and an appointment will be set for the interview.

The participants pertained to various establishments and ratings still working within the industry and have considerable experience. Respondent 1, coded as *Chef 1*, is an executive chef of a resort hotel, while Respondent 2, coded as *Chef 2*, is a Head chef in another resort hotel. Both hotels are situated in the northern part of the island. The two managers solicited in this experiment come from two casual establishments; *Manager 1* is a casual diner in an American Franchise, while the other manager, coded as *Manager 2*, is the owner of a large casual establishment.

Before the interview, a small chat broke the ice to be more comfortable. A colloquial environment also encouraged the participants to feel comfortable and ready while contributing their personal experiences (Mack, et al., 2005)

The exercise was held on Microsoft Teams and consisted of seven (7) questions that primarily targeted their respective processes and procedures and the corresponding training and CPDs applied to their employees in their establishments. The participants were scheduled independently and according to the agreed time by each interviewer. 40-60 minutes were allocated for each interview and were recorded with either Microsoft Teams or the phone recording.

The selected candidates were chosen specifically for their managerial roles within their businesses and, more importantly, as leading supervisory roles in tackling food allergen requests, from the ordering to the serving to the food concerned.

The experiment needs a smaller sample size in a qualitative study than a quantitative study. Turner-Bowker et al. (2008) emphasized that a preference in quantitative research is to gather detailed information from a bigger sample, albeit qualitative research adopts smaller sampling and concentrates more on individuals' awareness of their lifestyle and situations. The circumstances in which the researchers manage the analysis can manipulate either a qualitative or a quantitative method applicable (Turner-Bowker, et al., 2008). Qualitative study materializes within the problem or subject circumstances, whilst the circumstances can be structured or influenced (Baxter & Jack, 2008).

3.5. Validation and Reliability

The validity of the questionnaire's sample size was tested by assessing the context, content, and criterion validity which examined the relevance of the questions concerning the forecasted outcome. It is based on the concurrence of the members of the main associations of this disease which are the *Celiac and Gluten-Free Malta* and the *Coeliac Association Malta*, with a total number of 4100 members. The desired number of respondents exceeds 67, equivalent to 0.016% of the members of both associations. The term 'sample' is a segment of the population that reflects the general opinion and trends of the entire population (Denscombe, 2010).

This analysis's credibility can be guaranteed and completed with the members' approach and how valuable the data collected is. Credibility is an authentic design of the content found in the abstract or how accurate the analysis results describe the members' experiences during the questionnaire (Amankwaa, 2016). A risk to credibility crops up when the analyst cannot record sufficient details while collecting the data (Connelly, 2016).

Amankwaa (2016) also stated that valuable information and analyzing participants are essential for proving credibility in qualitative analysis. With the information obtained while doing the research, the analyst can establish the authenticity and the credibility of the members' criticism, information, and attitude that ensures the narrative authenticity of the analysis.

3.6. Ethics

The whole process assured that all participants in the three distinctive research methods contributed voluntarily, and the anonymity and confidentiality of the respondents were guaranteed throughout by the software used. The author applied data pseudonymization to guarantee the total discretion of the participants further.

Interview and focus group participants were presented with a consent form before participation, while anyone could withdraw from the process at any time. The research's benefits, risks, and approval were presented to the participant before accepting their contribution.

The author prevented any harmful sources from happening in the research planning process by guaranteeing the respondents their anonymity in a written and agreed form. The Psychological harm was tackled by explaining the research's content in detail while maintaining the confidentiality and guaranteeing any social risks and stigma.

The data was presented at face value, unmanipulated, and misinterpreted.

3.7. Limitation

The following is a list of limitations that were encountered in this research

- Recording the focus group may be misunderstood while transcribing.
- Covid 19 – interviews done via Microsoft Teams – could hinder full expressional and emotional communication, and the body language cannot be detected
- Even though other types of food business in Malta can be studied, catering production kitchens, casual dining restaurants, and fine dining restaurants seem to be the most dominant. According to the Malta Tourism Authority (MTA, 2020) and the Government of Malta Trade Department's lists of businesses (Ministry for the Economy, Investment and Small Business, 2020), the most significant categories are restaurants and catering units, respectively.
- It was also suggested that this study was better carried out in businesses, such as takeaways/ street vendors, instead of others, as the level of acceptance would have been significantly low because of the inconsistency in their operational methods (Schembri, 2017).
- As per the focus groups, the discussion will be held in a small group, and the information cannot be generalized to the entire population. The discussion will be held both in the Maltese and English languages.
- As per the questionnaire for the members of the Facebook group of Celiac Awareness Malta, it could be that within the group, there will be participants who are not gluten-sensitive individuals.
- The study in four different catering establishments by interviewing one to one key people who run the operation cannot reflect the whole catering industry in Malta, but analysing four different establishments and seeing how they operate will know how they tackle these issues.

4. Findings

4.1. Questionnaire Findings

Out of 84 participants, 64 were female, and the age prevalence of the respondents, 29.76%, was in the 36-45 age bracket (Figure 1).

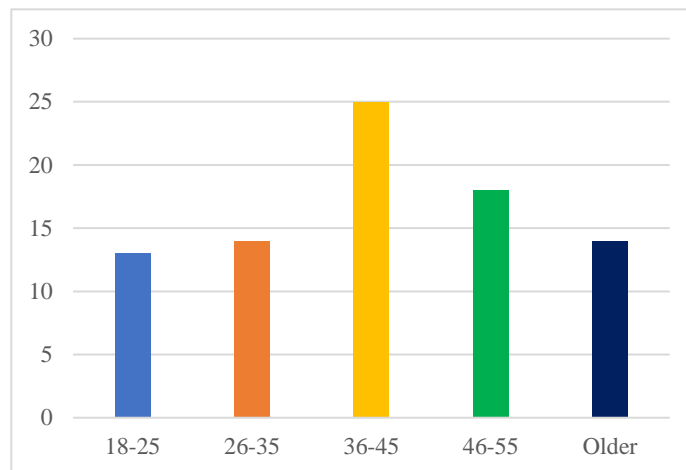


Figure 1 Question 2: Age Bracket

Almost all the participants were Maltese, except two Italians and one British who reside in Malta. 75% of the participants dine out weekly and monthly, whereas only 2 participants dine out daily (Figure 2).

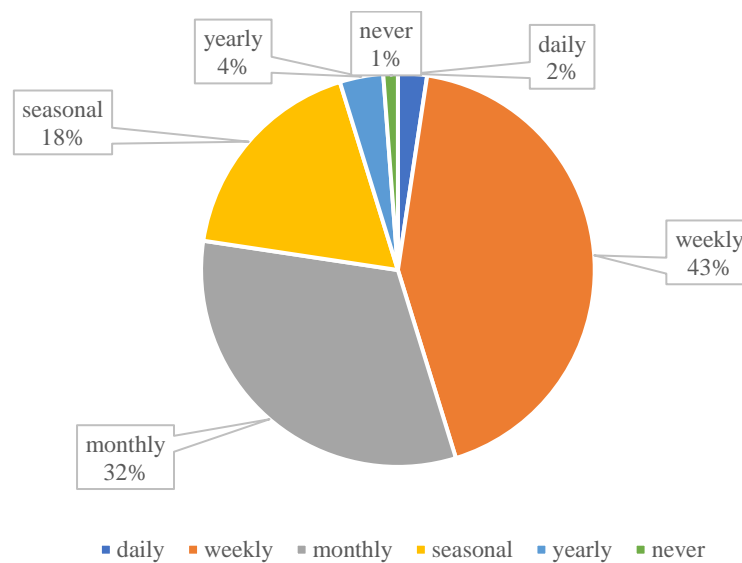


Figure 2 Question 5: How often do you dine out?

Generally, the participants look for information before dining out, and 57.14% decided on their venue based on the experiences of others. 91% of the participants agree that their choice is based entirely on this. However, 51.14% of the experiment are not sure the given product reflects the given information (Figure 3)

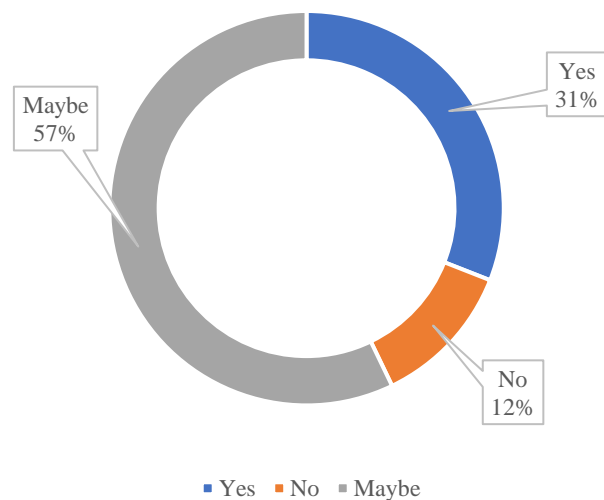


Figure 3 Question 10: Does the provided information reflects the products offered in the chosen diner?

When dining out, 22% of the participants expect to find Gluten-free menus, 23% seek attention from management on their food allergy, 23% search for symbols of allergies with food items, while 32% expect trained kitchen staff and that the service staff is more knowledgeable about gluten-free options. 42% of the participants feel safe and in good hands with trained and knowledgeable staff serving them; however, only 16% agree that the situation in Malta has improved in the last ten years. Just 2% of the participants believe that restaurants in Malta have trained and knowledgeable staff to meet gluten-free dietary requests (Figure 4).

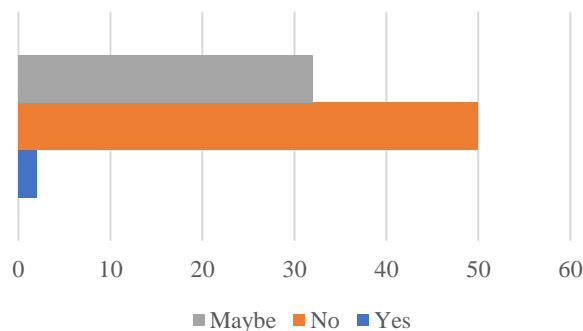


Figure 4 Question 13: Do you think that staff in Maltese eateries are adequately trained and knowledgeable to tackle Coeliac diets demands?

Almost 50% commented on the lack of awareness, knowledge, and training in most food eateries. As stated by participant 2, although some restaurants are aware of coeliac

disease, they do not know how to cater to or prepare food correctly. P16 and P20 commented that both kitchen and service staff need to be trained since very few are aware of contaminations. P28 stated that restaurants need to know the difference between celiac and gluten intolerant and that celiac is a lifelong disease. P33 added that lack of awareness makes the situation more difficult to trust someone preparing the food. P49 pointed out that some food handlers do not know that gluten may be hidden in other ingredients, resulting in food contamination. P50 argued that some restaurants offer chicken or meat as gluten-free and then serve it with gluten base sauces, while P51 stated that the main dish normally is gluten-free and can be served with simple sauces that do not contain gluten. P59 commented that it frustrates them when they are charged extra when ordering gluten-free options.

P24 suggested that laws for restaurants regarding coeliacs should be introduced and treated like HACCP training, which means that all staff needs to be certified and trained accordingly. P63 added that Malta has to be in line with Italy and other countries regarding gluten-free products, while P6 stated that although the situation has improved in these past five years, she still had issues with cross-contaminated food. An alternative suggestion was that the government address how gluten-free food is served. Another comment was that Malta has a misconception of how gluten-free food is interpreted since some opt to consume gluten-free food as part of their diet to lose weight.

Although some understand that gluten-free food is more expensive (Figure 5), some restaurants charge more than the actual product costs. As stated by P8, it is unfair that for a pizza base or a burger bun, there is an additional cost of 2 euros, especially when it is the same product sold in supermarkets. Others also argued that it is unfair that just for a plate of pasta, they are charged one or two euros extra when a whole packet of pasta costs one euro extra than normal pasta; however other participants concluded that they are willing to pay extra if the food is safe and does not make them sick. P1 stated that coeliac disease is a condition, and they have to live with it and face these challenges daily, so they have no other option when dining out.

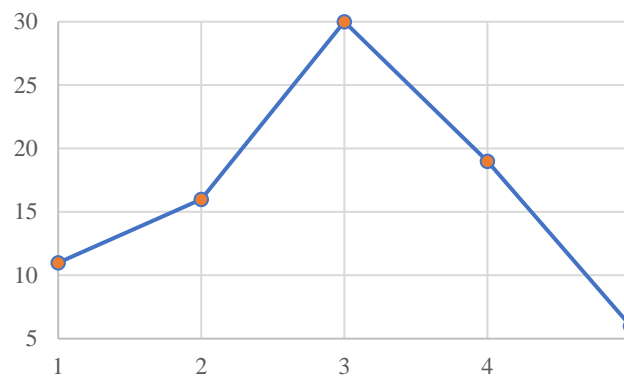


Figure 5 Question 14: Rate: Coeliac products are more expensive, so it is reasonable when you are charged extra for the gluten free food in an eatery.

4.2. Interviews with Food Serving Stakeholders

The two chefs and two restaurant managers from four separate eateries were solicited (Appendix 3) with seven (7) questions on their perspectives on the practices and processes utilized to tackle food-allergic demands. The respondents were coded as *Chef 1*, *Chef 2*, *Manager 1*, and *Manager 2*.

The first interview question asked about the level of knowledge on allergens and dietary requirements. The four respondents affirmed that they and their staff are knowledgeable about tackling special requests for allergen-free food. *Manager 2* just acknowledged that he has, personally, the necessary knowledge of allergens. *Chef 1* stressed the consequential fatal reaction of an allergic reaction; nonetheless, *Chef 2*, although acknowledging the understanding of allergens, exhibited confusion between allergy and intolerance. *Manager 1* confuted that his establishment has the right training on allergens and has processes and procedures for allergen meal requests.

The second question was about their actions to accommodate a customer's request with an allergen concern. All the participants have a procedure when an allergy request comes in; however, *Manager 1* looks like they have a much more organized system since it is a franchise restaurant. *Chef 2* and *Manager 1* have a separate kitchen and different utensils to prepare allergen requests, while *Manager 2* does not have a separate kitchen due to the size of the establishment. Nevertheless, he still has different equipment and utensils to prepare for such requirements. *Chef 2* pointed out that sometimes he is frustrated because he requests gluten-free meals to follow a particular diet without

knowing what is involved in preparing such a dish. For this reason, *Chef 2* suggested that the coeliac association implement a card for individuals who cannot consume gluten to be presented when dining out. *Chef 2*, *Manager 1*, and *Manager 2* agreed that although they take the necessary actions, they still tell their customers that their kitchens are not gluten-free.

Question 3 was about whether they have a specific menu or indicate gluten-free on the menu. *Chef 1*, *Chef 2*, and *Manager 2* all have menus or items labelled that indicate what gluten-free individuals can consume. However, *Manager 2*, because of being part of a franchise, cannot have a gluten-free menu to present to customers, but still, they have a list of dishes that can be served only by request. *Chef 2* mentioned that they serve buffet style in one of their restaurants, yet they prepare food from inside for coeliacs since guests help themselves from the buffet, so there might be cross-contamination of food. As part of their common practice, *Manager 2* does have an allergy matrix chart that indicates what the actual dishes contain.

Question 4 refers to the practices that are implemented within their kitchens. All the respondents stated that they have different utensils and equipment specifically for gluten-free. They have separate fryers, pots and pans, knives, and chopping boards. *Chef 2* also uses different practices during grilling to avoid any cross-contamination. As part of their procedures, *Manager 1* stated that when an order comes in, the chef who will be preparing the dish wears a new pair of gloves, and sanitize the working top, then when the dish is ready, he puts it on a different shelf instead of the normal pass to make it easier for the service staff to avoid any mistakes. *Chef 2*, *Manager 1*, and *Manager 2* mentioned that they all outsource their bread.

Question 5 queried about the available training for their staff. *Chef 1*, *Chef 2*, and *Manager 1* did provide basic training to all the staff as part of the food handling course training. *Manager 2* stated that only himself, his boss, and his supervisor attended specific training because they believe that the fewer people they tackle food allergens requests, the fewer mistakes they make. *Chef 2* concluded that the allergen matrix is a good tool for the staff to know the basics; through the experience, they will be more knowledgeable. As part of their procedures, *Manager 1* emphasized that all supervisors attended an allergen course apart from the basic food handling. They also have pictures

of all the dishes with allergies listed below in their kitchen. *Manager 1* concluded that they randomly ask the service staff about the dishes ordered without certain allergies every two months.

Question 6 was about the policy of their respective restaurant regarding gluten-free options. *Chef 1* stated that when a request comes in, the chef in charge on the day will coordinate everything. *Chef 2* emphasized that regarding the a la carte menu, he makes sure that there is an option for gluten-free individuals, and if a customer requests something else, he tries to meet the request, which means that practically they can provide a complete meal. *Chef 2* concluded that they have a segregated area within the kitchen to prepare GF dishes. Unlike the other respondents, *Manager 1* stated that they do not have any policy since they cannot indicate which gluten-free is on the menu as a franchise. However, *Manager 2* stressed that they could practically serve almost all the menu for customers that cannot consume gluten.

Question 7 was related to how all the participants can reassure their customers that they provide GF meals that are 100% safe with the current practices they implement. The participants concluded they could not guarantee they were 100% safe, telling customers about this. Although *Chef 2* and *Manager 1* stated that they have segregated areas for preparation, they know there can still be traces of gluten since wheat flour is used in their other kitchens. *Chef 2* concluded that it is very challenging to have a kitchen solely dedicated to serving only celiacs because of the cost incurred. *Manager 1* stated that having a restaurant dedicated solely to celiacs could be feasible if they produce and sell GF products to other food outlets besides serving their customers. However, *Manager 2* believes it is not feasible to have such a restaurant because the local market is limited.

4.3.Focus group findings

Gluten-free individuals have a negative attitude when dining out because they have no control during the preparation process. As a result, this affects the quality of life daily.

Question 1 - How often do they dine out in a restaurant?

(Quotes of the participants are presented in this research in italic font).

The Participants had distinct answers in this regard, but they all mentioned and agreed on the lack of awareness and knowledge from servers and chefs. This situation puts them in doubt about whether they can dine safely or not. P4's reply was *"twice a month because she is scared."* On many occasions, P4 had to explain to the server what celiac disease is and what she could or could not consume, so she is very concerned about the situation, and she only dines in a few restaurants where she trusts most. P2 stated that she feels much safer dining in a 5-star hotel because they are aware of allergies and trained.

Question 2 - What difficulties do they encounter as a celiac when dining out?

The Participants experienced similar situations where most of the servers did not know celiac or the consequences of consuming food contaminated with gluten. P1 works in a kitchen and encounters a situation where the chef gets furious when a gluten-free meal is requested. *"most of the time when an order for the gluten-free dish comes in the kitchen, I can literally hear the other chefs swearing, and it hurts me a lot"*.

Similar situations were encountered by P2, where servers are just there to serve food without knowing what the ingredients in that particular dish are. The language barrier is another difficulty since most servers do not speak Maltese or fluent English, resulting in a critical communication barrier in the kitchen. Another family member, P4, is always facing these challenges when dining out: "I cannot put her mind at rest, especially also having her daughter celiac, which makes it more difficult for my family and directly affects *the quality of life*."

Apart from the lack of knowledge, P3's concern is that some servers and chefs take this lightly because some individuals follow a gluten-free diet as part of their lifestyle, which can confuse the respective chef and server. Another thing is that chefs need to be more educated in preparing a dish, meaning they need to know about all the ingredients they are using while preparing the dish, not just the main item. Moreover, they need to use different utensils and ovens for cooking.

Being the eldest of all the participants, P4 is very aware of the severity, and how sick one can be if consuming gluten. Only by inhaling flour or something with gluten, a Coeliac in it P4 can be so sick that sometimes she must go to the hospital. Unfortunately,

she encountered such experiences. She had to advise and alert the servers of the possibility of being admitted to the hospital if she consumed gluten. Before she was diagnosed, P4 had a very bad experience because she had a miscarriage, corroborated a study done in Denmark by Louise Grode resulted that during the years before being diagnosed with coeliac, women were 62% more likely to experience a stillbirth and 12% more likely to experience a miscarriage than other pregnant women who had never been diagnosed with this disease (Rapaport, 2018). P4 stated that *"in certain food outlets and they just don't bother about it, the important for them is that they present the food. And this must stop because they are playing with lives."*

Question 3 – Some restaurants put a disclaimer on their gluten-free menus. What are your thoughts on this, and do you feel safe eating with such eaters?

Disclaimer notice on menus was another point that was discussed. Although P1 agrees that a disclaimer needs to be on the menu, it does not mean that one can dine there safely; however, P1 will be more disappointed if one dines in a restaurant that presents a menu without a disclaimer and still gets sick. P2 stated that sometimes certain restaurants just put the disclaimer on the menu to cover their backs, abide by legislation, and dine safely. She normally goes to the same restaurant.

On the other hand, a disclaimer is also easy for certain restaurant owners because it is safe to dine. P3 pointed out that some restaurants offer gluten-free pizza since the base is gluten-free, and then they top it up with the same condiments they use for the normal ones and, to make it even worse, bake it in the same oven they bake normal pizza. P3 also stated that a disclaimer must be done on a menu responsibly and that service and preparation staff know what coeliac disease means. P4 agreed with P3 and stated there is no halfway about it; *"I really do not trust disclaimers and do not feel comfortable."*

Question 4 - What reassures you that a restaurant can produce a gluten-free meal for you?

A segregated area is an ideal solution mentioned by the participants to reassure them to dine out safely. This action is what makes the participants feel safe and dine comfortably. It will minimize the risk of cross-contamination and rest their minds,

knowing they will not get sick. Also, it will reassure them that the service and kitchen staff are all aware and knowledgeable about their condition since they were all engaged and trained by the restaurant owner. P4 suggested that although the gluten-free food is prepared in a different area, it still needs to be completely covered until it is delivered to the customer.

Question 5 - What will be your reaction if the service staff seems unfamiliar with celiac disease, gluten sensitivity, and gluten-free needs?

Behavioural development about the awareness of gluten-free allergy is crucial in applying good practice that will have long-term repercussions on the progress of a safer gluten-free meal in the food service industry. Understanding individuals who suffer from gluten allergy are not enough, but servers should be trained on the consequences when gluten-free individuals consume contaminated food. All the participants who expressed their own experiences with gluten allergy knowledge within the food industry raised this issue. The consequences and lack of knowledge are some clear examples that the participants experienced. P1 stated, *"it's not pleasant to sit down with my family and have to spend at least 15 minutes educating the respective server about what will happen to me if I consume gluten, so for this reason, I will just get up and leave the restaurant."* Similarly, on the same subject, P3, in Question 2, declared that *"Chefs and servers need to take it seriously as if they are preparing a dish for someone who cannot consume peanuts or nuts and they need to know the severity of this allergy and how little one needs to be contaminated so for the chefs if they use a gluten-free pizza base it's enough, they do not need to think where they will bake it which most probably they will bake it in the same oven they bake normal pizza or if they cook a gluten-free pasta they need to use a different ladle and different pods. So, it's not just about the main item and the utensils used for preparation but all the ingredients added to that particular dish needs to be gluten-free."*

Question 6 - What is the quality of gluten-free food in restaurants? Is it equal to the common food prepared for the mass?

Another situation the participants argued about is the quality of the food offered. Most restaurants serve gluten-free individuals the same type of food, for example, the same

ready-made pizza base, the same bun for burgers, and the same desserts imported and distributed from the same supplier. They all agreed that the quality, especially the taste, is not good compared to normal food, and they have no alternatives. They are charged extra for ordering gluten-free food apart from the smaller portions to make it even worse. P3 feels that because gluten-free products are more expensive, some restaurants take advantage of this by increasing the prices, and it is unfair to them because, apart from being charged more, the portion is smaller than normal food. P3 felt offended when the food server presented the coffee with a normal biscuit knowing that she could not consume gluten. Two participants had expressed interest since it directly affects their children who cannot consume gluten. It is very difficult to explain that her six-year-old daughter, also celiac, cannot consume that biscuit because of her disease. Verbatim: *"Gluten-free food, especially the packed one is rubbish for her because apart from the taste is not good at all, it is full of carbs and sugars"*.

Question 7 - Do you think that a restaurant that only prepares gluten-free food will be successful in Malta? If yes, do you think you will visit the restaurant?

Having expressed all these concerns, the participants, except P1, agreed that a completely gluten-free food restaurant would be a success in Malta, although there is the perception that gluten-free food is not appetizing and will not attract customers who do not suffer from gluten. P1's main concern is that it could be that, albeit he agrees with this concept, there is the risk for such a food outlet that is not busy all the time as a normal restaurant. Therefore, promoting this type of restaurant plays a very important role. For example, it could be promoted that the restaurant uses only fresh and natural food that does not contain gluten. P3 commented that such a restaurant should be another option for other dietary requirements. Both P3 and P4 argued that fast food, such as nuggets, onion rings, mozzarella sticks, and other food, should also be served in this restaurant since they miss this type of food because of their limitations.

This study also showed that restaurants worked harder to provide more gluten-free options and trained their staff to prepare and serve tasteless food without contamination. Having such a restaurant, most often, the gluten-free diner will be the one to opt where to dine with partners, family, or friends and, therefore, will bring additional business.

Question 8 – Do you think there is a need for such restaurants in Malta, although most restaurants already serve gluten-free food?

All participants agreed that there is a need for such a restaurant; although some restaurants already serve gluten-free food, it can still be contaminated, so they cannot dine comfortably. Another point raised was that gluten-free food options are very limited. Verbatim, *"Since normal flour is being used in a restaurant, one cannot put his mind at rest while dining in that restaurant when having gluten-free food."*

Question 9 – Do you trust the restaurant staff in preparing gluten-free meals? And why?

All participants are reluctant to trust restaurant staff when gluten-free food is being prepared because they had bad experiences. In particular, P1 works as a chef and can notice the other chefs' negative reaction when an order with specific dietary requirements come into the kitchen. The participants' main concerns are communication, awareness, and lack of knowledge. P3 confirmed by stating, *"No because lack of knowledge and lack of awareness from the server which leads to wrong message and communication with the chefs."*

5. Discussion of Findings

5.1 Introduction

This thesis aims to study the level of service offered to coeliac customers in Maltese eateries and the customers' perceptions.

This chapter aims to discuss and interpret the findings of the questionnaire, the interviews, and the focus group in Chapter 4 and compare these outcomes with the literature presented in Chapter 2. The author debates the chapter's content by linking the literature and the findings to ascertain whether the gathered data described in the Findings chapter corroborates or challenges the researched literature.

The critical discussion is based on the subsequent four research Hypotheses established in the Introduction chapter that steered this study.

- To identify the best practice for serving coeliac customers by investigating their needs.
- To identify the different needs of gluten-intolerant customers and the chef's ability to provide safe food.
- To establish the type of food safety control and management and how knowledgeable chefs are about the disease and its consequences.
- To identify if it is feasible to have a gluten-free meal within Malta's local and foreign tourism, indicating if the food is free from contamination.

5.2 To identify the best practice for serving coeliac customers by investigating their needs.

The findings of this study revealed that gluten-sensitive individuals look for information on the eatery before choosing where to dine out, and mainly they choose their establishment based on other experiences. The respondents' main concern is the servers and chefs' lack of awareness and knowledge. As stated by L.Tarro (2017), awareness plays an important role in determining what food is suitable to consume. The results confirm that knowledgeable staff and their specific training on tackling a coeliac

customer is the main concern for gluten-free sufferers. The participants flagged that the lack of information and communication between the servers and the chefs may lead to food that can harm coeliac sufferers. The language barrier was identified by participant 2 in the focus group as another hurdle in the communication flow in a gluten-free meal request, and as she remarked, most of the servers who work in the hospitality industry in Malta do not speak English, let alone Maltese.

This study reaffirmed that gluten-free sufferers feel uncomfortable asking servers for more information about what their establishment offers when dining out. They expect to find gluten-free menus or menus marked with symbols of allergies but, above all, trained and knowledgeable employees that can assist them in their safe meal choice. Only 2% of the participants believe that restaurants in Malta have adequate staff to meet their expectations.

Interestingly, 43% of the participants still opt to dine out once a week, despite being conscious that they might encounter challenges in following their strict dietary limitations and consequently face unpleasant challenges as customers. As seen in Chapter 2.9, the law stipulated that customers have the right to know a detailed list of allergens in the selling product. Gluten-free customers depend on this information; however, whether this law is monitored and enforced enough in Malta to be seen.

In this respect, presenting and offering information regarding gluten allergy is crucial for them to dine more securely. However, all the interviewees confirmed that though they are much aware and trained about food allergies and what it entails to offer gluten-free food options to coeliac sufferers, none can reassure customers that they can prepare and serve food that is 100% safe for coeliacs.

Chalal & Kamil (2018) established during their study that gluten-sensitive individuals' dining trends doubled in Malaysia because customer satisfaction depends on food and service quality. Another important issue is the extra cost that coeliac sufferers bear on their specialized products. Nevertheless, although the questionnaire's respondents declared that gluten-free food and products are much more expensive than regular food, they still feel that they are paying too much, considering that food eateries already have a profit margin.

Domestically, the local government is conscious of the financial burden on families with gluten-free sufferers. The pharmacy of your choice (POYC) is a unit within the Ministry of Health that is accountable for registering and evaluating medically certified coeliacs eligible for grants in the form of vouchers to buy gluten-free food from registered shops all over Malta and Gozo. Government vouchers of €45 a month facilitate the burden that coeliac needs to carry along their daily challenges. Question 15, respondent 35 of the survey suggested that these vouchers be introduced throughout the food eateries, a proposal the government should consider.

Compared to 'normal' products previously referred to, the general costlier gluten-free products are also attributed to the costlier production of gluten-free products. The researcher's expertise in food production led to the following descriptive analysis of bread production and the different techniques for producing gluten-free and normal bread.

Any type of bread that is wheat-based is much easier to bake and has fewer ingredients. The reason is that gluten-free bread has various combined flours to simulate wheat flour; therefore, the cost is much more, and the labour involved in mixing these flours makes it more costly. The dough is sticky when gluten-free bread is produced compared to wheat bread dough. More handling is needed, incurring labour-intensive and time-consuming production, reflecting the price.

From the chefs' and managers' perspectives, the cost incurred is not based exclusively on the product's cost. First and foremost, they must ensure that both kitchen and service staff can tackle allergies requests or train where necessary. Although it is by law that all employees working in a food-related environment are obliged to possess a Food Handlers Certification, the present situation in the catering workforce in Malta and the continuous turnover of staff makes it an arduous task for supervisory staff to keep account of the knowledge level of their staff in this respect. Besides the language barrier that was exposed in this study.

To serve gluten-free food, the staff needs to have a designated area to prepare and serve coeliac dishes which means that the kitchen must be equipped with exclusive kitchen

equipment, pots, and utensils without cross-contamination. The manufacturing design of the production area must be well-planned to prevent the production of gluten-containing and non-gluten-containing food throughout the same shift. The non-gluten products must be manufactured first to prevent cross-contamination of food in a dust and ventilation-controlled environment. Products and ingredients that contain gluten must be identified through colour-coded stickers or containers.

Chef 2 suggested that the coeliac association in Malta should introduce a card for individuals that cannot consume gluten to be presented when dining out. Having this in place will verify for gluten-free sufferers that when presenting this card, the restaurant manager or supervisor will acknowledge and verify that the customer cannot consume any food that contains gluten. Having said this, anyone can choose what to eat and opt to follow a gluten-free diet without the need to present a card to confirm that the individual is celiac.

5.3 To identify the different needs of gluten-intolerant customers and the chef's ability to provide food according to the severity level.

John D. Pratter's study in 2001 revealed that 60% of allergy sufferers come across that the menus offered in restaurants lack information that could deceive them. During the interviews, Manager 1, who works in a franchise restaurant, stated that they do not have any menu with gluten-free items to offer to customers, but still, they do serve gluten-free food only by request. This franchise restaurant's policy is that since gluten is used in most dishes in their kitchen, they cannot commit and state that they serve gluten-free food. Nevertheless, they have a dedicated area within the same kitchen where gluten-free food is prepared and a risk assessment plan which is part of the food safety system, is in place. Regarding buffet service, Chef 2 stated that although food items served on the buffet are gluten-free, they still have the policy to prepare any request from coeliacs separately in the kitchen because there might be cross-contamination when using the buffet's same serving spoons.

As per the Food Safety Act 2011/1169, the manufacturer or the caterer must present the list of ingredients to the customer, whether packed or unpacked food. The legislation stipulates that 'ingredient' means any substance or product, including flavourings, food

additives and food enzymes, and any constituent of a compound ingredient, used in the manufacture or preparation of food and still present in the finished product, even if in an altered form; residues shall not be considered as 'ingredients' (EU No 1169, 2011). All the ingredients must be listed and presented to the customer. A risk assessment is essential in protecting the employees and the business and being compliant with the law. It also helps to focus on the workplace's difficulties, which could directly hurt employees and customers (HSE, 2022). Putting a disclaimer at the bottom of the menu that food may contain traces of allergies is not enough. Unfortunately, some food eateries put a disclaimer just to waive the restaurant's responsibility for a risk assessment. In this regard, focus group participant P1 stated, '*Really and truly a disclaimer is put on the menus just to cover their backs and to abide per legislation.*' P2 reaffirmed the line of thought and specified that '*a disclaimer is an easy way out because all one needs to do is put a disclaimer, and no one can say anything after if you felt sick, so if one promotes a gluten-free menu, it needs to be done properly; otherwise just do not cater. Do not promote a gluten-free menu just not to lose clients or to get new clients, but then the only thing you do, for example, a pizza base that is gluten-free and then you use the same condiments of the normal pizza and bake it in the same oven because it is useless.*' Having said this, although the caterer needs to have a disclaimer on the menu, he is still legally obliged to have a risk assessment of the area or kitchen where the gluten-free is being prepared.

All the interviewees acknowledged that they have the disclaimer, and it is part of the common practice to indicate what allergens the actual dish contains. Having a disclaimer in place does not mean that coeliac can dine 100% safe because there could still be cross-contamination of food, and the findings of this study support this fact. The author evaluated this situation as unprofessional and highly unethical, considering the potential fatality of a severe allergy reaction. There is no halfway about this; it is either good or not for gluten-sensitive individuals to dine safely. As already mentioned, food eateries that prepare and serve gluten-free food must have a risk assessment to reassure customers that they are doing the right thing within their parameters. Caterers are obliged to know where their hazards are so they will be able to take the necessary precautions to avoid any repercussions.

Managing and preventing cross-contamination starts when the product is delivered until the actual dish is presented to the customer. Standard Operation Procedures (SOPs) should be applied to offer the safest way food is managed, from delivery to production and service. All the interviewers have practices in place, like different utensils and equipment specifically used for any coeliac request; however, the processes they implement vary from one kitchen to another, principally depending on the limited size of the kitchen were never designed to accommodate these requests.

Occurrences of cross-contamination are not only caused across ingredients but similarly throughout involuntary contact with allergens. The contamination may occur at any preparation stage where the space is limited within the kitchens. These two limitations appear to be difficulties in the preparation of allergen-safe food.

A study done in Denmark by Louise Grode in 2018 supports the bad experience that P4 encountered. The study resulted that women were 62% more likely to experience a stillbirth during the years before being diagnosed with coeliac and 12% more likely to experience a miscarriage than other pregnant women who had never been diagnosed with this disease (Rapaport, 2018).

Another common practice extrapolated from the interviewers was that they all outsource their gluten-free bread, which, in most cases, is similar to that sold in the supermarkets. The author confirms that P3 and P4 in the focus group stated that all the packed gluten-free bread is the same and not good quality. Nevertheless, is it feasible and realistic to produce in-house gluten-free bread for the discontinuous and few requests for gluten-free meals? As a pastry chef with vast experience in food production, the author concludes that the effort and risks of producing gluten-free bread are too high to consider.

5.4 To establish the type of food control and management and how knowledgeable chefs are about the disease and its consequences.

Designed training and information programs for chefs and servers contribute to further efficient knowledge-sharing practices. The literature of this study reaffirmed that the prevalence rates of gluten allergies are on the rise, and food allergies and sensitivities

are being acknowledged and prioritized by many food-related organizations. These companies provide and continuously develop training and education programs for their food handlers. This research revealed how training is important since the questionnaire participants expected that the chefs and servers were competent in food allergens knowledge. In this respect, 42% of the questionnaire stated that they feel safe when they know that their respective food is prepared by competent staff; however, only 2% believe that Maltese restaurants have knowledgeable and trained staff.

Participant 3 of the focus group stated that *"The only way to go to a restaurant and feel comfortable 100% is to have a completely different kitchen and maybe the whole restaurant to be gluten-free and that all the staff who works in the kitchen to prepare food and also the serving staff, they all should be trained about what a celiac is, about gluten intolerant is and also how food can be contaminated. That is the only way that I will be 100% safe."*

The food handlers must have a sound and clear knowledge of an allergic reaction's severity and fatal consequences and the appropriate training to prevent such cases. Such perceptions can effortlessly be disseminated in an untrained workforce and could create acceptable carelessness in a food production environment.

This research exhibited that the communication between chef and service is crucial to serving safe food to gluten sufferers. The operation of any food-related business where food allergens are concerned should present a strict procedure for the flow of information whenever an allergen-free meal is requested. This procedure works both ways. The chefs must provide unequivocal information on the allergen content of every item in their food production, while the front-of-house should provide concise but precise information about the request.

Training must be planned to tackle all food safety concerns with the correct tools. The appropriate training should be dedicated to food safety issues and specifically target the tools to control and enlighten the related concerns. Almost half of the participants from the questionnaire do encounter a lack of awareness and knowledge of local food eateries, albeit P2 declared that there are restaurants that are aware of coeliac disease. Unfortunately, they do not know how to handle the food accurately. The Food and Drug

Administration (FDA) in the US mandates that operational-specific training for employees who work within the food industry is obligatory and that the management of food allergens must be included. Interviewers, Chef 1, Chef 2, and Manager 1 confirmed that they provide basic training to all their staff as part of the food handling training; nonetheless, very limited training is pledged towards allergen training. Schembri (2017) revealed that food hygiene is prioritized more than food allergen when food safety training is delivered; however, food allergy training should be combined as part of each food safety program. Schembri also concluded that allergen management training is not a priority for many employers since they are more attracted to recruiting chefs with cooking knowledge than other qualities and expertise. The same applies to other food handlers, and the author deducts that such priorities are based on every business's unique purpose: to make a profit. It is understandable to a certain extent, ignoring the consequential devastating effects of the liability and bad publicity involved in an allergic reaction at their establishment.

On the 13th of December 2014, the latest food safety regulation was implemented to address these consequences. Food Information Regulations (FIR) are the current means to tackle the abovementioned deficiencies. Legislation is an approach to good administration; nevertheless, it needs more effort to address the existing gaps than just implementing regulations and legislation to distribute gluten-free food to individuals safely. Effective training supported by the correct knowledge of how gluten-free food is managed and prepared must be communicated to the working staff to develop their behavioural practices. The intricacy of preparing a safe meal for gluten-free individuals furthers the knowledge addressed during a basic food hygiene training course. This training must be incorporated as part of the food safety management with prominence on the practical key factors influencing food servers' performance (Schembri, 2017).

The consequences and lack of knowledge are clear examples that the participants experienced during the focus group. During the focus group, it transpired that a separate kitchen with knowledgeable staff is the only way forward to dining safely. P3 declared that: *"Chefs and servers need to take it seriously as if they are preparing a dish for someone who cannot consume peanuts or nuts, and they need to know the severity of this allergy and how little one needs to be contaminated so for the chefs if they use a gluten-free pizza base it's enough, they do not need to think where they will bake it which*

most probably they will bake it in the same oven they bake normal pizza or if they cook a gluten-free pasta they need to use a different ladle and different pods. So, it's not just about the main item and the utensils used for preparation but all the ingredients added to that particular dish need to be gluten-free." Practically, although the operation mentioned above is idyllic, it is difficult to implement.

Being a franchise-operated restaurant, Manager 1 stated that his supervisors did attend an allergen course, and as part of their procedures, they randomly ask their service staff about food ordered that does not contain gluten every two months. As stated in the literature, the food safety law EC 178/2002 specifies that the customer has the right to precisely know what he/she is buying and that the available instructions are correct and up to date.

As per the Italian Association certification discussed in the literature, a certification is an exceptional approach for restaurants to approve their gluten-free menus. In the author's evaluation, the standards approved by gluten-free certification associations are likely to be more rigid for two reasons. Primarily safeguarding the direct interest of their associates in the protection of their safety and trust-building in the food-related industry, and secondly, the elevation of the association's reputation in educating the food industry to tackle allergies. The restaurants acquiring such certification can obtain and display an authorized symbol on their marketing materials and menus and offer customers visible affirmation that their environment and food meet the highest standards for a gluten-free dish.

As explained in chapter 2.6, Sweden was a frontline in providing restaurant certification for serving 'Allergy-free' food to their customers. Sweden's Asthma and Allergy Association started issuing a certification to restaurants that accept a special training course that will enable them to know their food and advise their allergy suffering customer with the right options. Restaurant associations actively participated in the process

Similarly, AIC, the coeliac association in Italy, introduced a plaque with a star indicating the restaurants proficiently serving gluten-free food. This certification entails the

businesses to train their staff and association representatives regularly supervising the establishments to monitor the adhering to its rules in producing safe gluten-free meals.

The EU implemented the Food Information Regulations (FIR) in 2014, the current legislation to tackle the deficiencies mentioned beforehand. This legislation is an approach to the good administration of food eateries; nevertheless, it needs more effort to address the existing gaps than just implementing regulations and legislation to distribute gluten-free food to individuals in the safest way possible.

The authorities in Malta lack enforcement compared to countries as transpired in this chapter. The questionnaire highlighted this matter since P3 added that Malta must be in line with Italy and other countries regarding gluten-free products. P24 also suggested that laws for restaurants regarding coeliacs should be introduced and treated like HACCP, which means that all staff needs to be certified and trained accordingly. Ironically, the law *Subsidiary Legislation 449.27 – Registration of Food Handlers Regulation*, is already in place

5.5 To identify if it is feasible to have a gluten-free meal within Malta's local and foreign tourism, indicating if the food is free from contamination and bought from a reputable supplier.

According to Eurostat (2020), Malta has the third-highest household expenditure when dining out. As argued in the literature, Malta's peak tourism season is summer and the population on the island at one time reaches around a million, and the prevalence of allergic persons would theoretically be around 20,000.

During the interviews, Chef 2 stated that it is very challenging to have a complete kitchen dedicated to serving gluten-free meals because of the cost incurred, while Manager 2 concluded that having such a restaurant in Malta is not feasible to run due to the limited market. The author, basing his analysis on his work and personal experiences, does not agree with such a statement.

This research's whole argumentation indicated a need for a restaurant offering exclusive gluten-free. The potential clientele, the lack of professionalism and enforcement, and the

latent safety hazard of producing a gluten-free meal revealed in this study led the author to argue that there is a market for a fully-fledged gluten-free restaurant.

There is a trend in London and Sydney to open gluten-free restaurants. A gluten-free meal does not mean that it is less appetizing and appealing, even to non-gluten-free customers. The kitchen ambience would be safe and guaranteed cross-contamination since no gluten products are stored or consumed on the premises. Such a restaurant would employ only highly trained and conversant with gluten-free dining. The business can benefit not only from enticing gluten-sensitive customers but also serve their respective families and friends.

An interesting suggestion from Manager1 was that having a restaurant dedicated solely to gluten sufferers could be feasible if they produce and sell GF products to other food outlets besides serving their customers.

Participants within the focus group concluded that a restaurant that solely provides gluten-free meals would be successful locally, albeit the perception that gluten-free food is not appetizing and may not attract other customers. P1's concern is that such a restaurant could not be busy at times compared to a normal restaurant. It depends on how the restaurant is operated and promoted to entice customers that dishes that do not contain gluten can be served. In this respect, P3 suggested that a restaurant of this type must be promoted appropriately and uses fresh and natural food as much as possible.

P4 concluded that fast food items like nuggets, onion rings, and other similar junk food are the most meals that they miss out on from restaurants. Again, the author rebuts such arguments, the mentioned food items can be replicated with gluten-free ingredients, but as stated before, it is up to the chef's imagination, pro-activity, and creativity to produce alternatives.

6. Conclusion & Recommendations

6.1. Framework of the Study

This chapter presents the conclusion of this research that questioned the safety and integrity of gluten-free meals in the Maltese food service industry. The holistic study plan was to investigate the level of competence of the service stakeholders of the workers in the Maltese hospitality industry vis-a-vis the safety of served food in Maltese eateries for gluten intolerance.

The literature review has undoubtedly indicated that gluten-sensitive individuals have challenges and serious gaps when they opt to dine out. It is also noted that gluten-sensitive individuals face frustrations even when attending a normal social activity where food will be served; they cannot feel comfortable and relaxed. For most of those who will be present and do not suffer from any allergy-related condition, no one will consider that people who suffer from any allergy condition will be present. In the literature review, one evident aspect that emerged is the lack of knowledgeable serving staff and the ability to provide gluten-sensitive individuals' needs. This study aims to identify the best practice for serving coeliac customers by investigating their needs. It is also intended to identify if it is feasible to have a completely gluten-free meal within Malta's local and foreign tourism, especially indicating if the food received is free from contamination and bought from a reputable supplier. Another aspect is to identify if a chef will be able to prepare and serve food according to the severity level and how knowledgeable the disease is and its consequences.

6.2. Conclusive Analysis with Recommendations

The results of this research support identifying the best practices, demands, and challenges of gluten-sensitive individuals dining out. Offering information and training the staff may give an approach for food eateries to improve guests' satisfaction and patrons' loyalty amongst diners that cannot consume gluten.

As this research revealed, diners that cannot consume gluten achieve most of the information-seeking online. Consequently, a recommended future procedure for food

eateries is to update their websites to exploit better and different marketing approaches to entice customers with gluten allergies. Furthermore, improving restaurant policies, specific food allergy training for staff, safe handling during food preparation, and preventing cross-contamination. Appropriate training and knowledge must be given constantly, especially with high staff turnover. The study showed that staff turnover could be a cost burden for food eateries due to the extra training incurred. The author recommends that part of this training must be subsidized by local authorities as long as the training is implemented by professionals, which eventually will be part of the accreditation that that particular food outlet can prepare and serve gluten-free meals.

Moreover, developing restaurant policies and training for staff on food allergies, safe approaches to food preparation, and cross-contamination prevention would be recommended for increased safety and customer satisfaction. The author recommends that the training program has to be taught by external experts and must be practical. The training provided to the food service industry staff must be explicit to work enacted in the particular workplace. Before doing a menu, restaurateurs have to focus on natural ingredients and keep in mind their limitations so they will be able to provide a safe meal for gluten sufferers.

As a recommendation for gluten-sensitive individuals when dining with a group, ideally, they must be the first or the last person to order since they will get the full attention of the server. They must ensure that their specific needs and requirements are written and communicated to the kitchen. Ideally, the server will return to confirm that the chef will accommodate them and do the requirements while preparing the food. Furthermore, having somebody accountable for a safe meal is beneficial, if possible, having the chef or the manager come over to the table to discuss his needs with the customer. While dining out, feeling safe and empathized by knowledgeable staff is a result that they had correct training on food allergies management and are abiding by food allergy procedures. Food eateries with policies and procedures for food allergies and offering specific menus will positively impact gluten-sensitive individuals. Having at least someone from the staff that is knowledgeable and trained to assist customers that cannot consume gluten is highly appreciated by the customers themselves.

Before doing a menu, restaurateurs have to focus on natural ingredients and keep in mind their limitations so they will be able to provide a safe meal for gluten sufferers. Non-processed meats, fish, poultry, fruit, vegetables, beans, seeds, legumes, most dairy products, and eggs are part of the natural ingredients list that can be utilized within a menu. Most of these ingredients can easily be served for gluten-free sufferers; however, it is easily said than done since it might be contaminated with other ingredients that contain gluten used in the kitchen through cross-contamination. Ingredients like sauces, spices, seasonings and flours, and any other items that are bought ready and made within the kitchen must be certified as gluten-free

The findings recommend that the attention and information offered to customers when dining out is linked with the customer's loyalty and satisfaction, which includes more visits, positive reviews, and recommendations for future dining for their respective family and friends. The consequences for food eateries of not being able to provide and serve gluten-free options will result not just in losing the actual customer that could become regular ones but also their relatives and friends since they will opt for a restaurant that will accommodate them.

In addition, the policies and training could be included in marketing/promotional materials. An additional recommendation for restaurants is to provide servers with training on food allergies and how to communicate better with customers who have them. If the staff member is not well trained or not confident enough to discuss food allergies in detail, someone else who is well trained should be invited to contribute by communicating with customers and helping them order their food. Clear communication between the server and the kitchen is also a key to preventing mistakes and reassuring customers that their needs are being met. Additionally, having a chef or manager who directly communicates with the customer will make them feel comfortable and enhance customer satisfaction.

When eating out, gluten-sensitive individuals find it complicated and challenging because it entails information that must be exchanged between themselves and the restaurant servers to comprehend, plan for, apply, and safely please their needs. According to Tarro et al. (2017), having comprehensible information and knowledgeable staff can amplify guests' satisfaction and prevent losing customers.

Accurate information about a food eatery will boost the customers' self-confidence and offer more dining options.

The connotation of the capability to seek and discuss gluten-free food and ingredients while dining out endow a guide to other coeliac sufferers and to restaurant servers regarding helpful communication that can offer about gluten-free food. The findings imply that clear information and communication about dietary demands for gluten-free sufferers increase their willingness to return or attract new customers to dine out. 91% of the participants from the questionnaire agreed that their choice is based entirely on this. The author recommends that gluten-free menus, symbols of food allergens on the menu, trained kitchen staff, and knowledgeable servers are the key factors for dining satisfaction.

Regarding legal obligations and responsibilities, the author recommends that there should be a system of practices where food eateries must stick to guidelines daily, which will significantly improve the current situation. Another recommendation that the author suggests is regarding the misinformation in marketing, where if a particular restaurant promotes that it serves gluten-free options, the restaurant is obliged to show customers that it is certified to serve gluten-free meals by placing a sticker outside the premises that imply that the restaurant is endorsed for gluten-free sufferers. With this certification in place, the restaurant needs to be audited randomly by local authorities to verify everything is in place. As mentioned during the research, this suggestion is already implemented in various countries, but it has to be taken seriously and enforced by local authorities to have a process in place. Consequently to this certification, the author suggests that the POYC vouchers can be redeemed to any food eatery certified to serve gluten-free food.

The coeliac association Malta needs to be more proactive in this regard and work with the local authorities and the government to ensure safe practices are in place. Coeliac UK commissioned two projects in 2010 and 2012 to support gluten-free sufferers with information to denounce the catering sector (Coeliac UK, 2011). The first project included a gluten-free risk assessment toolkit for food in the catering sector to help them examine gluten-free sufferers' levels of gluten in meals. This project involved various catering establishments, including large food chains, restaurants, a hospital, a school,

and a workplace canteen. It resulted that 95% of the tested samples were gluten-free and in line with the law. The second project evaluated the risks and the required measures for gluten-free production in an environment where wheat flour is used within a commercial kitchen. This project established more accurate recommendations on the conditions required to provide gluten-free food, whereas gluten-containing flour was still used in the same kitchen.

The author recommends that opening a restaurant catering to gluten-free meals is not feasible. Although the study resulted in a need for this type of restaurant, it is not the solution. From a restauranter's point of view, apart from the daily cost and the risk of not making the desired covers daily compared to a normal restaurant, the main concern is that eating food that does not contain gluten is less appetizing and appealing. Unfortunately, the perception is that having a gluten-free meal is not as good as a normal meal. This study showed that the food quality without gluten would not attract customers that can consume gluten, especially when, in many cases, restaurants serve the same brand of bread and pizza bases, which is not appealing and cannot be compared with normal ones.

The author suggests that Malta should follow other countries and adopt the practices used within the catering sector. The two practices used across the UK are ideal examples that Malta should adopt and implement. By implementing this, both parties will benefit from it, whereas gluten-sensitive individuals will have more options where they can dine safely, while on the other hand, food establishments will increase their sales. The food eateries will augment their business by offering a safe gluten-free menu. The author concludes that training staff, promoting awareness, and implementing the accreditation scheme are ways for gluten-sensitive individuals to dine safely and comfortably.

There are fields within this research that would promote further studies, namely:

- Deeper observations of what practices are being used within the kitchens as regards cross contaminations.
- To have a system implemented in educational institutions on how to manage allergens.

6.3. Limitations of the Study

The outcomes and relevance of any research project depend highly on the validity and accuracy of the research data collated through the established research methods. As with any research project, the limitation of the study will emerge, and this study is no exception.

- The sample size of the survey, conducted online, does not reflect the actual number of people in Malta who have celiac disease. The author sent numerous emails to the Maltese Health authorities to try to attain this, but no information was disclosed. Investigating this through online research only concluded one such study, the ITAMA PROJECT conducted in 2018 by the Pathology Department Mater Dei Hospital Malta, which only gave the geographical distribution of individuals who received the government benefits for POYC.
- It is a well-known factor that gluten-free commodities are costlier than normal food products. This factor has been discussed in chapter 2.8; no official study has been undertaken by the relevant health authorities that truly reinforce this statement.
- Concerning the qualitative research, interviews could have been conducted to include a wider spectrum of outlets in the Maltese catering industry which might have included Fast food eateries and Food trucks. This approach would have given a more holistic insight and general perspective on how this industry accommodates celiacs.
- The primary focus of this dissertation was specifically focused on the investigation of gluten allergy. None of the other 13 allergens established food allergens were investigated, which can lead to subjectivity. This study can act as a ‘starting point’ for future studies relating to food allergies amongst the Maltese population when dining out.
- For the qualitative research, the author established a focus group. The primary scope of the focus group was discussed in Chapter 3.1. Initially, 9 participants

agreed to partake in this focus group. Unfortunately, on the day of the actual meeting, only four participated. Due to this limited number of participants, the information gathered may be somewhat subjective.

6.4. Conclusion

This study has rendered the awareness of gluten-sensitive individuals and the gaps that exist when dining out. The anxieties of dining out have conversed, and their supposition persistently revealed that they have little or no trust in chefs.

The study outcome showed the lack of knowledge on gluten allergy from servers and chefs. Insufficient training is the result of this deficiency. The training given to people within the food service industry must be explicit to the specific work performed in the particular workplace. Training programs must be provided and trained by experts.

On the other hand, customers have to convey their needs whenever they opt to dine out. The first step of the process is to notify the kitchen staff that a gluten-sensitive individual is dining within their premises. Then, as part of the allergen management policy, all the following practices will be followed step by step to prepare and serve a safe meal.

For Gluten-sensitive individuals, eating out is one of the most traumatic experiences. Having to elucidate and clarify their diet and worrying about potentially getting sick after consuming the food can make it difficult and uncomfortable to enjoy eating. By eating at a gluten-free restaurant, they can liberally appreciate and enjoy tasty food cooked in a safe environment with their family and friends. Most celiac disease sufferers have limited options where to eat, so they are more likely to return to the same restaurant over and over. Knowing that the restaurant is safe to dine at, they will be regular and repeat customers. With a little investment to be accredited as gluten-free restaurants, food eateries can make a difference for these sufferers, and without any doubt, they will appreciate this switch in providing gluten-free meals while still enjoying the restaurant menu. It is a win-win situation.

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Appendix 1 - Questionnaire

Coeliac Questionnaires - Thesis

1. Gender

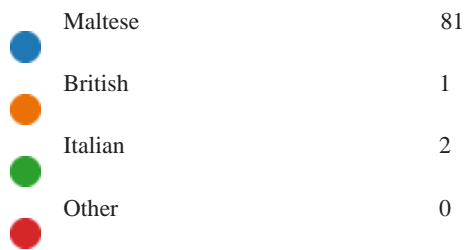
	Female	64
	Male	20
	Non-binary	0
	Prefer not to say	0



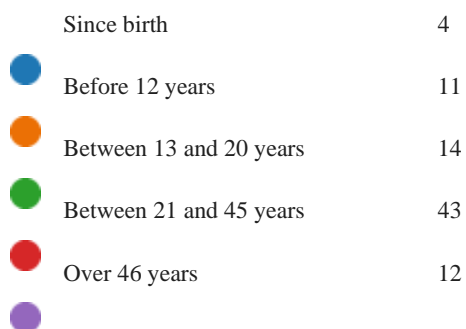
2. Age

18-25	13
26-35	14
36-45	25
46-55	18
Older than 55	14

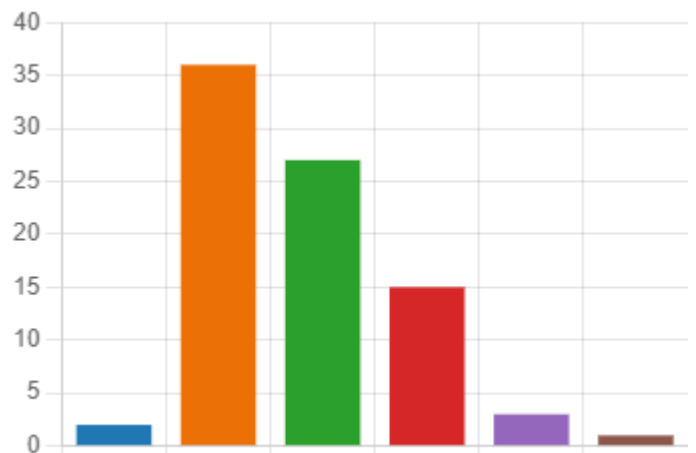
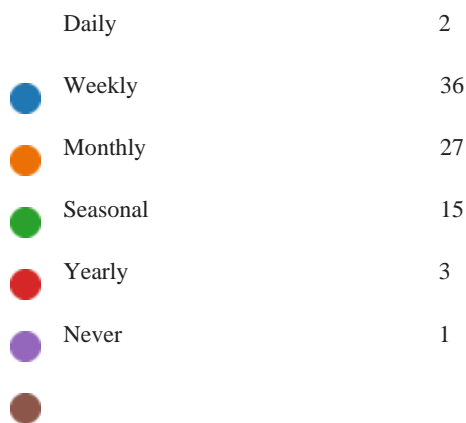
3. Nationality



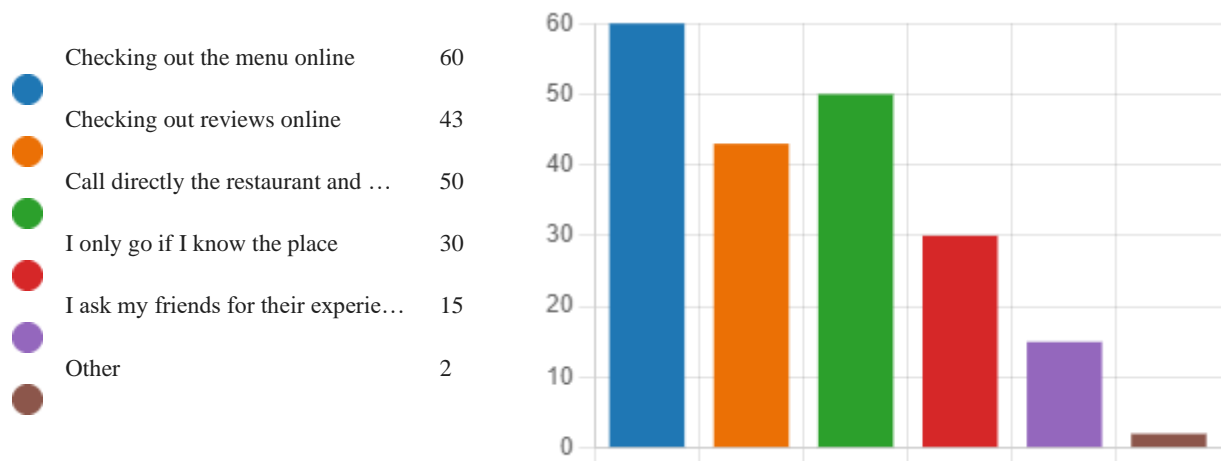
4. At what age were you diagnosed with Coeliac disease?



5. How often do you dine out?



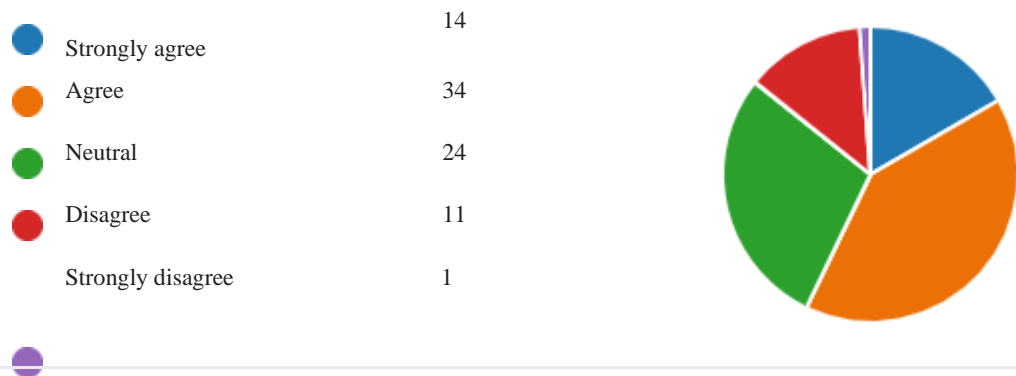
6. Before going to a restaurant I seek information about gluten free food options by



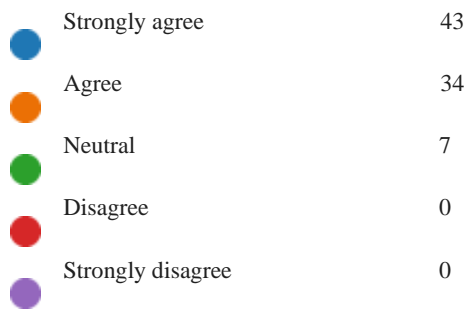
7. How do you rate the available information on Coeliac diet requirements offered byMaltese diners?

84	1.94
Responses	Average Number

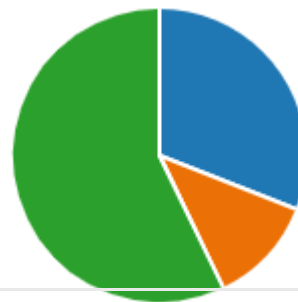
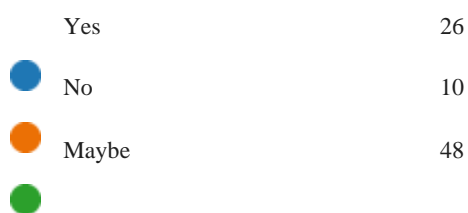
8. I make a choice about an eatery based on the experiences provided by my friends,family and reviews



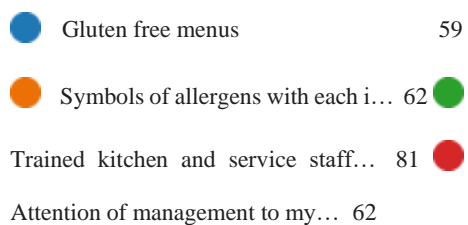
9. The information gathered on an eatery is crucial on my choice of where I dine out



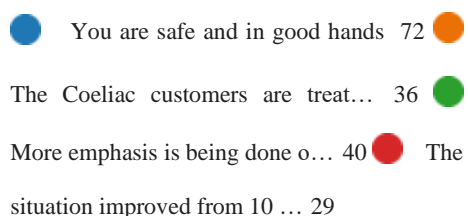
10. Does the provided information reflects the products offered in the chosen diner?



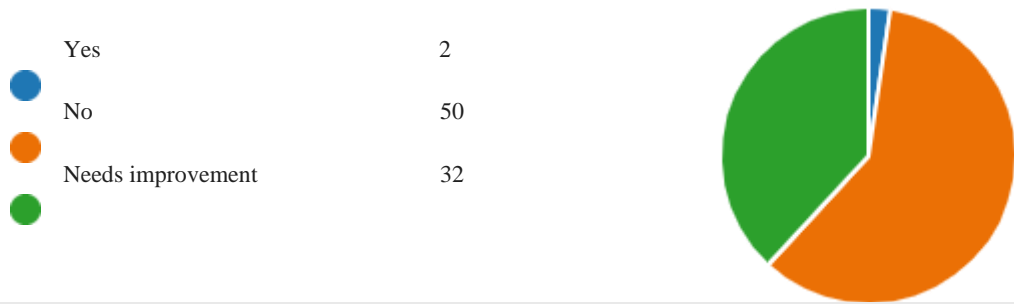
11. What do you expect to experience in an eatery that offers Coeliac option?



12. Knowledgeable and trained staff in an eatery makes you feel that



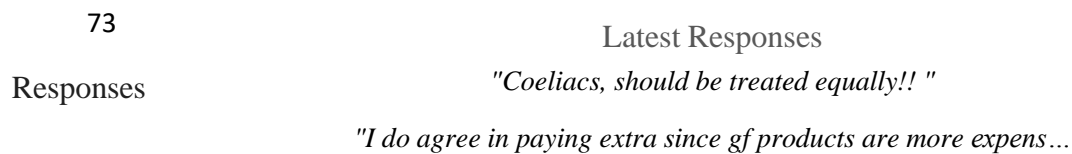
13. Do you think that staff in Maltese eateries are adequately trained and knowledgeable to tackle Coeliac diets demands?



14. Coeliac products are more expensive, so it is reasonable when you are charged extrafor the gluten free food in an eatery.



15. Elaborate on the reason why the rate was given in Question 14



22 respondents (30%) answered **gluten** for this question.



16. How much safe do you feel dining in a Maltese eatery?

84	2.30
Responses	Average Number

17. Any additional comment

83	Latest Responses
Responses	<i>"There surely needs to be more awareness. Better options es...</i> <i>"Needs to be more awarenes of a coeliac condition."</i> <i>"I do feel sometimes discriminated when it comes to starters ...</i>

32 respondents (38%) answered **coeliacs** for this question.



Appendix 2 – Focus Group Transcripts

Focus Group Question 1	
Participant Code Name	How often do you dine in a restaurant or even other eaters?
P1	6 times a week
P2	Twice a week
P3	Once a week
P4	Twice a month because she is scared

Focus Group Question 2	
Participant Code Name	What are the difficulties as a celiac do you encounter when dining out?
P1	It's just sitting down and the servers have lack of knowledge about what celiac is and then you basically want to make them conscious how serious is the allergy. Some servers just take the order and hand it to the kitchen staff without even knowing the consequences if the food is contaminated. Many a times this does not make the participant 1 to dine safely. He works in a kitchen as a chef and most of the time when an order for gluten free dish comes in the kitchen, he can literally hear the other chefs swearing and it hurts him a lot. This happens due the fact that the actual chef does not want to go out of his comfort zone to prepare food for dietary requirements. At the end of the day it is effecting the quality of his life. It's an every day challenge.
P2	Same as prt 1 in particularly about the servers that they just serve the food without even knowing what's in it. They just do the job to earn an extra money, without any passion and pride. Another difficulty that they encounter is the lack of communication due that most of the food servers are foreigners and do not speak fluent English so yes the language barrier is also another difficulty. Since there is no medication for this allergy, the only option is to eat safe and consume food without being contaminated. She prefers that a restaurant states that they cannot provide any food for celiac instead of advertising that they do serve food without gluten and knowing that the food could be contaminated. Compared to other countries, the authorities in Malta lack in this regard. Countries like UK , certain restaurants have stickers on the outside door showing that they are certified to serve coeliacs. She cannot put her mind at rest especially also having her daughter celiac which makes it more difficult for her family and effects directly the quality of life.
P3	Thinks it is lack of knowledge about 2 things- 1st what celiac is and how severe it can be as already mentioned before that some chefs or servers take this allergy so lightly because they think that it's just a lifestyle as if they have decided to opt for this diet (really and truly there are individuals that opt not to consume gluten just for the sake of not feeling bloated and comfortable so that's why certain chefs do not take it seriously). Secondly, Chefs and servers

	need to take it seriously as if they are preparing a dish for someone who cannot consume peanuts or nuts and they need to know the severity of this allergy and how little one needs to be contaminated so for the chefs if they use a pizza base that is gluten free it's enough , they not need to think where they will bake it which most probably they will bake it in the same oven they bake normal pizza or if they cook a gluten free pasta they need to use different ladle and different pods. So, it's not just about the main item and the utensils used for preparation but all the ingredients added to that particular dish needs to be gluten free.
P4	Nothing to add

Focus Group Question 3	
Participant Code Name	Some restaurants put a disclaimer on their gluten free menus. What are your thoughts on this, and do you feel safe eating in such eaters?
P1	Putting a disclaimer on the menu is a very good idea, obviously dining there will not put his mind at rest but at least the management have knowledge about his condition, and they are trying to give him a pleasurable dining experience and if something happens, he was informed beforehand and dined there on his own risk. He might get frustrated if gets sick after he dines in a restaurant that states that they serve gluten free food without any disclaimer. Really and truly a disclaimer is put on the menus just to cover their backs and to abide per legislation. To be safe and comfortable he goes out to dine always at the same restaurant.
P2	Nothing to add
P3	Mixed feelings about it, on one hand she thinks that it is very pricy because anything you buy is much more expensive and they took an advantage out of this by increasing the prices although gluten free products cost more. On the other hand, a disclaimer it is an easy way out because all one needs to do is put a disclaimer and no one can say anything after if you felt sick, so if one promotes a gluten free menu it needs to be done properly otherwise just don't cater. Don't promote a gluten free menu just not to lose clients or to get new clients but then the only thing you do for example a pizza base which is gluten free and then you use the same condiments of the normal pizza and bake it in the same oven because it is useless.
P4	Her thoughts are that if there will be a disclaimer, they need to be responsible of what they are serving not just for the sake of having a disclaimer on the menu. if it's not 100% safe she prefers of not having a disclaimer on the menu or else they state that it is not good for celiacs. There is not a half way about this , it's either good for celiacs or not . She really doesn't trust and doesn't feel comfortable with disclaimers.

Focus Group Question 4	
Participant Code Name	What reassures you that a restaurant can produce a gluten free meal for you?
P1	A separate kitchen with separate chefs or at least separate kitchen with knowledgeable chefs and servers on this particular condition and knowing what they are doing.

P2	Very debatable because they might tell you yes just for the sake of increasing sales, they might say no to put their mind at rest and don't take any risks that can lead them to legal issues. She is always on the edge when dining out because always waiting of being sick after she dines.
P3	The only way to go at a restaurant and feel comfortable 100% is to have a completely different kitchen and may be the whole restaurant is gluten free and that all the staff who works in the kitchen to prepare food and also the serving staff, they all should be trained about what a celiac is , about a gluten intolerant is and also how food can be contaminated. That is the only way that she will be 100% safe.
P4	She prefers that she goes to somewhere where they have a separated kitchen specifically that serves for celiacs so that she puts her mind at rest and chefs that are aware and knowledgeable and well trained servers and knowledgeable about the food they are serving . Apart this , the food must be kept covered until it is presented for the guests to avoid.

Focus Group Question 5	
Participant Code Name	If the service staff seems unfamiliar with celiac disease, gluten sensitivity and gluten free needs. what will be your reaction?
P1	I want be happy about it and most of the time I just leave the restaurant although I am all for educating people that are not knowledgeable about this condition, it's not pleasant to sit down with my family and have to spend at least 15 minutes educating the respective server about what would happen to me if I consumes gluten, so for this reason I will just get up and leave the restaurant.
P2	Once she encountered a situation like this in a cafeteria and asked the server if they do have anything for celiac and the server wasn't even aware about what celiac is, so she just left from the outlet. Later in the day, she emailed that particular cafeteria and the reply she got was that they do serve crisps as for gluten free. It's an insult to go at a cafeteria and the only thing that is offered is just crisps. Servers must need to know the severity of the disease and the repercussions if they consume something contaminated with gluten.
P3	Normally she will call before or text them if they do offer food that is good for coeliacs. Definitely she will not go to a restaurant before enquiring because she knows that many restaurants do not cater for coeliacs, like a case in point once she called herself to a restaurant and asked them what she can consume, their reply was that they are very much aware about celiac and they do offer quite a vast menu for coeliacs. Then she went there and asked for a pizza, and they replied that the pizza has a different base but it is cooked in the same oven where the normal pizza is cooked. Obviously, she was furious about the situation, and she just got up and left the restaurant. One cannot tell a customer that they are very much aware about coeliacs and then they have absolutely no idea that they can really harm someone by baking the gluten free pizza in the same oven where the normal pizza is being baked. So, they simply state that they do not cater for coeliacs instead of saying that they are aware about the condition,

	and they contaminate the food by doing stupid mistakes. If someone states that he caters for gluten free, he needs to make sure that he is knowledgeable and knows the best practices to prepare a gluten free meal in the best and safe environment. Knowledge and awareness are a must that both chefs and servers need to know to be able to prepare and serve gluten free meals. There needs to be a regulator that controls these food outlets, and the regulator needs to make sure that all the necessary requirements and procedures are followed otherwise they just simply don't allow the restaurant promoting that they can serve food for coeliacs. A license needs to be issued for those restaurants that have a safe environment to serve gluten free food and this needs to be reviewed once in a year. The restaurant owner should be held responsible to make sure to train his staff about what celiac disease is. This goes also for all the 14 allergens.
P4	Since she is very conscious about the situation, most of the time when she queries about what she can consume, they just simply don't answer. So when she visits a new restaurant, she can notice if the restaurant is safe or not from the server's body language, their attitude and how they are replying for her request. A case in point happened when she went for a weekend break in a hotel and told them specifically that she is celiac and told her that they do serve breakfast for coeliacs. Then when the next morning she went down for breakfast, they just offered her bread. She felt that she was cheated and if she knew that only bread was provided, she would have got her own food from the first place.

Focus Group Question 6	
Participant Code Name	What is the quality of the gluten free food in restaurants? It is equal to the common food prepared to the mass.
P1	As said earlier since he works in a kitchen, it's very difficult to go out and dine in a restaurant and found something suitable for gluten free and it is done homemade. A typical example is the pizza base which practically most of the restaurants use the same imported gluten free pizza base. Very few restaurants do prepare by themselves the gluten free pizza base. Likewise, are the burger buns. Practically it is always the same food, and the quality is not that good. This makes P1 very anxious about this.
P2	Very similar reply, on many occasions the food is practically the same taste and there isn't anything interesting to make it appetize unless she is lucky to find something good. Something that frustrates her is that she is served food (for example a simple biscuit with coffee) that is not gluten free and having a 6-year-old daughter who is coeliac, she cannot understand the situation and cannot consume whatever she wants.
P3	The most difficult to find good is the bread because it is much drier not only in restaurants but in general. Also, desserts are not that good as the normal ones. Some packed food items although they do not contain any gluten, still they are not promoted that they are gluten free because of the perception that normal individuals think that they are not good as in taste.

P4	Gluten free food , especially the packed one is rubbish for her (mentioned a particular brand), because apart the taste is not good at all, it is full of carbs and sugars.
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Focus Group Question 7	
Participant Code Name	Do you think that a restaurant which only prepares gluten free food will be successful in Malta? If yes, do you think you will visit the restaurant?
P1	In the past P1 was thinking of joining ITS so then in the future he will open a food establishment that solely caters coeliacs and gluten intolerants but then when he thought about it although the number of diagnosed people with this disease in on the rise, most individuals who don't suffer from this allergy will not visit the restaurant and obviously the turnover will be much less than if he opens and serve normal food. It depends on the place, depends on what type of food one can present, and other factors. So by opening a gluten free restaurant, there is the risk that one will not make the same covers as if it was if opens a normal restaurant.
P2	Her opinion is that if one promotes the restaurant not just to cater for coeliacs because it will not attract individuals that do not suffer from this allergy so the advertising and the way how one should promote it play a very important role. One can focus and promotes that the restaurant uses only natural and fresh food (that are gluten free) and then one can advertise that one can serve food for gluten free and that the kitchen is free from gluten. But it is important that the main target is not to promote the restaurant as solely for gluten free individuals otherwise it will put off the rest.
P3	Also agrees that if it is promoted only for coeliacs the rest will not go there but advertise as catering for different dietary needs, for example a whole vegan menu which can be gluten free as well and has most of the ingredients that are natural. Then one might have also the chicken nuggets, the burgers and the pizza that are gluten free but again one cannot just promote as a priority that the restaurant serves only gluten free individuals. Good advertising is the key for success. It will make a hit.
P4	Food that coeliac didn't consumed for a while needs to be introduced in the menu because everyone agrees that they would love to eat food that unfortunately due of this allergy that cannot find in every restaurant for example onion rings, mozzarella sticks, burger in a good bun and other kind off street food. One can promotes this restaurant on Facebook through the coeliac group page and which is free. One needs to keep in mind also that most probably when an individual who suffers from gluten, is accompanied by one or more people (that do not suffer from any allergy) and therefore although none of the food do not contain gluten, they can still eat and enjoy a delicious meal. A restaurant like this is much needed and will definitely improves her quality of life.

Focus Group Question 8	
Participant Code Name	Do you think that the need for such restaurants in Malta although most of the restaurants do serve gluten free food already?
P1	Yes He does because as already said the few restaurants that do serve gluten free menu items are not actually gluten free and safe to dine at, and most of the time while the food is being prepared it is contaminated. So there is a need for it.
P2	Agrees and she thinks that most of the food although it is being promoted as gluten free, still it is contaminated.
P3	Since normal flour is being used in a restaurant, one cannot put his mind at rest while dining in that restaurant when having gluten free food.
P4	She is fed up when going in restaurant and always presented with basically the same options, so definitely a need for this type of restaurant is a must. Another important factor is that it is unfair on them that in most of the restaurant, they are being charged extra for ordering gluten free food and served smaller portions than normal ones. She feels offended when charged extra for gluten free food when dining out.

Focus Group Question 9	
Participant Code Name	Do you trust the restaurant staff in preparing gluten free meals? And why?
P1	No not because he works in a kitchen and knows what happens in the kitchen and knows the chef's reaction when a gluten free order comes in during the service. Some chefs do feel uncomfortable to go out of their way to prepare a gluten free meal. This happens for almost all the dietary requirements requested. So, he doesn't trust them.
P2	No because lack of knowledge and lack of awareness from the server which leads to wrong message and communication with the chefs.
P3	No, very few restaurants know what they are doing. First and foremost, they must convince her that they know what they are doing and that they are knowledgeable about this allergy.
P4	No because she had bad experience in various restaurants, so basically there is a big need for these restaurants especially serving very good desserts.

Appendix 3 – Interview Transcripts

Interview Question 1	
To what extent is your knowledge on allergens and dietary requirements?	
Chef 1	We are well knowledgeable about allergens and one needs to be very careful cause there can be fatal reactions especially with these requirements.
Chef 2	Basically , I know all the 14 main allergens although now adays still I meet various customers that are allergic or intolerant to different products, a case in point was that lately I met a guest that is allergic to potatoes, and I was very surprised cause I didn't know that someone is intloerant to potatoes, so the science is always discovering new allergies and us as chefs have to keep uptodat but it is not always easy since the allergy matrix just covers 14 allergens so at least if we follow those we cover most of the customers requests. So yes in a way the 14 allergens I know about them and how to avoid cross contamination and even through our

	food handlers course these are covered so I believe that I have good knowledge about the allergens but still I need to keep aware about new allergens.
Manager 1	As a restaurant manager the knowledge has to be relatively to a high level, I have to be aware of all major allergens which one do exist , how harm they can cause , what I mean is if its someone who get bloated or unpleasant feeling or someone might have severe reaction and actually die so this level of knowledge has to be for all supervisors and management team within the restaurant. That follows by the allergen matrix of what items we serve , all the menu and all the desserts as well all the servers they have also like the basic knowledge, they are aware of the allergens, they are aware which ones they are and they are instructed that every time that guests indicate they do have an allergy or they intolerance to something, they need to inform the chef or the manager and he will take it from there as normal precautions.
Manager 2	I am capable to understand the difference between allergens and to help and serve our customers about their request.

Interview Question 2	
As a Chef/ restaurant manager, what actions do you take to accommodate the request of a customer's special diet or allergen concern?	
Chef 1	When they have a customer that is allergic to something, they are very careful where the food is prepared.
Chef 2	What we do normally ,if we do have a special request , we ask the customer to specify from what allergy they suffer, and myself normally tell them that there is a risk , the most that I am really worried and scared off are the nuts and the peanuts because I experienced a customer that consumed nuts and had an anaphylactic shock so I am quite concerned about this, although one needs to follow also the other allergens. When we have this type of request we pass them on to the different kitchen that we have and obviously we make sure that we are using different pods and pans and where preparing if its an a la carte , we use different chopping boards for them , plates are not mixed especially when they are plating to make sure that cannot be cross contaminated with their food, sometimes we obviously have in stock items especially for celiacs , for example cereals, breads, wraps cause before it wasn't that easy to buy such products but as I already said we do stock them. Other time, with vegans for example , like vegan cheeses is not the norm that we do stock but if we know before hand , yes we do buy to be able to satisfy the guests. We are quite flexible to help out guests who suffers from allergens, unfortunately some guests do take it for granted that we can provide them there and then , so ideally if we know before hand it will make our lives much easier. There are instances that we say that we don't have certain ingredients or what ever we are trying to do. But in the majority of the cases, we will be able to deliver a nice meal but may be sometimes unfortunately with some other guests due to intollerances or allergies, the expectations of these guests are high because they assume that there is a chef dedicated only for them . So one has to balance it out because some guests are genuine about their condition

	, and others are playing around and makes our lives more difficult to try to accommodate them. I believe that should be an association that provides a card that states that one cannot consume gluten in able to present it when dining out like the ones that suffers from diabetes, so there could a confirmation that he is celiac or intolerant because sometimes is being abused then used with this situation. Many people start following a diet , then all of a sudden that start not consuming gluten cause their dietitian told them to avoid having pasta for example and they don't even realize what is happening at the back of house in order to provide them a gluten free plate.
Manager 1	First of all , we check with the allergen matrix if this particular dish which the guest orders contains the allergen that they are indicating. In certain cases , most of the dishes we know whats in them. In certain cases we have to inform the guest that yes we can adopt this dish to their request in this case a gluten free dish, for example a burger , we fry the fries in a different frier which is used only for gluten free items, and for the burger apart the meat that is GF , we do provide also a bun which is GF and this will be prepared by a chef who will not have any contact with dishes that contain gluten however we inform the guest as well that we are not GF certified environment so the severe cases they are aware . It is mainly for Gluten and peanut allergies that we inform guests about this. Because in these cases even small contact can have unpleasant feeling or with cases of peanut allergens even more . After that if the guest agrees and says yes do not worry , when we do take the order , we do write down a note so that it is inputted in the actual system and then in our restaurant we have a special red ticket we call it that indicates the allergens where we write the table number, which is the dish and where the guest is seated and it is also given to the chef so that we have a double checking system in case we miss something.
Manager 2	Depends what allergy the customer need, we get various requests from celiac to peanut allergy ,celery allergy and various others. For example , the celiac we have a different fryer for them, pizza we have base that we outsource from a reputable supplier and we bake it in a different oven, but we always tells the client that there might be a cross contamination of food items because we do not have a separate kitchen to prepare any allergy request.

Interview Question 3	
Can you create a gluten-free menu or indicate what is gluten-free on your menus?	
Chef 1	They do have a menu for gluten free although he is concerned that the environment in which the gluten free food is prepared is not safe 100% and can be contaminated.
Chef 2	Most of our menus, it is all labelled , we have a sort of a reference , at the bottom of the menu and all the items that are gluten free . What is stated on the al acarte menu that is gluten free is marked as GF that stands for gluten free and one will find the reference at the bottom of the menu, while on the buffet side , we don't say that is gluten free but we say that its no gluten because if the customers mixed the spoons and so on it can be that it can contain so what we do then if its an intolerant , yes we tell the guest that you can help yourself from the buffet ,

	but if someone is saying that is celiac , we will prepare or plate for himself from inside to avoid any cross contamination. So these are the measure that we follow.
Manager 1	Theoretically, we cannot create GF menu because we are part of a franchise , so have to apply for a franchise permission. However , we do inform the guest that on the website when we communicate with the guest that we can adopt most of the items from the menu to GF options and if someone requires something by email, we have a template listed that can be that can be served for GF, nut free or lactose free. So officially wed od not have them but if someone asks we will send them the list of food that they can consume.
Manager 2	Yes infact we already have a menu with the allergy matrix that indicate what one can consume or not. For us it is a common practice that we do offer a menu for people who suffer from an allergy inparticular for celiacs.

Interview Question 4	
When a gluten-free meal is ordered what practices are actioned in the kitchen?	
Chef 1	When an orders comes in , they take precautions by using different chopping boards, different pods and pans and knives that are only used specifically for gluten free.
Chef 2	If its gluten free, starting from the boiler, we make sure that we have clean pod with clean water, and if we are grilling, we don't use the grill directly unless it's the BBQ and we use the baking paper so what ever is being grilled is done on the baking paper, and this a common practice for all allergens. So on the flat grill we cook directly with baking paper because it's much easier to clean and to avoid cross contamination and it is very practical to use. To be honest when I am doing a menu , I try to play abit with the menus so lets say the peanut, I don't put many dishes that contain peanut and the main reason is that once on the buffet we used to do satay and we had a kid who was allergic to peanut by even inhaling , so if you are just frying with peanut oil, he got a reaction from it . Even when doing garnishs , I am a bit scared because most of the time chefs, if you have someone on the pass at the end ,he is not washing his hands all the time , so lets say that you have a garnish at the end with nuts and a nut allergy order came in and the chef on the pass is really busy and he does not have the time or forgot not to wash his hands, food could be contained with nuts. So food with high risk allegens I try to avoid them to be honest, if not it is stated on the menu to make sure that is safe. It is very hectic to provide this type of request so if I can avoid it I would prefer then taking any risks and put in a difficult situation.
Manager 1	In the kitchen, first of all , we have a designated part for handling allergies like GF meals , so in that case the fries are fried in a separate fryer and also that there is no sea food in it. Then the chef will be wearing a new pair of gloves every time he handles that particular meal , then the preparation station where they assemble everything together, they do sanitize and wipe with the sanitizer before they start preparing the dish so to avoid cross contamination of any kind, then on the other side when they put the mela together on the expo, they do the same , they wipe it and then the meal itself is placed on a separate shelve not on the normal pass so

	that the waiter it's easier for him so that it will be much easier for him and like that we avoid any confusion or mistakes.
Manager 2	So , basically we have a special chopping board that we solely use it for GF, with have a fryer that is used only for GF, the bun for the burger is always individually packed since we also get it from outsource from a reputable supplier that only does these buns only for us specifically. We try to minimise as much as we can the cross contamination.

Interview Question 5	
What training has the staff received to meet the needs of customers with food allergies?	
Chef 1	Allergen training is provided to all kitchen staff within the team from our HACCP consultant.
Chef 2	No specific training is done , as I mentioned before, part of the food handlers training is the allergen matrix so from there the staff know the basics , but obviously through experience they get more knowledge. Normally , in each section, I have someone that I trust, if it's a sous chef, or a tournant or a chef de partie that I can rely on them and they take over from the others jus to make sure when we do have these particular guests during the preparation stage. As in particular training no but it is part of the food handlers course .
Manager 1	With us there are 2 parts of training, one was done through the franchise training where we had the American trainers here so it was from their training as per their standards which they introduced all the allergens, what level of severity it can cause and as well explain from which item include that particular allergy in a dish . Also our staff attended another training where the supervisors obtained the allergens certification by our HACCP consultant and our staff as well attended to an introduction to allergens course by the same HACCP consultant. On top of that we have all pictures of the dishes displayed here in the kitchen on which they do have the allergen listed as well, apart this , every couple of months we do ask our staff on which items can be ordered without certain allergens so we try our utmost especially with the part timers since they do work only a couple of shifts weekly.
Manager 2	To be honest very few training was giving to the staff, because what we do normally do when we have these kinds of request is either myself , the boss or the restaurant supervisor so like that we try to minimise the risks that wrong information will be passed to the kitchen. So its only us 3 that we do have specific training about food allergy. Because we believe that less people who tackles these issues, the less mistake we do.

Interview Question 6	
. What is the policy of the restaurant regards the variety of dish options for gluten free customers?	
Chef 1	The policy is when a customer orders with the server , he speaks directly to the chef in charge so that the chef will coordinate everything about the item.

Chef 2	With regards to gluten free, as regard al carte menu we make sure that in every section there is a gluten free item, if it's not directly there for example the pasta section , we do it that one can alternate for a gluten free pasta , obviously the sauce has to be related to the menu, let's say the Bolognese is GF as a base but if it is a cream sauce no. Another example is the barley risotto, obviously that one cannot be done but the barley then needs to be replaced with rice. We make sure that in each category of the menu , be it starter, main courses ,fish meat or whatever although meat itself is GF, we always give an option or have an alternative ready, even for dessert to be honest. Luckily in our hotel we have a section , where we can produce GF items , which is a segregated area and we do even vegan and all GF desserts inhouse.
Manager 1	Unfortunately there is no policy in our case. Our franchise partners do not specify or indicate which part or what part of the menu have to be sort of GF of a level , and they do not have any guidelines when it comes to that .
Manager 2	We do have a menu specifically, that all the items on the menu can be offered as GF . It's only 2 items that we cannot do as GF which are the dumplings and the steamed buns, but all the rest can be offered as GF. For example a salad or similar we tell them straight away that that there is the wakami which is not GF or for example soysauce , we do have the GF soysauce. So like that we try to accommodate as much as possible GF customers. We can say that we can offer literally a whole menu for celiacs.

Interview Question 7	
. The law requires that food prepared for human consumption does not cause harm to consumer. With the current practices you employ, can you say that the meals prepared for gluten sensitives customers is 100% safe and how is this manifested?	
Chef 1	We cannot guarantee that is 100% safe because especially in both pastry and pizzeria , flour is used all the time so there still can be traces of gluten.
Chef 2	Being 100% sure , it's impossible to be honest because we work in an environment that we use flour but being close to 100% or its safe for them to consume . Although for sure it is not 100% . In that case it has to be a segregated kitchen and no other ingredients can be allowed in that kitchen that they contain gluten. To dedicate solely a kitchen for celiacs very difficult although I only know one restaurant that has this type of kitchen.
Manager 1	We try to avoid saying that it is 100% safe since our kitchen is not GF certified although we do take all the precautions , we are aware that some items for example the burger itself we do buy it ready from outsource and we cannot guarantee that the environment where it is prepared and how it was handled before it reached our kitchen. As well in our kitchen itself we use quite a lot of flour in the different part of the kitchen where they prepare the meals however flour travels with air, so we cannot really guarantee that is 100% , I would say 95% would be more accurate due the fact of the other ingredients that are not prepared in our kitchen as well as air contamination when it comes to flour particles but we always indicate to the guests that like I mentioned that here is a formula that we use and it is in practice of what our managers and supervisors what to say and how they approach the guests that we are

	<p>not 100% GF certified environment however we take all the precautions to make sure that the meal is GF as possible.</p> <p>It is feasible to have a GF restaurant however in Malta is too small for that because I would thing the product itself to supply one single restaurant might not be financially sustainable and visible especially on a small market like Malta . It might work for example if that particular restaurant and kitchen provides GF items like GF certified items to other restaurants or other outlets or shops so there is another income. I think it could work , and at the moment in Malta, I am not sure if there is a place like this, for sure abroad there is and they do have this system in place which are doing quite well with some clever marketing.</p>
Manager 2	<p>I cannot say that is 100% because we do not have a separate kitchen because ours is too small to have another one so it might be a cross contamination of gluten within our kitchen . Infact we do always say to our customers that there is a risk and we cannot guarantee that is 100% safe. To achieve that , a separate kitchen is needed which unfortunately I cannot have it at the moment , it is impossible to say that its 100% safe. As regard cost wise for myself it's the same a normal dish or not.</p> <p>I don't think it is feasible to have such a restaurant. For example at our restaurant we do serve around 100 customers a week approximately. With the current situation, the rent and wages it is more difficult to have a restaurant completely for GF to make it feasible in Malta because the local market is very limited for such unfortunately.</p>

Appendix 4 - Participant's consent form

Participant's consent form

The integrity of gluten free meals in the Maltese food service industry

I, the undersigned, give my consent to take part in the study conducted by [Jimmy Aquilina](#). This consent form specifies the terms of my participation in this research study.

1. I have been given written and/or verbal information about the purpose of the study; I have had the opportunity to ask questions and any questions that I had were answered fully and to my satisfaction.
2. I also understand that I am free to accept to participate, or to refuse or stop participation at any time without giving any reason and without any penalty. Should I choose to participate, I may choose to decline to answer any questions asked. In the event that I choose to withdraw from the study, any data collected from me will be stored anonymously.

3. I understand that I have been invited to participate in questionnaire in which the researcher will explain what participants to do to investigate restaurants or any other dining establishments to provide a safe meal for gluten sensitive individuals. I am aware that the questionnaire will take approximately fifteen minutes. I understand that the questionnaire is to be conducted in a place and at a time that is convenient for me.
4. I understand that my participation does not entail any anticipated risks.
5. I understand that there are the following direct benefits to me: To identify the best practice for serving coeliac customers by investigating your needs. I also understand that this research may benefit other to identify the best practice for serving coeliac customers by investigating their needs. It is also intended to identify if it is feasible of having a complete gluten free meal within the local and foreign tourism in Malta especially indicating if the food received is free from contamination and bought from reputable supplier.
6. I understand that, under the General Data Protection Regulation (GDPR) and national legislation, I have the right to access, rectify, and where applicable, ask for the data concerning me to be erased.
7. I understand that all data collected will be *stored in an anonymised form on completion of the study and following publication of results/within XX [insert number] months/years of completion of the study [select appropriate option]*.
8. I have been provided with a copy of the information letter and understand that I will also be given a copy of this consent form.

Additional clauses to be included only if applicable:

If applicable (video/audio recording):

9. I am aware that, if I give my consent, this [method of data collection] will be [audio recorded/video recorded] and converted to text as it has been recorded (transcribed).

If applicable (interviews only):

10. I am aware that, if I give my consent, extracts from my interview may be reproduced in these outputs, either in anonymous form, or using a pseudonym [a made-up name or code – e.g. respondent A].

11. *If applicable (focus groups only):*

I am aware that focus group discussions should be considered confidential and that I should not disclose details of those participating and/or of the nature of discussions to others.

If there is a need to ensure confidentiality

(e.g. when collecting special categories of personal data):

12. I am aware that my data will be pseudonymised; i.e., my identity will not be noted on transcripts or notes from my interview, but instead, a code will be assigned. The codes that link my data to my identity will be stored securely and separately from the data, in an encrypted file on the researcher's password-protected computer, and only the researcher [if applicable, add academic supervisor/s and examiners] will have access to this information. Any hard-copy materials will be placed in a locked cupboard. Any material that identifies me as a participant in this study will be stored securely *for the duration of the study/for xx months/years/destroyed (indicate when)*[select appropriate option].
13. I am aware that my identity and personal information will not be revealed in any publications, reports or presentations arising from this research.

If attributing responses to individuals/representatives of organisations:

14. I am aware that, if I give my consent, *my identity/the identity of the organisation I represent* [select appropriate option] may be revealed in publications, reports or presentations arising from this research, and responses I provide may be quoted directly or indirectly.
15. **If applicable (interviews only):** I am aware that I may ask to be given the opportunity to review relevant extracts of the transcript of my interview, before the results of the study are published. I am also aware that I may ask for changes be made, if I consider this to be necessary.
If there is a risk of participant distress:
16. If I feel that the [method of data collection] has distressed me in any way, a [insert title of professional e.g., counsellor, psychologist, etc.] will be available to assist me at no financial cost on my part.

I have read and understood the above statements and agree to participate in this study.

Name of participant: _____

Signature: _____

Date: _____

Jimmy Aquilina

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Dr Paulino Schembri

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Appendix 5 – Questionnaire Open Question 15

ID	Name	Responses
73	anonymous	Coeliacs, should be treated equally!!
72	anonymous	I do agree in paying extra since gf products are more expensive and you require to use different pots and pans so.i agree to.pay a little extra for the service if its puts my mind at rest. As long as its not too over priced. Example one cannot be expected to pay 20euros for just a pasta with sauce
71	anonymous	Dining out in s already pricey be without making it even more
70	anonymous	Sometimes the price is very expensive

ID	Name	Responses
69	anonymous	The prices in such chosen restaurants are already high and should cover the cost.all restaurants have recently put up their prices too
68	anonymous	Not all items are more expensive
67	anonymous	The extra charge is too much
66	anonymous	SINCE GF PRODUCTS ARE MORE EXPENSIVE IT'S OBVIOUS THAT YOU HAVE TO PAY EXTRA
65	anonymous	It is a disease. It is unfair that you have to pay more. Not a choice. Government should assist so we do not pay more
64	anonymous	Sometimes it is way overcharged and in my case where I am cow's milk intolerant as well it is almost impossible to find tasty food, knowledgeable people or anyone that caters for both to get
63	anonymous	I agree that you have to pay extra but some restaurants charge too much.
62	anonymous	Not all gf free stuff is more expensive. If it is ready made stuff yes, but raw material not always
61	anonymous	I agree about a slight increase in cost in view of the higher cost of gluten free products.
60	anonymous	There is basic requirements that they do not adhere to as required by haccip and eu law such as separate fryers
59	anonymous	Gluten free products are very expensive in Malta which is unfair for Gluten intolerant and Coeliac consumers who might be unable to afford them.
58	anonymous	I do not think that we should be charged more. They gain enough from other products.
57	anonymous	Better be charged more amd eat really gluten free food with no cross contamination and feel safe
56	anonymous	I fully understand and if I feel save I will be willingly to pay that extra charge
55	anonymous	Adding an extra for gluten free food does feel unfair for someone that is coeliac. First of all, opting for gluten free food for coeliacs is not by choice. Furthermore, opting for gluten free food shouldn't be considered the same as if you adding an extra topping to a pizza.
54	anonymous	The extra charge is often way too much

ID	Name	Responses
53	anonymous	Sometimes i eat normal even with gluten because food are too much expensive
52	anonymous	I am neutral, as I do understand that gluten free food is more expensive. However, it was not my choice to become coeliac.
51	anonymous	Coeliac is not a choice. It's a condition. Do they charge extra someone who needs accessible toilets because they are bigger than regular toilets? Do they charge extra for people with buggies because they take more space and need a highchair ? It is ridiculous that we are charged extra.
50	anonymous	only a reasonable extra charge
49	anonymous	Sometimes we are too much over charged for gluten free items
48	anonymous	No complain if GF costs more but GF food doesn't necessary mean bad food, in Malta seems you have to thank them only because they are doing the miracle to cook GF for you, that's very wrong quality here can be improved of the 200% it is very poor when it comes to gf food in restaurants...not only Maltese restaurants but also the Italian ones here, an addio station like AIC In Italy would help a lot !!!
47	anonymous	Gluten free food is overpriced
46	anonymous	I understand that the products are expensive but most of the time we are overcharged
45	anonymous	A packet of 400gr. GF pasta costs about €1 more than a 500gr. regular packet of pasta, therefore I feel that I'm being overcharged when I'm charged €1 extra for a plate of pasta averaging 100gr. of pasta.
44	anonymous	While I understand that yes some preparation is more costly, I assume that over all I'm sure they can cover that 'extra' cost across the entire dining experience.
43	anonymous	When bought in bulk the increase in price is not reasonable
42	anonymous	The cost of the bread (with gluten) that you are not having or any other items removed from your order to make it GF are not considered, so why charge us extra.
41	anonymous	I understand that products are more expensive, therefore I accept a fee on gf products if its reasonable.

ID	Name	Responses
40	anonymous	It is true that gf products are more expensive. This is debatable. Personally I would prefer the prices were lower as thus is not a personal choice, like for example when one goes vegan. On the other hand I would pay any amount if the food does not make me sick.
39	anonymous	I find it injustice for use charging us more if food is glutenfree. All restaurants take this advantage, tipo jghidu ghax l ikel gf hu iktar expensive. Kulhadd jaghmel ghal butu bhal dak li qallu ahna tort taghna li gejna hekk.
38	anonymous	Sometimes I think they exaggerate a little with the prices, I mean being a celiac is not by choice like being a vegan. It's a medical condition and I have to stick to a gf diet by force
37	anonymous	I prefer to pay more as long as the restaurant is knowledgeable about coeliac disease.
36	anonymous	Gluten free products should not be more expensive in the first place, as is the case in some places abroad.
35	anonymous	Xtaqt niccara ffit li mhux jien il persuna celiac imna omni giet celiac ta 54yr. Dwar il mustiqsija ta qabel, iva l affarijiet huma hafna ghaljin, minkejja li l gvern jibghat xi vouchers €45 fix xhar ghal min hu celiac xorta huma ghaljin. Il bicca wkoll li ninharqu hija li mhux kull oggett gluten free jghaddi minn dawn il vouchers ez il pavi jekk tixtri imbarazz bhal pastizzi pizez ecc li huma gluten free jghaddu pero jekk tixtri affarijiet bhal butir pizelli kunserva ecc li huma gluten free ma jghaddux 😊😊 ma nistax nifhem li minflok qed nedukaw lin nies biex jghamlu ghazliet ta ikel iktar healthy, bilfors ikollhom jixtru certu affarijiet hziena ghas sahha ghax il vouchers daww jghaddu... Allura xorta se tigik ghalja ghax inti l affarijiet li huma gluten free xorta trid tixtrihom.
34	anonymous	Cos they charge you way much more
33	anonymous	They take advantage of the fact and overcharge us
32	anonymous	Sometimes they still overcharge
31	anonymous	It is such a pity that we have to pay so much more money just to be safe
30	anonymous	I understand why items are more expensive especially due to extra care being given in production and handling of food so I understand the extra charge especially if the place has a separate kitchen
29	anonymous	It's not reasonable at all! Being charged the price of a whole packet of pasta for a starter portion for example!

ID	Name	Responses
28	anonymous	I don't mind paying extra but all products have to be labelled gf and not just assuming that products have wheat or gluten. On the other hand gov has to endorse this problem of expensive prices to gf products since this is our daily needs.
27	anonymous	it is a reality that coeliac products are more expensive than normal diet ones, but for example having to pay 2 euro extra for a bun or gluten free pizza base is a bit too much. If the pizza base is freshly made as in a pizzeria, one would buy a whole packet of flour with 2 euro, not 1 base.
26	anonymous	I would understand a small price increase for gf food, but sometimes prices are inflated too much.
25	anonymous	Unfortunately gluten free products are more expensive
24	anonymous	The extra charge is too much
23	anonymous	It is not my fault that I have to eat gluten free. But I have to eat gluten free. Restaurants can always buy in bulk and they have special prices.
22	anonymous	It wouldn't be at a loss to the restaurant by keeping the prices the same as for the normal food (or negligible loss), however comes at a substantial loss to those with coeliac disease
21	anonymous	GF products are more expensive and harder to source
20	anonymous	Since the profit is always very high on food I don't see why GF items on the menu should be more expensive
19	anonymous	Unfair, labelled individual
18	anonymous	There are many ways to ensure that food is gf without using industrial products
17	anonymous	Maybe the eatery gets a subsidy from the government
16	anonymous	You can offer food which is naturally free from gluten and does not include additional costs
15	anonymous	Since gluten free products are more expensive I do agree to pay an extra charge
14	anonymous	they do a good profit no need to charge extra
13	anonymous	I am ready to pay more if the food is safe for me

ID	Name	Responses
12	anonymous	Sometimes the increase is too much.
11	anonymous	I know that gluten free products cost a lot more but I still expect that eating out gluten free be made easier especially in an eatery.
10	anonymous	It's not my fault that I'm coeliac, the same way that the government gives me monthly vouchers, the same can be done for when dining out
9	anonymous	There are various dishes that can be prepared which are not expensive and that can be offered to everyone not only coeliacs.
8	anonymous	Today's price are so high that I believe that there is ample cushion for the fact that gf food like pasta and bread cost more. A packet of gf pasta serves four at least.
7	anonymous	I completely agree that Gluten Free products are more expensive and this could be a burden for the eatery to serve it however it is a dietary restriction for Coeliac individuals and it was not my choice of opting for a GF alternative so I find it a bit unfair. Furthermore I believe that if I am paying extra for a product I expect to be of some quality not ones that are sometimes found at the supermarket.
6	anonymous	Coeliac products should be made at reasonable prices... Also some restaurants exegerate their prices on gluten free menus just because they know people have no other option
5	anonymous	Sometimes food is already expensive in certain restaurants. So there is no need to pay an extra 2euro for a gf pizza or burger bun.
4	anonymous	It's not my choice that I cannot eat something. When a person with another allergy has food removed they do not get the money back. So why should I pay extra for something I cannot control.
3	anonymous	it costs approximately two times as much
2	anonymous	Eating gluten free food is not an option.
1	anonymous	I dont belive that because i have this disease i didnt choose to have i should pay extra money. It is not my choice to choose gluten free food, thats the only thing i can eat

Appendix 6 – Questionnaire Open Question 17

ID	Name	Responses
1	anonymous	Many restaurants are aware of this allergy but unfortunately dont know how to cater for it correctly for it to be safe for coeliacs.
2	anonymous	There needs to be more options, even in big chain restaurants like pizza hut, mc donalds etc, where in fact abroad there is

ID	Name	Responses
3	anonymous	There should be more awareness between Coeliac intolerance and gluten free intolerance
4	anonymous	More awareness on Celiac disease
5	anonymous	I think we have improved, this is my 5th year since my diagnosis. However, I have had a lot of issues in the past with cross contamination after clearly stating that I cannot eat gluten.
6	anonymous	No comments
7	anonymous	Hopefully more eateries will be available that serves snacks ez sandwiches
8	anonymous	I only visit very limited number of restaurants since i do not feel safe to visit others as a lack of knowledge has made me several times sick.
9	anonymous	NA
10	anonymous	Possible recommendation would be that POYC vouchers could be used for dining out in an eatery.
11	anonymous	It is not a matter of just using gf ingredients but also a matter of contamination risk.
12	anonymous	
13	anonymous	Restaurants have a long way to go if they want people with coeliac to feel safe, waiters don't even know what it means and couldn't be bothered to give the proper attention to customers. There are only a handful of restaurants which take coeliac seriously and it's only because the chef or a family member is coeliac.
14	anonymous	Eating gluten free because you are coeliac is not a choice that I make/made. This is something that some people cannot understand because of lack of knowledge about the coeliac disease..
15	anonymous	Kitchen and service staff need to be trained. Very few are aware of contaminations. It's a pity that it is very hard to find eateries with separate kitchens (not even in a 5-star hotel!!)
16	anonymous	Sometimes the staff do not even know how to speak in Maltese or English
17	anonymous	we need to have more restaurant cafeterias who produce these options

ID	Name	Responses
18	anonymous	I'm afraid that when foreign servers take our order I get suspicious because most of them do not understand Maltese and English well and when you put a special request they say yes and do not really understand what you need.
19	anonymous	More training needs to be provided. People in catering industry need to be conscious of the fact that traces of gluten got a coeliac person are equivalent to traces of salmonella for other diners
20	anonymous	I wish to see more restaurants offering coeliac menus but using a separate kitchen
21	anonymous	People are becoming more aware and many restaurants cater this.
22	anonymous	It is to any restaurant advantage to offer a suitable menu for food allergies/preferences: so many of us are concerned not to be properly cared for and the consequence is that, often, the whole family or group of friends decide not to eat out
23	anonymous	A law needs to be introduced for eateries re coeliac, that needs to be knowledgeable. Treat coeliac like HACCP. Supposedly every eatery should have certificate and its employees. Coeliac should be treated the same. Even when it comes to toppings, some take it for granted that the pizza base only needs to be GF, but what about the toppings.
24	anonymous	I feel that most Maltese have the misconception that one would ask for a GF menu based on a diet to lose weight they are following
25	anonymous	No comment
26	anonymous	No
27	anonymous	Restaurants have to understand that Coeliac condition is not being gluten intolerant. Gluten intolerant people can tolerate a bit of gluten but people with coeliac disease can't as their will be serious health issues. It is not a joke and that's why restaurants need to know about coeliac condition. On the other hand having this condition for a life time, it is always nice to dine outside everyone and then and that we don't find ourselves as the odd one out. Happens to me when there are re-unions - the problem is always me because of my diet - not all restaurants cater for me. It is ok once I am with my husband to go always at the same restaurants as he can understand my condition but once with friends it is not always easy. I am really sorry for the young ones having this disease as it is really difficult once out with friends.
28	anonymous	There are very few restaurants that cater for coeliacs
29	anonymous	It is important that gf food is cooked in a safe kitchen

ID	Name	Responses
30	anonymous	I feel that more restaurants should be more child friendly with their menus. In Malta, only one place caters for gluten free pizza which is good for coeliacs
31	anonymous	I only eat in restaurants that have a separate/dedicated kitchen. I have unfortunately have had so many negative experiences when trying to trust mixed kitchens. I am also a highly sensitive coeliac, so small traces make me sick after ingesting them.
32	anonymous	Coeliac awareness but restaurateurs is increasing but limited to gluten free products. Awareness and availability of different kitchens and complete avoidance of cross contamination is hard to come by and difficult to trust when in other people's hands.
33	anonymous	You end up dine in the same restaurant. In Malta there are only 1 restaurant who has a separate kitchen for gf. The others use same kitchen then have different ovens. Some restaurants say that use same oven but separate dish which is not safe at all for coeliacs.
34	anonymous	.
35	anonymous	A lot of places do not understand that there is a difference between gluten free and coeliac friendly
36	anonymous	Please help raise awareness and encourage others to provide food safe for coeliacs
37	anonymous	We need more coeliac safe restaurants and I'd love to be able to have desert so I'd love to find a gluten free and sugar free desert since I'm a diabetic too
38	anonymous	No further comments
39	anonymous	I hope that more awareness is risen to help us coeliacs
40	anonymous	Restaurants should do more variety and safe food
41	anonymous	Grazzi li qed taghmel din it tezi. Nawguralek hafna li tghaddi u forsi minjaf inti se tkun il persuna li ghada pit ghada omni u min hu celiac jigi jiekol brasy mistrieħa fir restaurant tiegħek jew firsi bis sahħa tiegħek jitjeb it tahrig tal waiters u koki biex dawn l affarijiet jittieħdu biktat serjeta ghax hafna (skuzani għall espressjoni) don't give a shit. U din tweggħani ghax tfigħer li lewwel jigu l flus mhux il klijenti 😊 GRAZZI HAFNA U NAWGURALEK AVOLJA MA NAFHEKX 😊
42	anonymous	In my opinion, my expectations are influenced by the level and rating of the place. Though I wish lower end places would offer more options and would be more aware of this and other dietary requirements, I am pleasantly surprised when I find it. On the other hand, I would expect

ID	Name	Responses
		a higher-end eatery to have all the options and the knowledge about special diets etc. Best of luck for your thesis and thanks for taking up this subject.
43	anonymous	Staff in restaurants need more training in what coeliac disease is and what measures need to be taken to avoid cross contamination
44	anonymous	Nil
45	anonymous	I think there should be more awareness by the staff of restaurants and hopefully more restaurants will cater for celiacs.
46	anonymous	Inhoss li hawn injoranza kbira fejn tidhol sitwazzjoni taghna bhala celiac, ghax hemm differenza kbira meta wiehed jghid li hu celiac u iehor jghid li he is just intolerant to gluten.
47	anonymous	Just want to let you know that I am not coeliac but a very very sensitive gluten intolerant. The age I put in when I was diagnosed was after a long battle with my declining health problems for so many years. P.S. Question number 5 answer is before covid hit us. I don't dine out anymore.
48	anonymous	Local restaurants Needs more awareness, especially on the harm one may experience. Food handlers mainly don't know that gluten may be hidden in products. Also the severity taht may be caused by cross contamination. The food handlers association or whoever is in charge should consider to make strict rules in relation to allergies in restaurants
49	anonymous	We need more transparency, more labels, more choices and more eateries that provide healthy food naturally free from gluten rather than Gluten free food that is less healthy and higher in sugars.
50	anonymous	Most restaurants do not know what coeliac is and they say they offer gluten free items and it is chicken or meat with gluten based sauces
51	anonymous	It only takes a little effort in some preparation as to thicken sauces/ gravies cornflour can be used which is GF. The basic meal is normally GF anyway.
52	anonymous	Depending on my and my coeliac friends experiences.
53	anonymous	The management and staff should be more knowledgeable about celiac disease
54	anonymous	knowledgeable staff is the key ...cannot stand when they stare at you when you ask questions regarding gluten free food. It only means they do not have an idea about contamination and what being coeliac means!

ID	Name	Responses
55	anonymous	I discovered the disease 18 years ago and we are in the same situation Palermo my town was 18 years ago, if can help your research visit celiac senza glutini (it is a fun name ☺) on Facebook to see the level of GF in a city like Palermo and compare to Malta(and believe me Inlove Malta and I hope to spend all my life here)
56	anonymous	Nothing to add
57	anonymous	no
58	anonymous	I think education and training is close to zero. And being charged extra really makes me angry.
59	anonymous	More awareness is needed of coeliac disease in eateries. As most just think it's a dietary option
60	anonymous	There is still a lot of improvement that must be made. Dining out is still very stressful for a celiac.
61	anonymous	The situations improved however knowledge and adequate measures are still lacking at most restaurants.
62	anonymous	Malta needs to improve like Italy and other countries to have more gluten free products in our supermarkets.
63	anonymous	Only few restaurants are safe unfortunately. Much more awareness is needed to understand that being coeliac is a disease and not a lifestyle choice.
64	anonymous	Malta still has a long way to go to get to a good standard for coeliacs to feel safe when eating out, especially when you compare the processes other countries have in place. I highly suggest reaching out to the Coeliac Association for further feedback and maybe find ways how to improve the situation in Malta.
65	anonymous	I go only to 2 restaurant were I feel really safe.one has only gluten free menu and the other one the owner is celiac and has a gluten free menu too.
66	anonymous	More options and more knowledge is needed
67	anonymous	The kitchen most often is not aware of the risk of cross contamination and even when visiting high end restaurants I was sick and had to quit dining out cause I trust no kitchen as they dint take celiac seriously
68	anonymous	There should be more desert options .

ID	Name	Responses
69	anonymous	Restaurants and cafeteria ls should provide better food choices including desserts. Menu should be clearly marked with all allergens. Staff should be well versed with menu items in order to guide customers accordingly.
70	anonymous	Malta lacks basic training and range of products. As a Eu Mediterranean country it is possibly the only one that does not offer gf burgers at McDonald's. Italy have a sealed microwave heated option so there are solutions . The fact that a McDonald's doesn't bother in Malta reflects the attitude in general . Also the separate fryer is a requirement by eu not just for Coeliacs but for others with serious 'allergies' . The lack of standards is atrocious. Gf pizza should be at least fully covered in foil if you cannot offer a separate oven but so called chefs have no common sense
71	anonymous	On the whole, I feel that restaurants in Malta do not fully understand the implications of coeliac disease.
72	anonymous	Eating at a maltese diner is always a hit and run and you are just playing with fire unfortunately
73	anonymous	Not all places are the same. Sometimes I do find a waiter who knows what's it all about . Not always. I tend to stick to the same restaurants that I trust. Having said that now most restaurants are marki g food as gf but they tell you it's not good for coeliac only for people who are intolerant. They cannot understand that if it's not good for coeliac it cannot be marked gf.
74	anonymous	Would be ideal to cater for gluten free and coeliac along with cow's milk free options. It gets almost impossible to find
75	anonymous	More information should be available as there as people who have no knowlegde re.this disease
76	anonymous	APPRECIATE YOUR CHOICE FOR YOUR THESIS. MORE AWARENESS FOR COELIACS
77	anonymous	I am coeliac since birth, 33 years ago... a lot has improved since then but there's still much more room for improvement. Eating a gf pizza from any restaurant is still a dream waiting to come true.
78	anonymous	Maltese food has not been adapted for coeliacs
79	anonymous	No
80	anonymous	Government must take action on restuarants
81	anonymous	Most are unaware of the issue of contamination and its implications

ID	Name	Responses
82	anonymous	I do feel sometimes discriminated when it comes to starters and deserts. Many times I can't even have an ice cream
83	anonymous	Needs to be more awarenes of a coeliac condition.
84	anonymous	There surely needs to be more awareness. Better options especially for youths and young adults who don't have any real options that are good budget wise when eating out. Restaurants should be given subsidy/help to have a seperate kitchen. Staff should be trained. Gluten intolerance and coeliac are not the same.re n