



L-Università ta' Malta
Faculty for Social Wellbeing

Examining Public Perceptions & Experiences of Eating Disorders

Commissioned by Dar Kenn għal Saħħtek

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**Examining Public Perceptions
and Experiences of Eating Disorders**

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Eating disorders - A phenomenon we need to reckon with

This is another loop in an important social research agenda that merits attention and focus. Eating disorders are indeed complex conditions that are shown to affect so many people and the immediate circle around them. This study commissioned by Dar Kenn għal Saħħtek and ably piloted by Annabel Cuff, RSO supported by Prof. Anton Grech and Darleen Zerafa surface some important issues that merit immediate attention and consideration. Essentially, we need to keep investing in Dar Kenn Għal Saħħtek, in developing a bigger pool of professionals, strengthening our services within the community and converging the efforts of NGOs, government agencies and other entities to ensure that a comprehensive approach to this problem is being dealt with coherently and comprehensibly.

It is always a pleasure collaborating with Dar Kenn għal Saħħtek. It is through these initiatives and collaborations that our Faculty remains a valid and important stakeholder in the social sector.

Prof. Andrew Azzopardi
Dean



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Executive Summary



BACKGROUND

Eating disorders are under diagnosed and general knowledge about these disorders tends to be generally sparse and inconsistent (Bullivant et al., 2019). Yet, research shows that the sooner a person is diagnosed and receives treatment, the better their chances of recovery; and that family, friends or loved ones can be substantial contributors to ED recognition and treatment (Escobar-Koch et al., 2010). It is believed that better knowledge of eating disorders among the general population will aid recognition and improve diagnosis and treatment uptake, improving the outcome for sufferers and reducing the public health burden exerted by these disorders (Piat et al., 2015).

Commissioned by Dar Kenn għal Saħħtek, this study examined knowledge of eating disorders among persons in the general population in Malta, aged between 15 and 50 years, as well as to assess their information and service needs and the prevalence of eating disorders in this population.

PROJECT PURPOSE AND DESIGN

The research questions guiding this study were:

- (i) What is the state of knowledge about Eating Disorders in the general public?
- (ii) Are there any gaps in the Eating Disorder Knowledge of the general public?
- (iii) How can this study assist policy and practice in this area? .

This study was granted ethical approval in October 2021, and is in conformity with the University of Malta's Research Code of Practice and Research Ethics Review Procedures.

The primary data for this study was collected via anonymous telephone questionnaire. A questionnaire was created specifically for the purposes of this research study, based on previous studies and the body of literature. Participants were contacted through our data partner Sagalytics, via a random telephone number and no identifying details were recorded to preserve the anonymity of respondents. The data gathered was representative by gender, age and district. In all 480 valid replies were collected.

STRENGTHS AND LIMITATIONS OF THE STUDY

Notwithstanding the strengths of this study, such as the use of random, stratified sampling of persons aged between 15 and 50 from the general public, the study is not without limitations. The self-report nature of the study tool may have left space for self-report bias, whereby respondents are more likely to have responded positively. Additionally, the use of the SCOFF questioned in determining the prevalence of eating disorders in the population under examination may have led to over-representation of affirmative replies, leading to a possible over-estimation of their presence.

RESULTS

Knowledge and Experiences of Eating Disorders

When asked whether they had heard of eating disorders, 87.3% (n=419) of respondents replied in the affirmative, indicating that the self-reported knowledge of the cohort is high. They

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were also asked if they could name any eating disorders, with a count made of correctly listed eating disorders. 77.1% (n=370), were able to list one or more EDs. 23.1% (n=111) were able to list one ED, 41.9% (n=201) were able to correctly name two EDs, 11.7% (n=56) were able to list three EDs, while 0.4% (n=2) were able to list four EDs correctly.

Females were more knowledgeable than males, with 90.6% (n=221) females vs. 83.9% (n=198) of males reported having heard of eating disorders, and 82.4% (n=201) of females compared to 71.6% (n=169) of males, who were able to correctly list one or more EDs. All age groups reported having heard of eating disorders: 85.7% of 15 to 17-year olds, 88.6% of 18 to 30-year olds, 92.5% of 31 to 40-year olds and 80% of 41 to 50-year olds. Also, 64.3% of 15 to 17-year olds, 85.1% of 18 to 30-year olds, 78.9% of 31 to 40-year olds and 66.2% of 41 to 50-year olds listed on or more EDS correctly. The district with the greatest number of persons who could correctly name at least one ED was the Southern District, while Gozo and Comino emerged as the district where eating disorders were least known, as fewer respondents could list one or more EDs.

Participants' actual knowledge of EDs was tested in four areas of knowledge: identification of the main eating disorders - Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED) and Avoidant/Restrictive Food Intake Disorder (ARFID); general knowledge and attitudes to eating disorders; recognition of ED signs and symptoms, recognition of the causes of EDs.

Identification of the main eating disorders was found to be relatively good, with 85.2% of the sample who were able to correctly identify between one and four main eating disorders. 55.2% (n=265) and 50.4% (n=242) could correctly identify the characteristics of BN and BED respectively, however identification of AN was lower - 34.8% (n=167), while recognition of ARFID was lowest, as only 28.3% (n=136) were able to correctly identify this disorder. These figures were generally also reflected across gender, and in fact no significant association was found for identification of the different EDs and gender. 15 to 17-year olds were found to be more knowledgeable than other age groups about anorexia and binge eating disorder, while 18 to 30-year olds had better knowledge of bulimia. Knowledge of ARFID remained poor across all age groups. Age was found to be a statistically significant factor for identification of AN, BN and BED but not for ARFID. Only about 30% of participants demonstrated a good knowledge of ED signs and symptoms, making views and attitudes to eating disorders the category that is least well-known. Knowledge of ED causes was also rather weak, with a majority of low scores (61.5%) in this category.

The overall score per participant for each knowledge category was tallied to compute a final score representing overall ED knowledge. 72.9% demonstrated good to very good knowledge of eating disorders, indicating that the Maltese population is generally knowledgeable about eating disorders. Females have slightly better knowledge of EDs than males, with 74.6% of females as opposed to 71.2% of males, demonstrating good to very good knowledge. The gap between the genders widens however, when it comes to a very good level ED knowledge, with 12.3% females against 4.7% males demonstrating high knowledge of EDs. 84% of 18 to 30-year olds showed good to very good ED knowledge, against an average of 65% from the other age groups; although almost 15% of 15 to 17-year olds demonstrated very good knowledge of EDs. This signifies that although in general persons between the ages of 18 and 30 years have better knowledge, those aged 15 to 17 might have deeper knowledge. The northern harbour district had the best overall knowledge of eating disorders while Gozo and Comino had the lowest scores, indicating that although knowledge needs to improve in all districts, in the

Gozo and Comino district there is greater need for information. Overall knowledge of eating disorders was found to be statistically significant for gender and age group but not for district.

The majority of participants, 73.5% (n=353), have no experiences with eating disorders, either directly or through acquaintances. However, 14% (n=67) of respondents, (6.8%, n=16 of males and 9.8%, n=24), stated that they did have experience with EDs; either directly through their own experience, or through that of close family members, or via friends and acquaintances, with 15 to 17-year olds being found to be more prone to experience EDs, either personally or through an acquaintance, (57.1%, n=16). Meanwhile only about 25% of 18 to 50-year olds reported having had such experiences. Experiences of eating disorders were low across all Districts, however, the South Eastern District was the area where most residents stated that they had experiences eating disorders either personally or second-hand, while the Gozo and Comino District was the one where the least number of people stated having such experiences.

A significant association was found for experience or suspicion of eating disorders, indicating that age is a factor in whether one experiences or suspects the presence of an ED; with persons in their late teens being more likely to have these experiences. No significant associations were found for gender or district and experiences/suspicions of eating disorders.

Prevalence of Eating Disorders among Persons aged 15 to 50 years

In order to provide updated knowledge about the prevalence of eating disorders among 15 to 50-year olds in Malta, the five questions of the SCOFF questionnaire were asked in the survey, using 3 affirmative responses as the cut-off, to maximise the balance between sensitivity and specificity (Pannocchia et al, 2011).

77.3% of the sample (n=371) are not indicated for an eating disorder, as they had between 0 to 2 affirmative replies. However, 109 persons or 22.7% had scores of three or more affirmative replies, implying the presence of an eating disorder. Since this study is representative of the general population by gender, age and district, this could signify that 22% of the population aged 15 to 50 years, within the Maltese Islands could be experiencing an eating disorder. However, it should be stated that the SCOFF questionnaire is designed to raise suspicions of an eating disorder, however, unless accompanied by a clinical interview to determine exact numbers, these figures should be considered as indicative but not affirmative.

Within genders, 25.4% (n=62) of females and 19.9% of males (n=47) were found to be likely to have an eating disorder, while for the age groups, persons aged of 15 to 17-years old are much more likely to be vulnerable to an ED, with 53.6% (n=15) of 15 to 17-year olds indicated for the presence of an ED, in contrast to 19.4% (n=34) of 18 to 30-year olds, 19.7% (n=29) of 31 to 40-year olds, and 23.8% (n=31) of 41 to 50-year olds. This demonstrates that, as observed in the literature, EDs have a high incidence in women, and that the ages of 15-17 years are high risk years. Also, the small difference of 5.5% between the male and female prevalence of EDs, shows that, although EDs still affect females more strongly, they are also highly prevalent in males. Prevalence of EDs across districts was relatively uniform, ranging from 16% to 25%. Gozo and Comino was the least affected district, while persons residing in the Southern Harbour District demonstrated the highest prevalence of eating disorders.

No significant associations were found for presence of eating disorders and gender or district, however a significant association was discovered for age group.

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Requirements for Information and Service Delivery

This study also investigated respondents' desire to learn more about eating disorders. By far the most popular response was for more information about eating disorders to be delivered in schools. A general request for information was also a popular choice, followed by a request for more information about EDs on social media, which was also a relative popular choice. Local media and local council had low selection, while receiving information via printed materials, such as pamphlets, was by far the least popular.

Regarding the preferred location for eating disorder service delivery, 32.3% replied that they preferred services in the locality, while services offered at the General Hospital attained a similar response, being chosen by 30%. Services delivered at the local Health Centre was selected by 19.6%, followed by services delivered at the local council, which was selected by 16.7%.

Recommendations

It is hoped that the above findings will assist Dar Kenn għal Saħħtek in planning interventions in future to expand the awareness and the general knowledge about eating disorders in the population. To this end, 22 recommendations for policy, practice and research were submitted.

Policy recommendations include engaging with schools and communities to provide education-based information training courses, as well as creating targeted information courses such as for males or parents of teen agers; creating social media campaigns and setting up community services and outreach.

Recommendations were also made to continue advancing eating disorder research by engaging in studying the prevalence of EDs in persons aged 15 to 50 as well as 11 to 18 years old; researching ARFID particularly as a comorbidity with other disorders, undertaking studies aimed at reducing shame and stigma associated with EDs and studying approaches aimed at increasing early ED interventions and screening.

Conclusion

This study set out to explore knowledge of eating disorders in the general population aged 15 to 50 years. 480 people responses were collected, with replies being stratified by gender, age group and district.

It was discovered that there is generally good knowledge of eating disorders, although awareness in certain areas of knowledge such as causes and symptoms of eating disorders is rather low. The majority of the persons surveyed demonstrated a desire for more knowledge of eating disorders, with a strong request for more information about EDs to be delivered in schools. Eating disorder services in the person's locality as well as in the General Hospital were preferred to service delivery in the local health centre or local council.

This study also examined the prevalence of eating disorder in the population under study. It was found that about 22% of the population may have an eating disorder, although these numbers should be considered as indicative rather than established, as the questioner was not accompanied by a clinical interview.



Given that knowledge about eating disorders has been shown to increase their recognition, as well as improve outcomes and reduce stigma for sufferers, this study aims to present ways to improve the eating disorder knowledge of the general population. It is hoped that in return, the prevalence of eating disorders will diminish and that the ultimate goal of early intervention and treatment will be achieved.



Chapter 1
Introduction and a Review of the Literature

The National Eating Disorder Association states that eating disorders (EDs) affect 70 million people, worldwide (NEDA, 2021). These disorders, which do not discriminate for gender, race or other factors, are “the third most common form of chronic illness among adolescent women aged 15 to 19 years” (Reijonen et al., 2003, p.209), as well as affecting males, older persons and other demographics. Eating disorders have strong negative effects on every area of the life of the individual, and additionally affect their familial and personal support systems (van Hoeken & Hoek, 2020), the health services of which they make high usage (van Hoeken & Hoek, 2020), and the economy through personal as well as familial productivity costs (Simon et al., 2005); all of which makes them a significant public health concern (Carta et al., 2014; Worsfold & Sheffield, 2019).

Although eating disorders have a wide-ranging impact and affect millions of people, they are still considered rare disorders (Waller et al., 2014), and while there is vast research of EDs in their various aspects, public knowledge of eating disorders remains patchy and poor (Becker et al., 2004; Bullivant et al., 2019). The fact that eating disorders are still highly prevalent (Hoek, 2016) and in some areas, such as the Middle East and Africa and Asia, they are even seen to be on the rise (Melisse et al., 2020; Pike & Dunne, 2015; van Hoeken et al., 2016). All of this makes it vital to engage with eating disorders through higher levels of research, prevention and treatment programmes, as well as promoting and improving recognition and knowledge of EDs among professional practitioners and the general public.

Research shows that mental health literacy (MHL), can help mitigate mental health problems such as depression or eating disorders, and even improve treatment seeking behaviours (Piat et al., 2015). Improved understanding and recognition of eating disorders could save sufferers years of distress and harmful habits and is therefore highly desirable. Additionally, support and encouragement from family and friends is seen to have a positive effect on treatment seeking and outcomes (Escobar-Koch et al., 2010). The current study seeks to examine the level of knowledge of eating disorders in the general public in Malta, and to explore whether a good awareness of eating disorders can lead to better attitudes to food and diminishing rates of these serious disorders.

1.2. LITERATURE REVIEW

Eating disorders are “serious behavioral conditions characterized by severe and persistent disturbance in eating behaviors and associated distressing thoughts and emotions [that] affect sufferers physical, psychological and social function” (APA, 2021). The better-known eating disorders are Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED), and more recently Avoidant/Restrictive Food Intake Disorder (ARFID) which in the 2013 update to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) was recognised as a separate disorder in its own right. As well as the main eating disorders, there are also subthreshold and atypical manifestations of eating disorders, which are potentially more prevalent than their full ED counterparts (Hammerle et al, 2016), and all of which cause devastation and distress to sufferers.

Eating disorders affect sufferers physically, psychologically and socially, as well as leaving a vast impact on those close to them, such as families, friends, significant others, employers, and colleagues. Eating disorders are also costly – economically in terms of lost productivity and socially in terms of diminished wellbeing. Yet ED recognition remains poor; most sufferers remain in denial, do not seek treatment or find that their symptoms remain unidentified

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and their disorder unrecognised. Research suggests that less than a quarter of persons experiencing eating disorders receive help (Weissman & Rosselli, 2017). Hamilton et al. (2021) found that, on average, the interval between onset of symptoms and treatment seeking is 5.3 years. During this time, sufferers will either engage in destructive habits that maintain their disorder or self-medicate to try to make up for the harmful consequences of their eating habits (Hart et al., 2012). Hart et al go on to state that some sufferers will seek help informally through family and friends or online, and indeed the support systems surround ED sufferers are extremely influential along the journey, as a route to diagnosis and continued support and encouragement throughout treatment (Wacker &, Dolbin-MacNab, 2020).

1.2.1. Eating Disorders as a Public Health Concern

The reasons why eating disorders arise are complex and multifaceted, and usually centre around a desire to control food consumption, such that what starts as an attempt to eat healthily or lose weight, can escalate beyond the person's control (Morris, 2008). There is not usually a single cause for an eating disorder, nor is there agreement among experts as to what causes EDs (Stice & Desjardins, 2018). Efforts to lose weight or diet, family dynamics and hereditary influences have all been shown to have significant influence on the predisposition to eating disorders (Mitchison & Hay, 2014). A family background of mental health or eating disorders, as well as particularly high family expectations, particularly for female sufferers, are also known to be possible triggers (Le Grange et al., 2010). Other likely causes for EDs are psychological and emotional dynamics such as anxiety, depression, stress and low self-esteem, as well as childhood trauma and abuse (Rothschild-Yakar et al., 2018). Other influences thought to be significant risk stimuli for eating disorders are issues with self-esteem, body dissatisfaction, often associated to the highly unrealistic ideals of beauty that are widespread online and on traditional media, for males as well as females (Tiggemann & Polivy, 2010).

Eating disorders are a cause for concern. Carta et al. (2014, p.486) state that eating disorders have "an impact on quality of life comparable to that produced by severe chronic psychiatric and general medical conditions". They have wide-ranging consequences, affecting the individual and their support system, our communities and the economy. At a micro level, EDs negatively affect personal outcomes for the individual, giving rise to various unfavourable problems, physicals and also psychologically. Physically, eating disorders put the body under enormous pressure, disrupting natural growth, effecting the circulation and nervous systems, causing cardiac and renal difficulties and chronic pain, among others (Nagl et al. 2016; Weigel et al, 2019). As Jahraus (2018) affirms, "The medical impact of eating disorders is widespread, touching every organ system in the body" (p.463). These negative consequences are even more critical for children and adolescents, whose bodies and systems are still developing (Galmiche et al., 2019; Herpertz et al, 2011). Although a number of the negative somatic effects of EDs can be reversed once unhealthy attitudes and reactions to food are stopped, some of the effects on health can be long-lasting, while others never fully resolve (Himmerich et al, 2021; Morris, 2011).

EDs also cause substantial upheaval to a persons' social and psychological wellbeing (Treasure et al., 2010). ED sufferers experience high levels of psychological distress, including low self-esteem, anxiety, distorted thinking, self-harm and obsessive behaviours (Turnbridge, 2021). Eating disorders exert an immense mental toll, and have an exceptionally high rate of mortality, indeed, at about 5% higher than that for the general population,

they exert one of the highest rates of mortality for mental health disorders (Kaye, 2012; Suokas et al, 2014). Risk of self-harm and suicide attempts among ED sufferers are high, with death by suicide being one of the major causes of death for persons suffering from EDs (Matytsina et al, 2014; Zhang & Wing, 2015). The feelings of unease and low self-worth that come with an eating disorder often also lead sufferers to isolate themselves from their peers, which is not helped by the fact that socialization tends to centre around food, which tends to add motivation for sufferers to alienate themselves from others (Doyle et al, 2007; Polivy & Herman, 2005). Levine (2013) found that loneliness is experienced by all sufferers of eating disorders across the entire spectrum, while Keith et al. (2009) add that ED sufferers experience high levels of shame in various aspects of their lives.

Van Hoeken & Hoek (2020) estimate that over 3.3 million healthy life years are lost annually to eating disorders and that overall costs to national health systems are around 48% higher than for non-sufferers. As well as high cost to personal quality of life, eating disorders are costly in terms of health services. Eating disorder sufferers make high usage of health services, yet paradoxically rarely receive treatment targeted to their underlying problem of disordered eating, ensuring continued high usage of health services (Mond et al, 2007; Worsfold & Sheffield, 2019). Additionally, EDs cause disruption to sufferers' education and negatively impact employment productivity and future security, as well as exacting a high financial burden on sufferers and their families (van Hoeken & Hoek, 2020).

Although economic costs are difficult to calculate, a few studies do exist. Already in 1990 in the UK, anorexia nervosa was calculated to have cost the NHS £4.2 million (Simon et al, 2005). Krauth et al. (2002), estimated that in Germany the costs for anorexia and bulimia combined were of €319 million, working out at an estimated annual cost of €5,300 for anorexia patients and €1,300 for bulimia patients. Streatfeild et al, (2021) reported that in the US, the estimated economic costs of eating disorders is \$64.7 billion while reduced wellbeing costs a further \$326.5 billion, or \$11,808 per person. Streatfeild et al included an array of economic outlays, including costs of treatment, lost productivity of sufferers and also of their carers, as well as the broader costs to society, and losses in wellbeing. They worked out that individuals personally fund close to 33% of the financial costs of eating disorders, while government and employers each bear about a quarter of the costs yearly. Streatfeild et al, used available sources such as insurance claims and health system reporting, meaning that the true overall costs could be even larger. They discovered that the costs of eating disorders are higher than for other conditions such as Parkinson's disease or schizophrenia (Streatfeild et al, 2021).

Eating disorders have an elevated personal, social and economic costs. EDs impact quality of life, have a high mortality, have a number of negative physical consequences and cause psychological difficulties that make it hard for sufferers to be around other people and exert high emotional costs (Ackard et al, 2014; Doyle et al, 2007; Himmerich et al, 2021). The suffering, mortality and costs of eating disorders mean that they are a significant public health concern and that more should be done to improve prevention and increase recognition of these disorders, in order to reduce this burden. Better knowledge of eating disorders among practitioners and the general public would improve ED recognition and reduce the suffering and costs related to eating disorders. Additionally, Buchholz et al. (2017) suggest that screening for eating disorders should be introduced in primary care settings, as this would greatly improve identification at an early and more easily treatable stage.

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1.2.2. General Awareness of Eating Disorders

Epidemiological data on eating disorders shows that these disorders are prevalent in every culture and country in the world, and some studies show that they are even on the rise in certain areas, although possibly that could be due to better awareness and diagnosis (Hoek, 2016; van Hoeken et al., 2016). Galmiche et al., (2019) report that in the years from 2000 and 2018, the global prevalence of EDs rose by over 4 percentage points from 3.4% to 7.8%. Nagl et al. (2016) calculate lifetime prevalence for full EDs at 2.9% for females and 0.1% for males; while for sub-threshold EDs the authors give place prevalence at 2.2% for females and 0.7% for males. However, the real figures could be even higher, given the difficulty in recognising EDs and the propensity of sufferers to hide their symptoms (Waller et al, 2014).

The global prevalence of eating disorders in contrasts however with low ED recognition. There are a number of barriers to correct identification of eating disorders. One obstacle to correctly identifying an eating disorder is that eating disorders symptoms can also be linked to other conditions (Jenkins, 2005), making correct identification harder. Additionally, the shame and stigma associated with eating disorders means that individuals are often reluctant to discuss disordered eating habits with primary care practitioners, do so obliquely, are not aware that they have an eating disorder, do not want their ED to be identified, or see doctors and other primary care practitioners for related reasons but do not directly state their reason for the visit (Hart et al, 2011; Waller et al., 2014). Besides patient secrecy, health care providers and other professionals may also not be very knowledgeable about eating disorders, may not delve deep enough into patient history and symptom presentation to discover the eating disorder or may hold prejudicial opinions that hinder recognition (Hart et al, 2011; Kornstein, 2017; Weissman & Rosselli, 2017). Having a different gender or ethnicity to the practitioner added an extra barrier, while non-typical presentation of patients, such as those hailing from an ethnic minority, males, members of the LGBT+ community and older persons also experienced difficulty in being diagnosed, possibly due to practitioner preconceptions and the 'lost in translation' effect (Stein, 2006). Another reason for this could be that diagnostic tools are usually created for the main designation of ED sufferers, namely young, white females, usually from an affluent background, and work less well with other demographics (Stein, 2006).

Moreover, as Waller et al (2014) found, once the patient's symptoms are identified as indicative of an ED, there is additional difficulty in convincing the person to access treatment. A main barrier that holds sufferers from seeking treatment is the fear of stigma and the desire to not be labelled as 'sick' (Buchholz et al., 2017). In fact, shame and stigma are at the root of much symptom-denial in eating disorder sufferers, both to themselves and others. Weissman & Rosselli, (2017) report that persons experiencing eating disorder find it easier to seek treatment for physical health conditions, to which no stigma is attached, than for the eating disorder itself; which would explain why the underlying ED remains undiscovered, despite high use of medical services. This is in line with the findings of Roehrig & McLean (2010), who found that stigma against eating disorder sufferers is greater than that against patients with depression, which is in itself elevated. Indeed, Griffiths et. al. (2018), report that only 23% of ED sufferers seek treatment for their disorder.

With such entrenched attitudes it is no wonder that bringing sufferers to identify their eating disorder and to access treatment is challenging. Interventions that assist recognition of EDs in persons experiencing disordered eating, the people around them, and professionals, would be a step in the right direction. There are, unfortunately, not many

studies that examine approaches to increasing awareness of eating disorders among the general population, or even among professionals, although a few studies do examine the impact of stigma and lack of awareness of mental disorders in general.

In their 2007 study, Jorm et al. examined the value of mental health first aid for a number of mental health issues and found that in general positive social interactions led to positive outcomes and increased help-seeking, while the converse also held true, in that negative interactions did not. Jorm et al. found that, particularly in the emergent phase of a mental health disorder, a persons' social circle can be crucial in providing support and encouraging sufferers to seek help. This type of support is defined by the authors as mental first aid. Other studies have found, similarly, that with good support networks, eating disorder sufferers are more likely to access treatment and have improved recovery outcomes (Leonidas & Dos Santos, 2014; Linville et al., 2012; Muscat, 2017). Building upon the study of Jorm et al., an in-depth study by Hart et al, (2012), found that mental health literacy (MHL) and mental health first aid interventions helped to raise awareness of mental health issues. Mental health literacy (MHL) is defined as "the knowledge and beliefs about mental disorders which aid their recognition, management & prevention" (Venkataraman et al, 2019, p2723). Better understanding of the disorder, through improved MHL, often resulted in increased understanding and empathy for the sufferer, leading friends and family to assist sufferers by encouraging them to access treatment. Hart et al, (2012) found that

Interventions that aim to improve mental health literacy in the social network of individuals with eating disorders provide a promising avenue for increased help-seeking, because of the important role family and friends can play in recognising an eating disorder, reducing stigmatising attitudes, overcoming illness related barriers and facilitating engagement with treatment. (p.2).

Hart's premise is that improving MHL is crucial in combating ill mental health and improving the input of friends and family who can support sufferers. This is also true for the social circle of persons with eating disorder, as intervention and support from family and friends is often found to be a successful route to treatment (Blodgett Salafia et al, 2015; Escobar-Koch et al., 2010).

In one of the few studies that directly examines public perceptions and knowledge of eating disorders, Harrison & Bertrand (2016) go beyond the assertion that there is a lack of knowledge about eating disorders, and examine how this lack of understanding affects attitudes to sufferers. The authors found that alongside poor education, general attitudes towards sufferers were noticeably negative. Unless participants had personal experience of eating disorders, or of closely supporting a loved one with an ED, they generally viewed eating disorders as an experimental phase, not serious or more of a choice (Harrison & Bertrand, 2016). Such findings add to the body of literature that illustrates how mental disorders are often misunderstood and made light of. Such stigmatising misconceptions can be dangerous and lead to the disorder being overlooked, not taken seriously, or even encouraged. In fact, Harrison & Bertrand found that in some instances, persons with eating disorders were admired for their perseverance, which could in turn lead to the disorder becoming valued by the sufferer themselves. These attitudes serve to increase the stigma towards eating disorders and the shame felt by sufferers, and further discourage disclosure of their disease and the social isolation of sufferers. Another theme that emerged from this study was that the general public is unaware of how eating disorders affect the greater

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community, believing that the effects are limited to the sufferer, whereas, as discussed above, research shows that eating disorders have a widespread impact. Treasure et al, (2015) add that given the importance that family and the support network of sufferers have in bringing them to treatment, supporting them throughout and encouraging them to stay the course, it is vital that this resource is acknowledged and nurtured.

A similar study, conducted in 2015 by Blodgett Salafia et al, examined knowledge of the causes of eating disorders among the general public as well as among persons who were experiencing or had experienced EDs themselves. Although there were discrepancies between the groups examined, the authors found an overall lack of knowledge about the causes of eating disorders, and similarly to other authors who investigated public knowledge of eating disorders, endorse general education programmes or campaigns to improve education about EDs. Thus it is seen as a route to easing the stigma surrounding these disorders and facilitating the connection between sufferers and their support network, as a means of contributing to recovery outcomes (Blodgett Salafia et al, 2015).

The low recognition of eating disorders, the value that family and significant others can bring to ED identification, and the contrasting poor general knowledge of EDs, provide a sound argument for interventions aimed at improving knowledge of eating disorders. This should be aimed not only towards sufferers, but also to the population in general, as well as professional practitioners, who despite having some training in the subject, often exhibit a lack of deeper knowledge of eating disorders (Cuff & Azzopardi, 2022). Having knowledgeable, supportive systems, whether they are family, significant others, colleagues, coaches or eating disorder professionals, will very likely improve the recovery process and long-term prospects for ED sufferers.

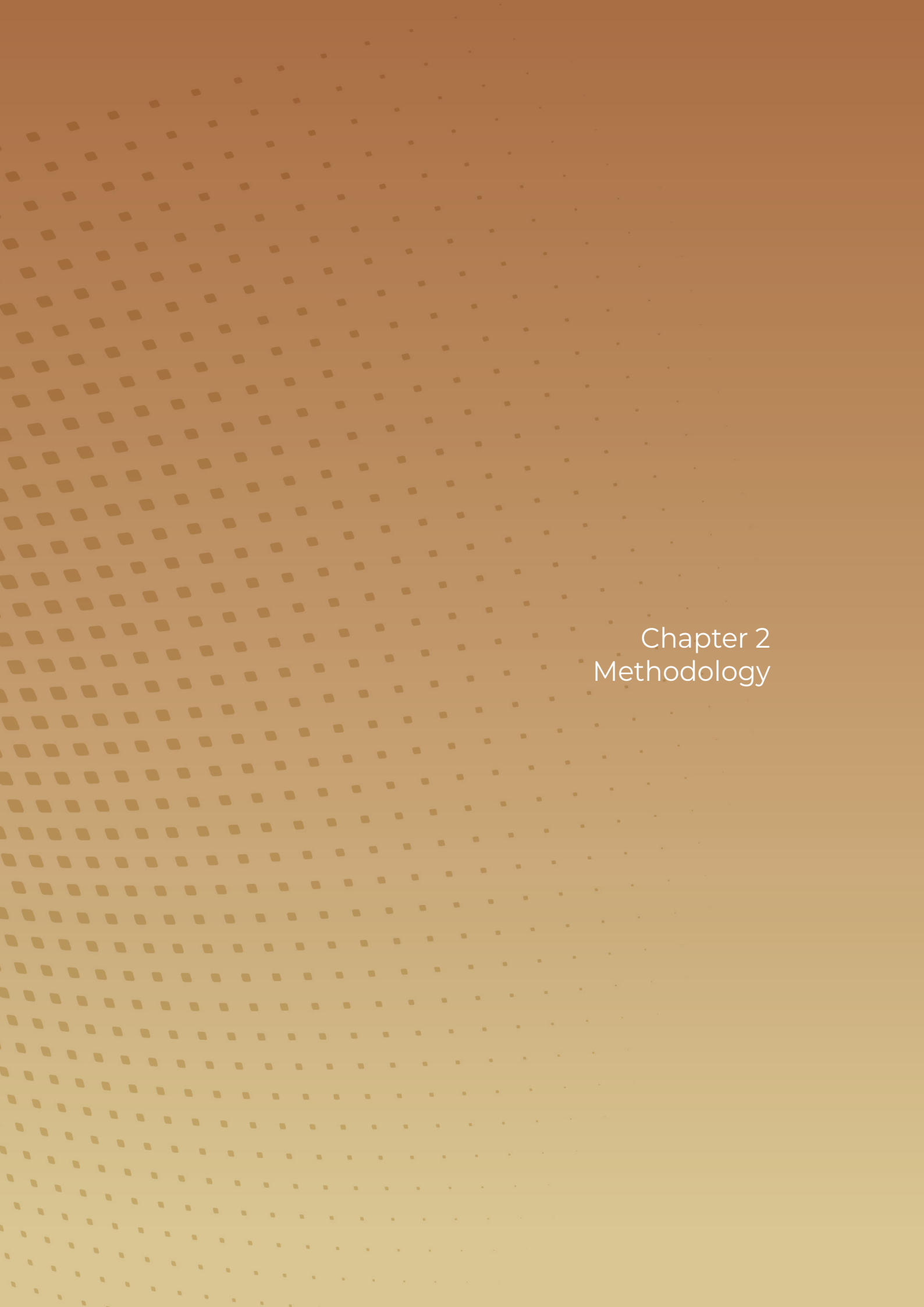
1.3. CONCLUSION

Although eating disorders are prevalent throughout the world, little is known about them among the general public. Eating disorders inflict high personal, social and economic cost, making them a significant public health concern (Galmiche et al., 2019). Yet, they are hard to recognise even by qualified professionals, and it is estimated that fewer than 10% of persons experiencing eating disorders are correctly identified by primary health practitioners (Buchholz et al., 2017). Nevertheless, despite low treatment uptake and a number of negative effects experienced by sufferers, recovery is possible and the negative somatic and psychological effects of eating disorders can often be reversed (Morris, 2011). However, the earlier that a person accesses treatment, the better the outcome (Zhang & Wing, 2015).

Yet, sufferers of eating disorders are often in denial about their disorder or unwilling to speak to healthcare practitioners or other professionals to seek targeted treatment, often due to the shame and stigma attached to these disorders. Research has shown that poor understanding and inadequate knowledge of eating disorders among the general public, combined with negative perceptions of sufferers, add to the barriers to treatment seeking (Griffiths et. al., 2018). Conversely, positive outcomes such as help-seeking and perseverance throughout treatment, are far more likely if sufferers have the help and encouragement of persons in their social network. Family, friends and significant others have been shown to be an important route to acceptance and treatment (Hart et al., 2012). Increased knowledge about mental health issues and eating disorders, including better mental health literacy, are highly effective at generating greater empathy and support for persons experiencing these disorders.



Although these disorders are not, in general, very well-known, it is hoped that programmes that improve public eating disorder knowledge and mental health literacy will lead to improved rates of ED diagnosis and better engagement in treatment programmes (Harrison & Bertrand, 2016). Considering the devastation that eating disorders inflict, initiatives that prevent dysfunctional eating habits from escalating into a full-blown disorder, reduce symptoms, and ease the burden of these disorders upon sufferers and those surrounding them, are crucial.



Chapter 2 Methodology



As mentioned previously, recognising that eating disorders are under diagnosed while general knowledge about these disorders is sparse and inconsistent, this study sought to examine knowledge of eating disorders among the general population. Research shows that the sooner a person is diagnosed and receives treatment, the better their chances of recovery, and that family, friends or loved ones can be substantial contributors to ED recognition and treatment. It is believed that better knowledge of eating disorders among the general population will aid recognition and improve diagnosis and treatment uptake, improving the outcome for sufferers and reducing the public health burden exerted by these disorders.

2.1. RESEARCH QUESTIONS AND AGENDA

The current study was commissioned by Fondazzjoni Kenn għal Saħħtek to examine the knowledge and perceptions of eating disorders amongst the general population in Malta, aged 15-50. The objectives of this project were to:

- (iv) Identify the state of knowledge about eating disorders in the general public;
- (v) Identify any gaps in the knowledge of the participants of the study; and
- (vi) Provide policy and action recommendations.

2.2. ACCESSING THE SAMPLE

Data collection was carried out during the month of January 2022 through data collection partner Sagalytics. Knowledge and attitudes to eating disorders were examined for 480 persons, aged 15 to 50, residing in Malta and Gozo. The sample was stratified by age, gender and district and is representative of the Maltese population, so that results obtained are generalisable to the population of the Maltese Islands, with a 95% level of confidence and a margin of error of +/- 4.9%.

The sample was recruited by telephone by the study data collection partner Dr. Vincent Marmara and his team at Sagalytics. Telephone numbers, both landline and mobile numbers, were generated randomly and non-sequentially using a telephone number generator. Once the call was answered, the responder was given the study information and asked whether he/she consents to participation. For respondents who were under age (ages 15 to 17) the parents' consent as well as their assent was obtained prior to being asked the questions. 480 valid replies were collected from a total of 2100 phone calls made. Of these, 1050 were not eligible for the study, and another 600 declined to participate. Once respondents accepted to participate, they all completed the questionnaire.

2.3. DATA COLLECTION TOOLS AND DETAILS OF QUESTIONNAIRE RESPONDENTS

Recruitment for this study was by random sampling, in order to ensure that the data collected was truly representative of the population, with data collected via a telephone questionnaire designed specifically for this study. The study tool was based on previous studies and published literature. The questionnaire collected demographic questions such as age, gender, locality of habitation, highest level of education attained, and employment status, in order to allow for comparisons within the sample. Respondents were then asked specific questions relating to eating disorder knowledge and attitudes, as well as their attitude to food and eating.

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The first section asked respondents about their experience with eating disorders such as whether they or anyone close to them had ever been diagnosed with an eating disorder, or whether they suspected that someone they knew had an eating disorder. The questionnaire went on to ask about respondents' knowledge and attitude to eating disorders, as well as examining attitudes to food and disordered eating by asking the 5 questions of the SCOFF test. While the SCOFF questionnaire is not considered a diagnostic test, it is considered to be highly effective in highlighting the potential presence of Anorexia Nervosa and Bulimia Nervosa, although is not so efficient in detecting other EDs (Kutz et al, 2020). The remaining sections assessed whether respondents could correctly identify AN, BN, BED and ARFID; their attitudes towards persons with EDs; their recognition of ED signs and symptoms, and of causes of EDs. Additionally, the questionnaire enquired about respondents' requirements for information and their preferred way of receiving information, as well as their preferences regarding ED service delivery.

2.4. THE SAMPLE

A total of 480 valid replies were collected from 236 males (49.2%) and 244 females (50.8%) between the ages of 15 and 50 years (Figure 2.1).

Participants by Gender

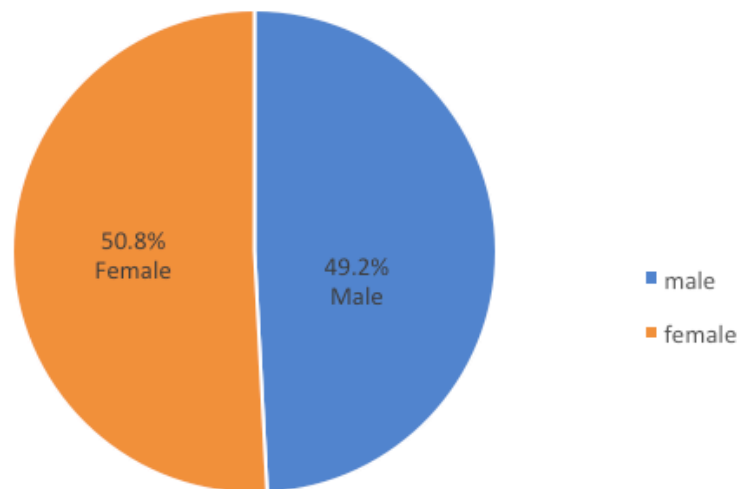


Figure 2.1 – Sample by Gender

5.8% of participants (n=28) were aged 15 to 17, 36.5% (n=175) were aged 18-30, 30.6% (n=147) were between the ages of 31 and 40, while 27.1% (n=130) were between 41 and 50 years of age. These divisions are reflective of the percentages of these age groups within the general population (NSO, 2019).

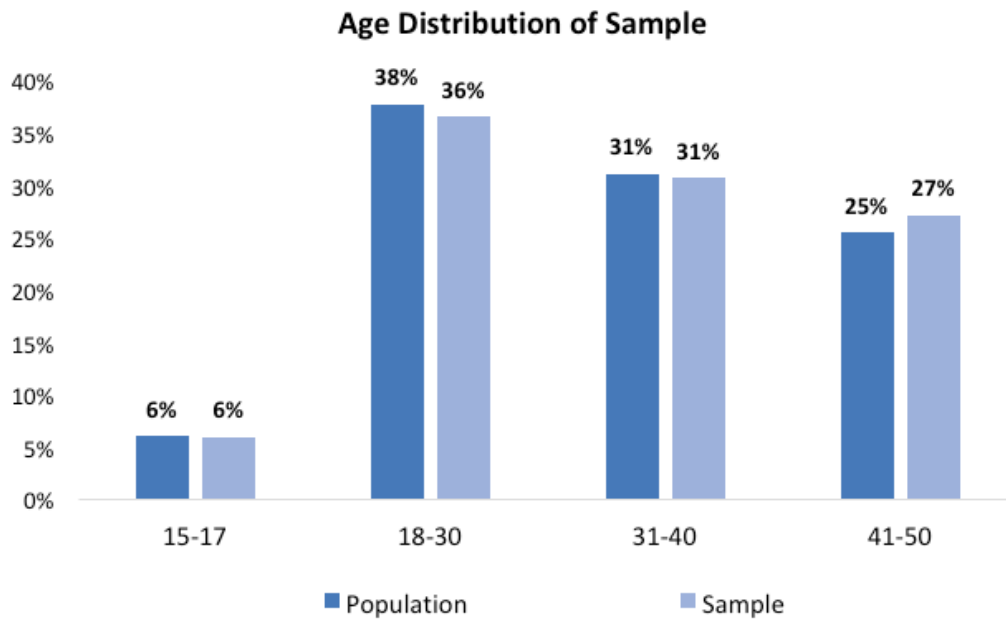


Figure 2.2 – Sample by Age

The distribution of participants across the six districts of Malta as defined by the National Statistics Office (NSO, 2019), is also representative of the percentages of the population inhabiting each district (Figure 2.3). Within the sample, 6.3% of participants (n=30) reside in the Gozo and Comino district, 26.7% (n=128) in the Northern Harbour district, 18.8% (n=90) in the Southern Harbour district, 18.5% (n=89) reside in the South Eastern district, 15% (n=72) reside in the Western District and 14.8% (n=71) in the Northern District.

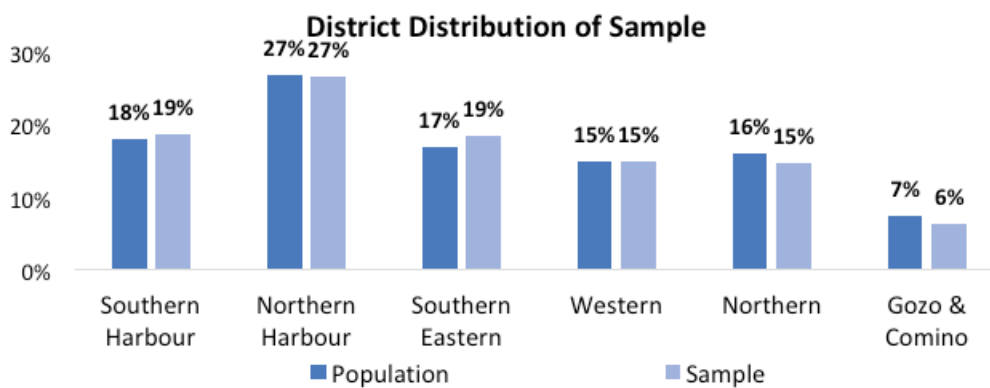


Figure 2.3 – Sample by District

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When asked about the highest level of education attained, 2.1% (n=10) of respondents listed primary schooling as their highest level of education, 35.4% (n=170) listed secondary schooling, a further 16.9% (n=81) attained post-secondary or vocation training, while 44.2% (n=212) of the sample listed tertiary education as the highest level of education attained. 1.5% (n=7) listed other as their highest level of education, with the majority being students aged 15-17 years old and one listing a vocational course as their highest level of education (See Figure 2.4 and Table 2.1).

Participants by Highest Level of Education Achieved

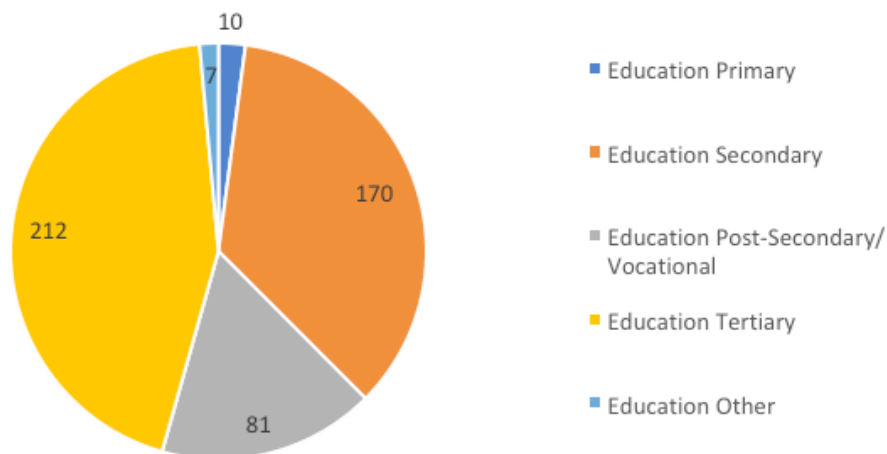


Figure 2.4 – Sample by Highest Education Level of Sample

Table 2.1 – Distribution of Sample by Highest Level of Education

Level of Education	No.	%
Primary	10	2.1
Secondary	170	35.4
Post-Secondary/Vocational	81	16.9
Tertiary	212	44.2
Other	7	1.5
Total	480	100.0

Respondents were also asked about their employment status. 23.3% (n=112) replied that they were students, 20.6% (n=99) stated that they held a professional job requiring a university degree, 32.1% (n=154) stated that they were employed in a vocational capacity in a job that does not require a university degree, 9.6% (n=46) replied that they were unemployed, 7.5% (n=36) stated that they were homemakers/stay-at-home parents, 3.5% (n=17) replied that they were retired, 1.5% (n=7) replied that they were self-employed and 1.9% (n=9) replied other, with

replies within this category varying from working in a shop, as a seamstress, or as a hairdresser to no employment being specified. Figure 2.5 refers.

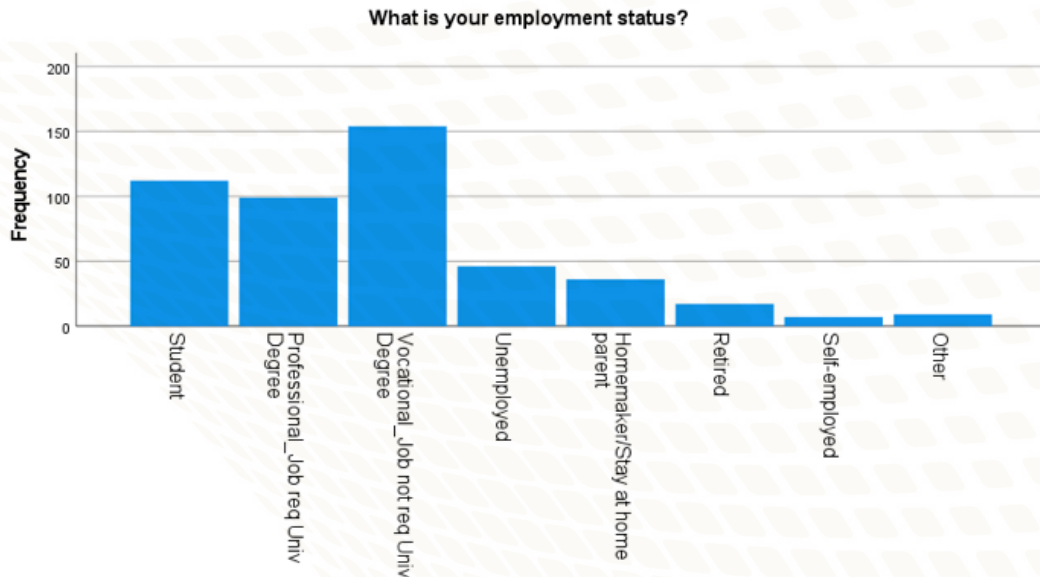


Figure 2.5 – Employment Status of Sample

2.5. ETHICAL APPROVAL

All materials for this study were submitted to the Faculty for Social Wellbeing's Faculty Research Ethics Committee (FREC). All persons contacted to participate in the study were provided with details of the study and informed of their rights as research participants in accordance with the General Data Protection Regulations (GDPR). In the case of minors, parental/guardian consent as well as their assent was obtained prior to participation. All participants were informed that due to the anonymous nature of the study, they could only opt out while the survey was under way, as once they had completed the telephone survey, the research team would not know which answers pertained to which participant. Although questions were formatted in as sensitive a manner as possible, due to the possibly distressing nature of the topic under study, details of support services were given to participants. Additionally, a support team of professionals from Dar Kenn għal Saħħtek was on standby in case the research team felt that professional intervention would be beneficial. Approval to ensue with data collection was granted in October 2021, and the data was gathered in January 2022.

2.6. STATISTICAL ANALYSIS

The data gathered was analysed using Microsoft Excel and IBM SPSS Statistics 28 for Windows, (IBM Corp., Armonk NY, USA). Chi Square tests were performed in SPSS to test for associations between variables, by testing whether frequencies of an individual categorical variable differs across levels of other categorical variables. This allows for an analysis of whether there exist any statistically significant relationships between variables.

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2.7. STRENGTHS AND LIMITATIONS

The study has a number of strengths, such as the stratification by gender, age and district, which enable results to be generalizable to the population, however there are also limitations that need to be addressed. As the study tool was a self-report questionnaire, there may have been an element of self-report bias, with respondents either over or under estimating their knowledge and attitudes to eating disorders. This was partially offset by the anonymity and the fact that it was administered over the telephone, in fact, Beck et al, (2009), found that randomly sampled telephone surveys tend to produce consistent and reliable results, however self-report bias cannot be completely ruled out. In addition, investigating the prevalence of eating disorder utilizing the SCOFF questionnaire may have led to over representations of affirmative responses. This was compensated for by taking the more cautious approach suggested in Pannocchia et al, (2011) of considering replies of three rather than two affirmative responses as indicative of the presence of an eating disorder. However, although SCOFF is considered reliable in detecting eating disorders, it should be supported by a clinical interview to determine prevalence more accurately (Hautala et al, 2009), thus although the results presented in this study can be considered indicative, it is advised that prudence be taken in their interpretation. Further studies examining eating attitudes that are supplemented with clinical interviews would redress this limitation.





Chapter 3
Study Findings and Analysis



With the aim of gaining an understanding of the data, which is representative of the target population by gender, age and district; the findings below are submitted, based on the replies received from the 480 persons between the ages of 15 and 50 years, who participated in the survey (see Chapter 2 for details of accessing the sample and sample characteristics).

3.1. EXAMINING SELF-REPORTED KNOWLEDGE OF EATING DISORDERS

Respondents were asked whether they had ever heard of eating disorders, whether they could name any, and whether they or anyone they know have ever been diagnosed with eating disorders or they have suspected that they or a person they know has an eating disorder.

Of the 480 valid replies received, a total of 419 persons, or 87.3% replied that they had heard of eating disorders, while 12.7% (n=61) replied that they had not, did not know or gave no reply to this question.

Examining self-reported knowledge of eating disorders against gender, 83.9 % (n=198) of males and 90.6% (n=221) of female respondents had heard of eating disorders as opposed to 16.1% (n=38) of males and 9.4% of females who stated that they had not heard of eating disorders (Table 3.1).

Self-reported knowledge of eating disorders was tested for statistical significance against gender using the Chi-Square test, which returned a p value of 0.028. Since this is below the 0.05 level of significance, this indicates that a statistically significant association exists for gender and knowledge of eating disorders.

Table 3.1 – Self-reported knowledge of eating disorder by gender

	Yes		No/Don't know/ No reply given	
	%	No.	%	No.
Male	83.9	198	16.1	38
Female	90.6	221	9.4	23

Within the age groups, 85.7% of 15 to 17-year olds, 88.6% of 18 to 30-year olds, 92.5% of 31 to 40-year olds and 80% of 41 to 50-years olds reported having heard of eating disorders, showing that in all age groups, self-reported knowledge of eating disorders was high, and was especially high for 31 to 40-year-olds. Figure 3.1 refers. A Fisher's Exact Test (performed as one cell had less than five values) returned a p-value of 0.017, indicating that age, as well as gender, is significantly associated with self-reported knowledge of eating disorders. Table 3.2 and Figure 3.1 refer.

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Table 3.2 – Self-reported knowledge of eating disorders by age group.

Age Group	Yes		No/Don't know/No reply given	
	%	No.	%	No.
15-17	85.7	24	14.3	4
18-30	88.6	155	11.4	20
31-40	92.5	136	7.5	11
41-50	80.0	104	20.0	26

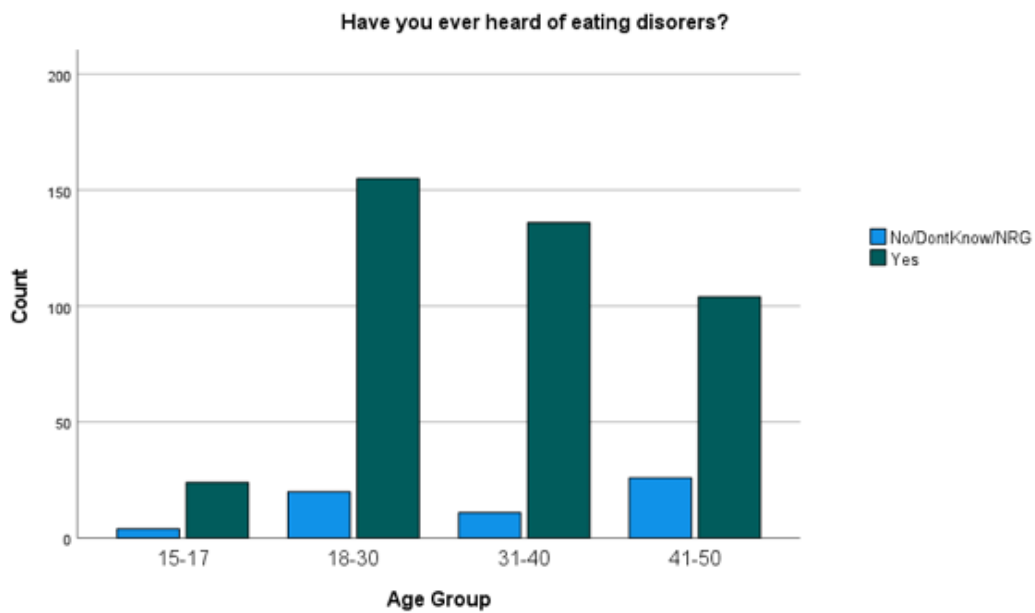


Figure 3.1 – Self-reported knowledge of Eating Disorders by Age Group

Examining responses by district, it emerges that the district with the highest positive response for self-reported knowledge of eating disorders is the Western district, however all areas reported good knowledge of eating disorders and there were no great discrepancies. In fact, a test for significant association for district and self-reported knowledge of eating disorders revealed that there is not statistically significant association between the two. Table 3.3 refers.

Table 3.3 – Self-reported knowledge of eating disorders by age group.

District	Yes		No/Don't know/No reply given	
	%	No.	%	No.
Gozo & Comino	90.0	27	10.0	3
Northern Harbour	86.7	111	13.3	17
Southern Harbour	87.8	79	12.2	11
South Eastern	85.4	76	14.6	13
Western	93.1	67	6.9	5
Northern	83.1	59	16.9	12

Respondents were also asked whether they could mention any specific eating disorders. Replies to this question were considered correct if the eating disorder listed by the respondent is listed in the DSM. Replies of “Obesity”, “Obese” and “Overweight” were accepted as correct due to the association with Binge Eating Disorder, however replies such as celiac, diabetic, gluten intolerance and similar replies were regarded as incorrect and not counted. The number of correct replies per respondent was tallied and tabulated (Table 3.2).

22.9% of respondents did not correctly mention any eating disorders. Of the remaining 77.1% of respondents who could correctly list one or more eating disorders, 23.1% listed one eating disorder, 41.9% correctly named two eating disorders, 11.7% mentioned 3, while 0.4% could correctly identify 4 eating disorders. Table 3.2 refers.

Table 3.4 – Number of eating disorders listed correctly

Number of EDs listed	%	No.
No EDs Listed/NRG	22.9	110
One ED listed	23.1	111
Two EDs Listed	41.9	201
Three EDs listed	11.7	56
Four Eds Listed	0.4	2
Total	100	480

Among male respondents, a total of 71.6% (n=169) of the sample could correctly list at least one ED, while 28.4% (n=67) could not list any EDs. Within the group of male respondents, 25.4% (n=60) could list one ED, 38.1% (n=90) correctly listed two EDs, 7.6% (n=18) listed 3 correct EDs and 0.4% (n=1) listed four eating disorders. Among female respondents, 82.4% (n=201) could correctly list one or more EDs, while 17.6% (n=43) could not list any EDs. For female respondents, 20.9% (n=51) could list one ED, 45.5% (n=111) correctly listed two EDs, 15.6% (n=38) listed 3 correct EDs and 0.4% (n=1) listed four eating disorders (Figure 3.2).

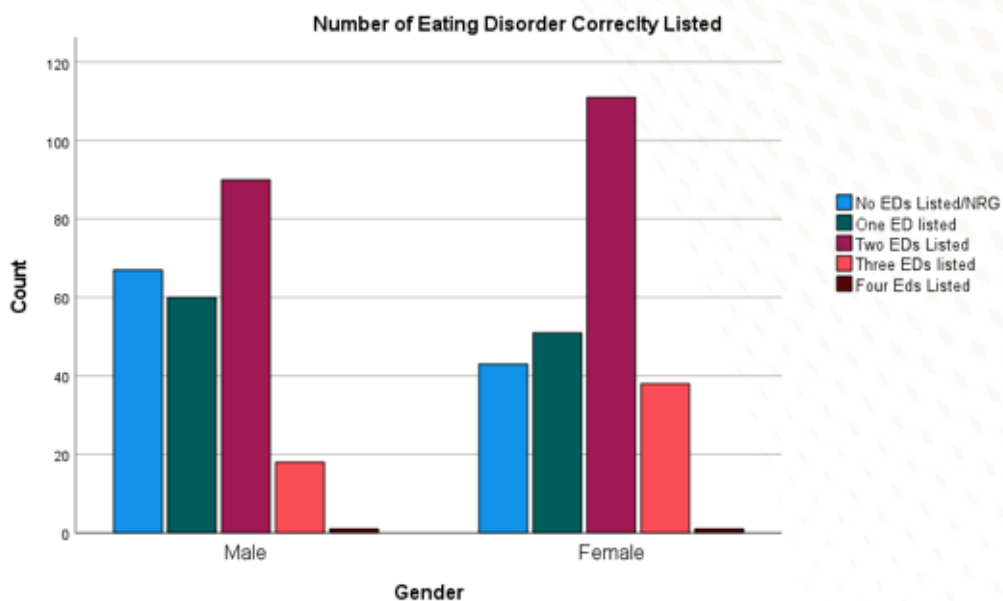


Figure 3.2 – Number of Correct Eating Disorders Listed

Examining Public Perceptions and Experiences of Eating Disorders

64.3% of 15 to 17-year olds were able to list one or more eating disorders, 85.1% of 18 to 30-year olds could list one or more EDs, 78.9% of 31 to 40-year olds were able to list one or more EDs, while 66.2% of 41 to 50-year olds listed one or more EDs correctly. Within all age groups there was a good knowledge of eating disorders, with persons between the ages of 18 and 40 years having the best knowledge of EDs, as between 85% and 79% were able to list at least one ED correctly. An average of 65% of persons within the age groups 15 to 17 years and 41 to 50 years were able to correctly list at least one ED, indicating that while knowledge of EDs is good for these age groups, it is lower than for persons aged between 18 and 40 years. Table 3.5 lists the number of eating disorders listed correctly for each age group.

Table 3.5 – Number of EDs listed correctly by Age Group

Age Group	15-17		18-30		31-40		41-50	
	%	No.	%	No.	%	No.	%	No.
No EDs listed	35.7	10	14.9	26	20.4	30	33.8	44
1 ED listed	10.7	3	21.7	38	23.1	34	27.7	36
2 EDs listed	39.3	11	48.0	84	47.6	70	27.7	36
3 EDs listed	10.7	3	15.4	27	8.2	12	10.8	14
4 EDs listed	3.6	1	0.0	0	0.7	1	0.0	0

Examining distribution of ED knowledge by district, the district with the highest number of respondents who could not name any EDs was the Gozo and Comino District, while the Southern Harbour district had the fewest respondents who could not name any EDs, signifying better ED knowledge than within the other districts. Only one respondent in each of the Southern Harbour and Western district could correctly name 4 EDs, however replies were generally consistent across districts, without any great variations in responses by district. No significant association was found for number of EDs listed and district.

Table 3.6 – Number of EDs listed correctly by District

District	Gozo & Comino		Northern Harbour		Southern Harbour		South Eastern		Western		Northern	
	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
No EDs listed	23.3	7	25.0	32	14.4	13	24.7	22	25.0	18	25.4	18
1 ED listed	13.3	4	23.4	30	24.4	22	27.0	24	15.3	11	28.2	20
2 EDs listed	43.3	53	41.4	53	45.6	41	39.3	35	44.4	32	38.0	27
3 EDs listed	20.0	6	10.2	13	14.4	13	9.0	8	13.9	10	8.5	6
4 EDs listed	0.0	0	0.0	0	1.1	1	0.0	0	1.4	1	0.0	0

Gender and age were found to be significantly associated with number of eating disorders listed correctly, with a p-values of 0.002 and 0.001 respectively, i.e. below the 0.05 level of significance; however, district was not found to be significantly associated with ability to list at least one ED correctly. It should be noted however, that for age group, as some of the data sets were very small these results should be approached with caution.

3.2. EXAMINING EXPERIENCES OF EATING DISORDERS

In order to explore respondents' experience of eating disorders, participants were asked whether they or anyone they know had ever been diagnosed with an eating disorder. 73.5% (n=353) of respondents replied that neither they nor to their knowledge anyone they knew had been diagnosed with an eating disorder, while 14% (n=67) replied that they had had experiences with eating disorders. Of the 14% who replied that they or someone they know had been diagnosed with an eating disorder, 2.9% (n=14) replied that they or a close family member had been diagnosed with an ED, 1.3% (n=6) responded that the person they know who had been diagnose with an ED was a family member but not immediate family, while a further 8.3% (n=40) responded that a friend or acquaintance has been diagnosed with an ED (Figure 3.3).

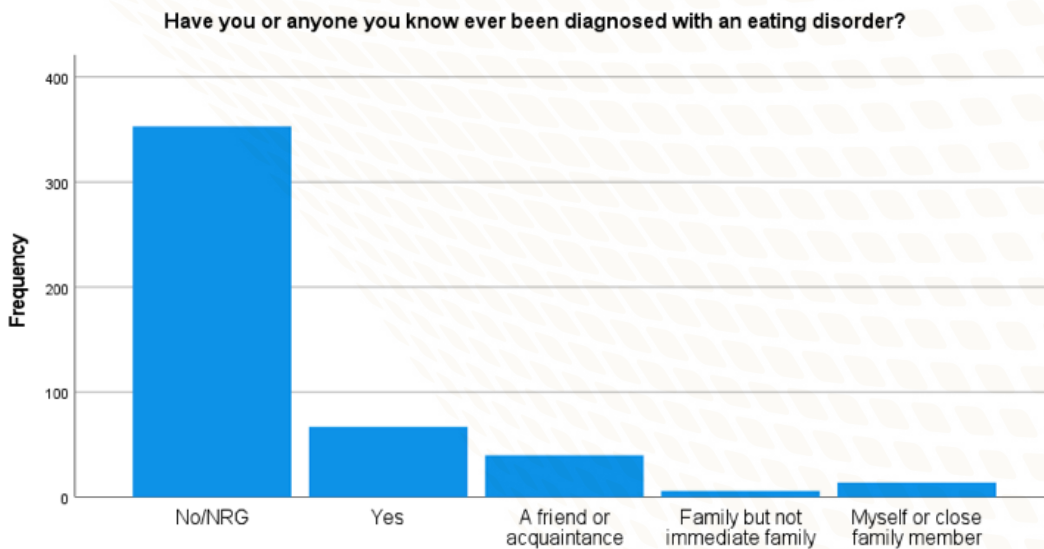


Figure 3.3 – Respondents' personal experiences of eating disorders

Examining gender and experience with eating disorders, 52.4% (n=185) of male participants and 47.6% (n=168) of female participants responded that they had not had experience of eating disorders either personally or via family or acquaintances. Of the respondents who had experienced eating disorders either directly or through person they knew, 6.8% (n=16) of males and 9.8% (n=24) of females replied that they knew a friend or acquaintance who had been diagnosed with an eating disorder, while 0.8% (n=2) of males and 1.6% (n=4) stated that they knew of a family member who was not immediate family who had been diagnosed, while 2.5% (n=6) of males and 3.3% (n=8) of females responded that either themselves or immediate family had experienced an eating disorder (Figure 3.4 & Table 3.3). No significant association was discovered between personal experiences of eating disorders and gender, as the p-value was above the 0.05 level of significance.

Examining Public Perceptions and Experiences of Eating Disorders

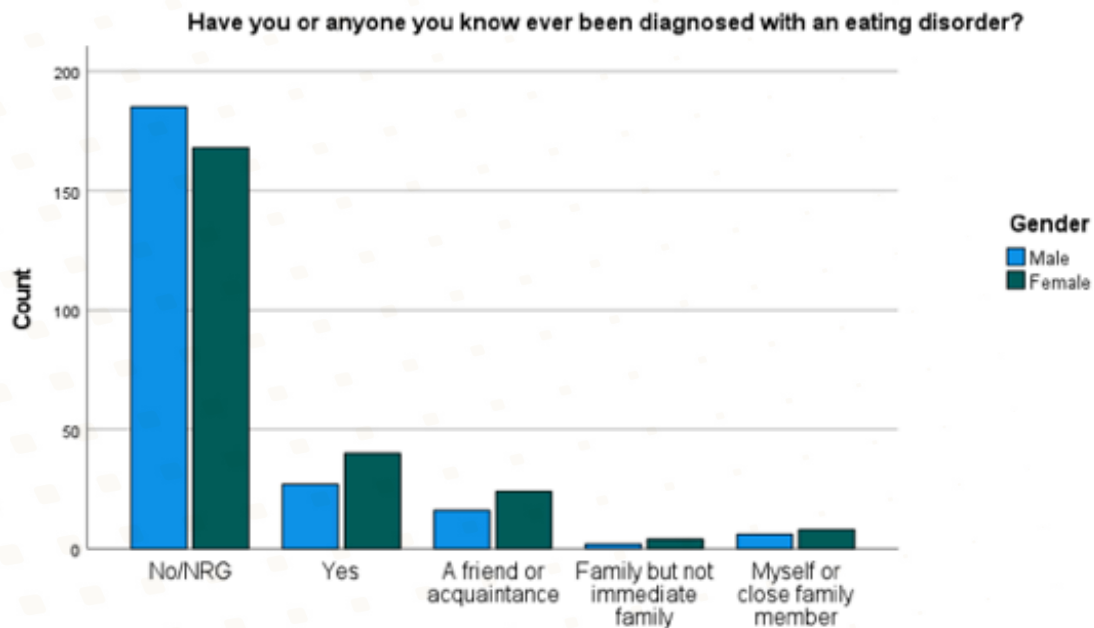


Figure 3.4 - Respondents' personal experience of eating disorders by gender

Table 3.7 – Respondents' personal experiences of eating disorders by gender

Have you or anyone you know ever been diagnosed with an eating disorder?	Males		Females	
	%	No.	%	No.
No/Don't know/No reply given	78.4	185	68.9	168
Yes, myself or a close family member	2.5	6	3.3	8
Yes, a family member but not immediate family	0.8	2	1.6	4
Yes, a friend or acquaintance	6.8	16	9.8	24

Examining personal experiences of eating disorder by age group, it was observed that respondents aged 15 to 17 years old reported a high number of personal experiences of eating disorder, although persons in the other age groups, i.e. from 18 to 50 years old; generally responded that they had not had such experiences, with an average of three-quarters of respondents within these age groups reporting that neither they nor anyone they knew had had experience of eating disorder. However, 57.1% (n=16) of respondents aged 15 to 17 years stated that they had had personal or second-hand experience of eating disorders (Figure 3.5, Table 3.8).

Table 3.8 - Respondents' personal experiences of eating disorders by age group

Have you or anyone you know ever been diagnosed with an eating disorder?

	No/ No reply given		Yes*	
	%	No.	%	No.
15 to 17-year olds	42.9	12	57.1	16
18 to 30-year olds	72.0	126	28.0	49
31 to 40-year olds	77.6	114	22.4	33
41 to 50-year olds	77.7	101	22.3	29

*All positive replies were tallied together to examine experiences of EDs across age groups.

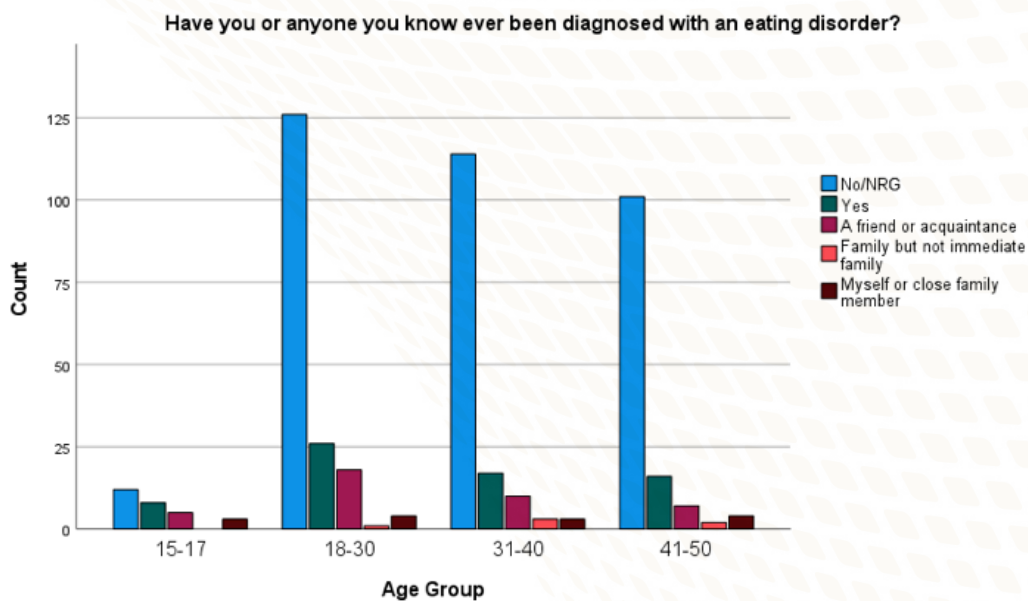


Figure 3.5 - Respondents' personal experiences of eating disorders by age group

A significant association ($p = 0.024$) was discovered between personal experiences of eating disorders and age group; however, these results need to be approached with caution as the data set is small.

An examination of personal experiences of eating disorders by district revealed that the district with the highest number of persons stating to have no experiences of eating disorders was the Gozo and Comino district (80.0%, $n=24$), which was also however the district with the highest number of persons stating that they did have an eating disorder (20.0%, $n=6$). The Northern district had highest number of persons stating that they or a member of their immediate family had an eating disorder (9.9%, $n=7$); while the highest number of persons stating that that they knew of someone who had an eating disorder who was not themselves or immediate family, was the South Eastern district with 14.6% (13). Table 3.9 refers. No significant association was found for experiences of EDs and district.

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Table 3.9 - Respondents' personal experiences of eating disorders by district

District	No		Yes		Myself or family		Other Persons	
	%	No.	%	No.	%	No.	%	No.
Gozo & Comino	80.0	24	20.0	6	0.0	0	0.0	0
Northern Harbour	74.2	95	17.2	22	1.6	2	7.0	9
Southern Harbour	72.2	65	12.2	11	3.3	3	12.2	11
South Eastern	69.7	62	15.7	14	0.0	0	14.6	13
Western	76.4	55	11.1	8	2.8	2	9.7	7
Northern	73.2	52	8.5	6	9.9	7	8.5	6

Respondents were also asked whether they had ever suspected that either they themselves or someone they knew – either family or friends, might have an eating disorder. The majority of respondents (73.8%, n=354) replied that they had never had this suspicion. 5% (n=24) replied that they had suspected that they themselves or a close family member might have an eating disorder, while 5.4% (n=26) suspected that a friend or acquaintance may have an ED. Examining replies to this question across genders, the majority for both males (77.1%, n=182) and females (70.5%, n=172) replied that they never suspected themselves or a friend or family member of having an eating disorder (Figure 3.6). A test for association was performed but returned a p-value higher than 0.05, therefore no significant association was found for gender and suspicions of EDs in friends and family.

Suspicions of the presence of eating disorder in self, family or acquaintances was also tested against age group and, similarly to experience of EDs, it was found that the majority of 18 to 50-year olds had no suspicion of eating disorder in self, family and acquaintances. 70.9% (n=124) of 18 to 30-year olds, 80.3% (n=118) of 31 to 40-year olds and 79.2% (n=103) of 41 to 50-year olds stated that they never suspected self, family or acquaintances of having an ED. On the other hand, 39.3% of 15 to 17-year olds stated that they had indeed suspected self, family or acquaintances of having an eating disorder as opposed to 32.1% who reported not having such suspicions (Figure 3.7).

A significant association ($p < 0.001$) was found for suspicion of eating disorder and age group, but once again this result need to be treated with caution as the data was very small. No statistical associations were found for suspicion of eating disorder by gender or age group or district.

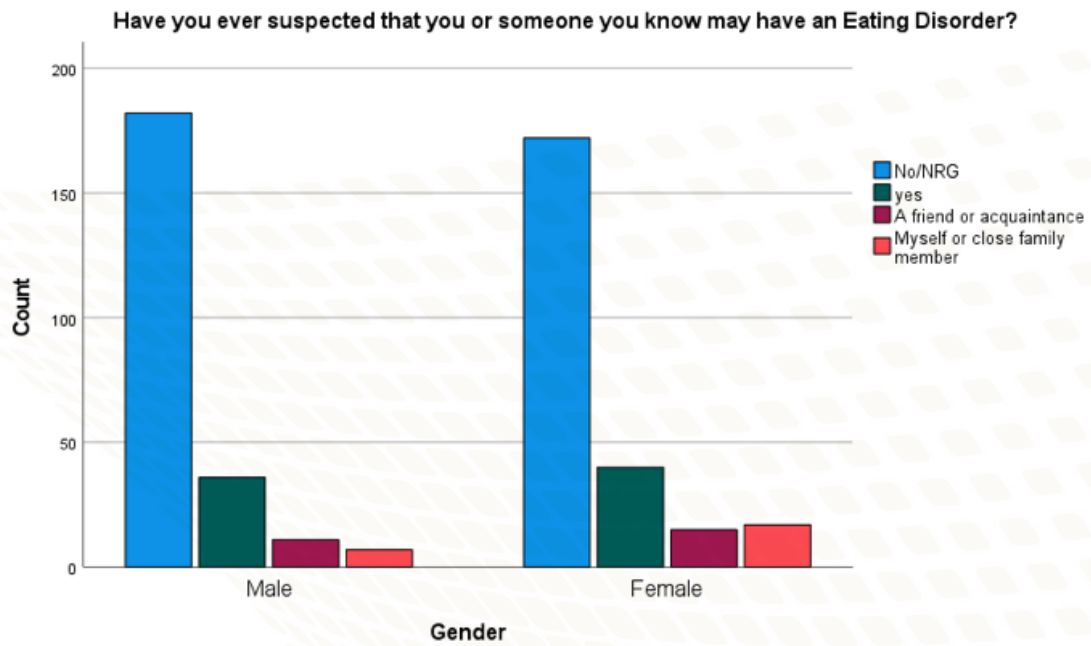


Figure 3.6 – Suspicions of eating disorder by gender.

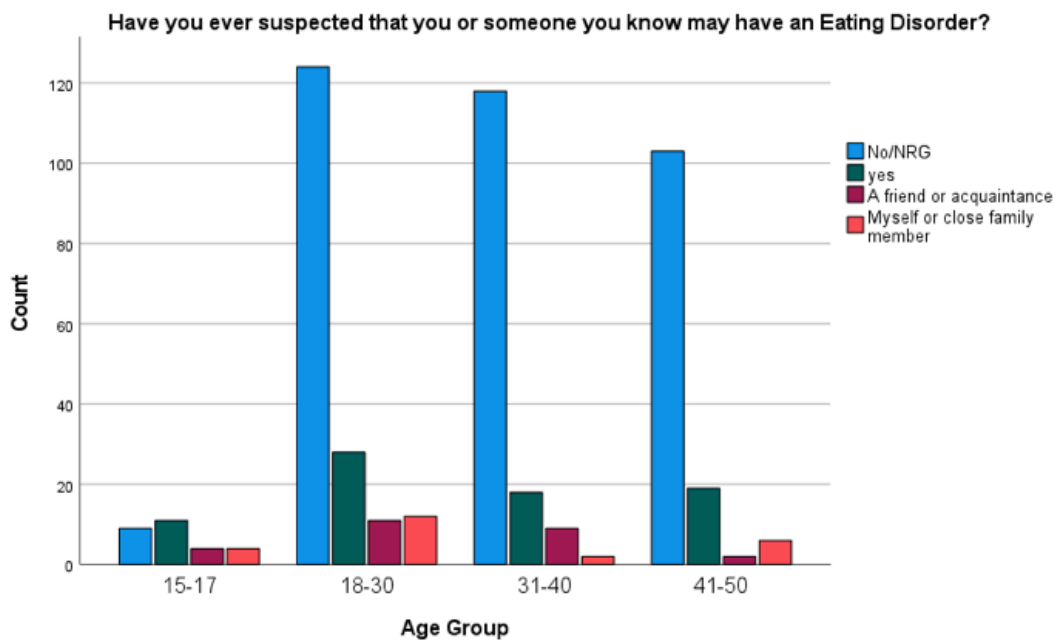


Figure 3.7 – Suspicions of eating disorder by age group.

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3.3. EXAMINING RESPONDENTS' KNOWLEDGE AND ATTITUDES TOWARDS EATING DISORDERS

Respondents' knowledge of eating disorders as well as their attitudes toward EDs was examined, in order to determine participants' knowledge about the individual eating disorders, general knowledge and attitudes towards eating disorders, extent of recognition of symptoms of eating disorders, as well as knowledge of causes of EDs.

3.3.1. KNOWLEDGE OF THE MAIN EATING DISORDERS

Respondents' knowledge of the individual disorders was examined by presenting three statements for each of the main EDs: Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED) and Avoidant/Restrictive Food Intake Disorder (ARFID); and asking survey respondents to select the one that they felt best described the condition.

When presented with three statements about Anorexia Nervosa, the majority of the sample was not able to select the one that best described AN, with 65.2% (n=313) of respondents either selecting the incorrect reply or not responding to this question. However, 34.8% (n=167) were able to correctly identify the characteristics of AN. There was greater knowledge of Bulimia Nervosa, as 55.2% (n=265) were able to select the statements that correctly described this disorder, as opposed to 44.8% (n=215) who selected an incorrect answer. Knowledge of Binge Eating Disorder was also good, with roughly one half of respondents (50.4%, n=242) selecting the correct statement. ARFID was the least known of the eating disorders with only 28.3% (n=136) of the sample being able to correctly identify the characteristics of this eating disorder, while 71.7% (n=344) replied either incorrectly or did not reply at all. However, in general knowledge of the main EDs was good, as only 14.8% had no knowledge of eating disorders, with the remaining 85.2% being able to correctly identify between one and four eating disorders. Figure 3.8 refers.

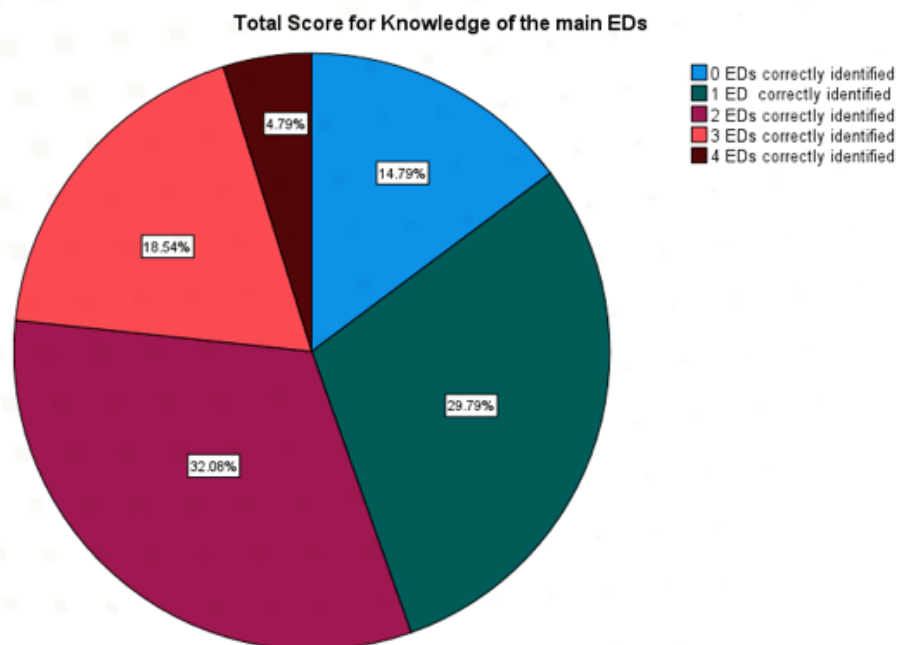


Figure 3.8. General knowledge of the main eating disorders.

Examining knowledge of the individual eating disorders across gender shows that male and female knowledge is pretty equal, albeit a slightly higher percentage of females were able to correctly identify the characteristics of the main EDs (Table 3.10). No statistically significant association was found for knowledge of the main EDs and gender.

Table 3.10 - Knowledge of the main EDs by Gender

Disorder	Gender	Correct		Incorrect/NRG	
		%	No.	%	No.
Anorexia Nervosa	Male	33.1	78	66.9	158
	Female	36.5	89	63.5	155
Bulimia Nervosa	Male	56.8	134	43.2	102
	Female	53.7	131	46.3	113
Binge Eating Disorder	Male	47.0	111	53.0	125
	Female	53.7	131	46.3	113
ARFID	Male	28.8	68	71.2	168
	Female	27.9	68	72.1	176

Assessing knowledge of the individual EDs by age group shows that generally, persons in the age group 15-17 have better knowledge of the individual EDs than persons in other age groups, with the exception of knowledge of Bulimia Nervosa, where persons in the age group 18-30 had the best knowledge. Table 3.11 refers.

Table 3.11 - Knowledge of the main EDs by Age group

Disorder	Gender	Correct		Incorrect/NRG	
		%	No.	%	No.
Anorexia Nervosa	15-17	42.9	12	57.1	16
	18-30	42.3	74	57.7	101
	31-40	36.1	53	63.9	94
	41-50	21.5	28	78.5	102
Bulimia Nervosa	15-17	46.4	13	53.6	15
	18-30	70.9	124	29.1	51
	31-40	47.6	70	52.4	77
	41-50	44.6	58	55.4	72
Binge Eating Disorder	15-17	64.3	18	35.7	10
	18-30	60.0	105	40.0	70
	31-40	51.7	76	48.3	71
	41-50	33.1	43	66.9	87
ARFID	15-17	35.7	10	64.3	18
	18-30	25.7	45	74.3	30
	31-40	25.9	38	74.1	109
	41-50	33.1	43	66.9	87

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A Chi-Square test of independence, used to establish whether any significant associations were found for knowledge of the main EDs according to participants' age group, found a statistically significant association for Knowledge of the main EDs and Age Group, for all of the eating disorders except for ARFID, where knowledge of the particular eating disorder was low across all age groups. P-values lower than the <0.05 level of significance for Anorexia Nervosa (AN) (p-value of <0.002) as well as Bulimia Nervosa and Binge Eating Disorder (p-value of <0.001 for both) indicate that the association between age group and knowledge of these EDs is statistically significant. Meanwhile the p-value of 0.35 for ARFID is higher than the <0.05 level of significance, indicating that no statistically significant association exists between age group and knowledge of this ED, reflecting the fact that knowledge of ARFID is low across all age groups.

On average, however, there is good knowledge of the eating disorders. Tallying the total score per participant for knowledge of the main eating disorders, over 50% are knowledgeable about the EDs. Replies for this section were scored 1 point for correct answer, while wrong replies or no reply were scored 0 points, with a maximum possible score of 4 points. 55.4% of the sample had scores of 2 or more, indicating that on average there is good knowledge of the eating disorders AN, BN, BED. The scores for ARFID, as explained above, were well below scores for the other EDs and reduced the overall score for this section. The mean score for this section was 1.69, which is below the median of 2, however as explained previously, this is possibly due to lack of knowledge about ARFID rather than a lack of knowledge of EDs in general.

3.3.2. KNOWLEDGE AND ATTITUDES TOWARDS EATING DISORDERS

Respondents' general knowledge of eating disorders and attitudes to the disorders were also examined. Participants were read six statements and asked to state whether they strongly agree, agree, were unsure, disagreed or strongly disagreed with the statements. Statements consisted of phrases such as "People with eating disorders are not trying hard enough to eat properly", or "Eating disorders affect only young women".

Scores were assigned to the replies, to denote how strongly positive the knowledge and attitude of respondents was. Replies that denoted a strongly positive attitude were scored 2 points, while those that represented a positive attitude were scored 1 point. Neutral replies and those denoting negative or strongly negative attitudes were scored 0 points. Some replies were reverse coded in order to ensure consistency of replies and reduce replying by rote. The highest possible score was 12, while a middle point of 6 points was selected as the cut-off score. Over 50% of questionnaire respondents had a score of 6 or more, indicating a good knowledge of eating disorders and a positive attitude to sufferers. 45.4% scored 5 or below, indicating that more awareness of these issues is needed. The mean score achieved for this section was 5.95.

3.3.3. KNOWLEDGE OF EATING DISORDER SIGNS AND SYMPTOMS

Respondents' recognition of eating disorder signs and symptoms was surveyed. Respondents were asked how strongly they agree or disagree with six statements that pertained to symptoms of EDs such as persons with EDs "avoid eating in public or with family" or have "strong concern about body image". Replies were scored similarly to the section examining knowledge and attitudes to EDs, with 2 points denoting very good knowledge and 1 point denoting good knowledge. 0 points were received for neutral replies or replies that indicated a lack of knowledge of ED signs and symptoms. The median of 6 points was the cut-off point.



Only 29.5% of the sample achieved a score of 6 or more points for this section, indicating that although knowledge of EDs in general is good, there is a lack of knowledge about how EDs manifest. The mean score for knowledge of ED signs and symptoms was 4.43. This was the lowest mean score achieved for the categories of knowledge of eating disorders, indicating that this is the area where knowledge of eating disorders is weakest.

3.3.4. KNOWLEDGE OF CAUSES OF EATING DISORDERS

Finally, knowledge of causes of eating disorders was also examined. Again, respondents were asked how strongly they agree or disagree with statements that listed pertained to causes of EDs such as dieting or bullying. As with the previous two sections, knowledge of ED causes was examined by reading six statements to respondents and scoring replies according to the extent of knowledge of ED causes, with 12 being the maximum score and the median of 6 points being the cut-off point. Scores below 6 were considered to indicate a poor knowledge of ED causes, while a score of 6 or above denoted good knowledge.

38.5% of respondents achieved a score of 6 or more points, indicating that these respondents have a good awareness of the causes of eating disorders, while 61.5% scored 0-5 points, denoting that the majority of respondents are not knowledgeable about this topic. A mean score of 5.02 also points to the fact that knowledge of ED causes is not strong.

3.3.5. OVERALL KNOWLEDGE OF EATING DISORDERS

Total scores per respondent across all ED knowledge categories were added to compute a final score of overall ED knowledge, where every point obtained in one of the 4 categories of: Knowledge of the Main EDs, Knowledge and Attitudes to EDs, Recognition of ED Signs and Symptoms and Recognition of ED Causes, was added up and an aggregate total score computed. The aggregate highest possible score was 40 points.

Statistical analysis of the score for overall ED knowledge per respondent revealed that the mean was 17.09, with 52.3% of the sample scoring above this mean. The lowest score obtained was 0 points (0.8%, n=4) while the highest score obtained was 34 points (0.4%, n=2). The total scores were recoded in order to enable statistical analysis, with scores of 0-13 denoting low ED knowledge, 14-25 denoting medium or good ED knowledge, and scores of 26 and over denoting high or very good ED Knowledge.

Examination of the recoded scores for overall ED knowledge showed that almost three quarters of the sample (72.9%, n=350) had good to very good knowledge of eating disorders overall, while the remaining 27.9% (n=130) had low knowledge. Table 3.12 refers.

Table 3.12 – Overall Eating Disorder Knowledge of the Sample

Level of Overall ED Knowledge	%	No.
Low ED Knowledge	27.1	130
Medium ED Knowledge	64.4	309
High ED Knowledge	8.5	41
Total	100.0	480

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Within genders, 71.2% of males (n=168) had good to very good knowledge (66.5%, n=157 and 4.7%, n=11 respectively), while 28.8% (n=68) had low ED knowledge. Meanwhile, 74.6% (n=182) of females had good to very good knowledge (62.3%, n=152 and 12.3%, n=30 respectively) as opposed to 25.4% (n=62) who had low ED knowledge, Table 3.13 and Figure 3.9 refer.

Table 3.13 – Overall Eating Disorder Knowledge by Gender

Level of Overall ED Knowledge	Male		Female	
	%	No.	%	No.
Low ED Knowledge	28.8	68	25.4	62
Medium ED Knowledge	66.5	157	62.3	152
High ED Knowledge	4.7	11	12.3	30
Total	100	236	100	244

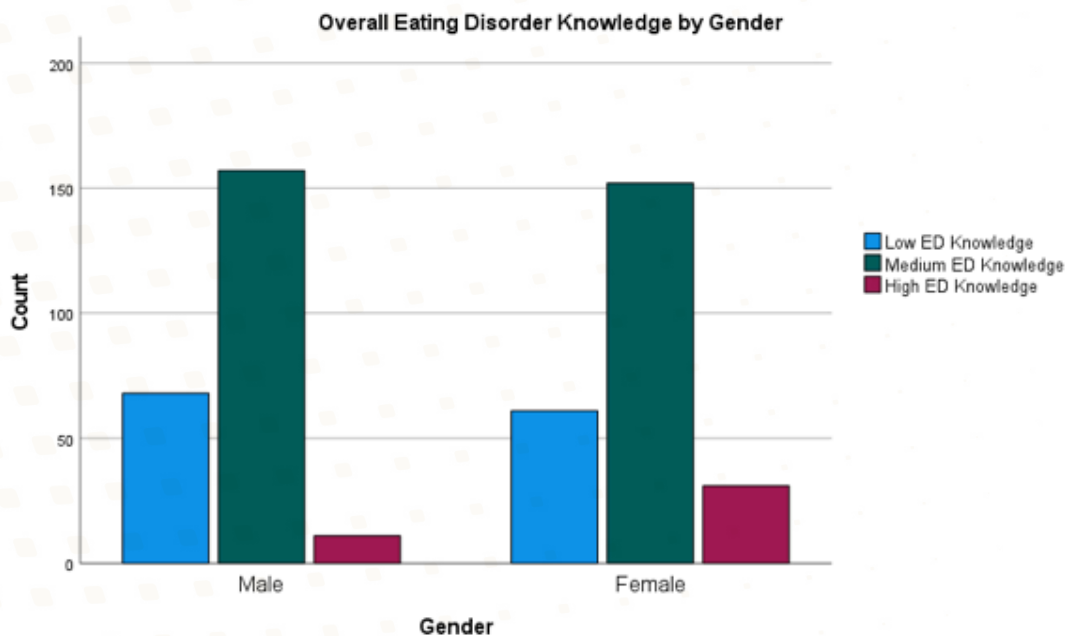


Figure 3.9 - Overall Eating Disorder Knowledge by Gender

Within all age groups, overall knowledge of eating disorders was generally good to very good for all age groups. 67.9% of 15 to 17 years scored either medium or high (53.6%, n=15 and 14.3%, n=4), while 32.1% (n=9) demonstrated low overall knowledge of EDs. Meanwhile, 84% of 18 to 30-year olds demonstrated good to very good overall knowledge of EDs (73.1%, n=128 and 10.9%, n=19) while 16% (n=28) had low overall ED knowledge. For the 31 to 40-year olds, 68.7% had good to very good overall ED knowledge (62.6%, n=92 and 6.1%, n=9 respectively), while among the 41 to 50-year olds 65.7% exhibited good to very good overall ED knowledge (56.9%, n=74 and 8.8%, n=10 respectively) as opposed to 35.4% (n=46) who demonstrated low ED knowledge. Table 3.14 refers.

Table 3.14 – Overall Eating Disorder Knowledge by Age Group

Age Group	Low		Medium		High		Medium + High	
	%	No.	%	No.	%	No.	%	No.
15-17	32.1	9	53.6	15	14.3	4	67.9	19
18-30	16.6	29	73.1	128	10.3	18	83.4	146
31-40	32.0	47	61.9	91	6.1	9	68.0	100
41-50	34.6	45	57.7	75	7.7	10	65.4	85

The northern harbour district had the best overall knowledge of eating disorders, with 57.2% of persons living in the district scoring good to very good (23.9%, n=74 and 33.3%, n=14, respectively), while Gozo and Comino had the lowest score (5.8%, n=18) for medium and high ED knowledge (Table 3.15).

Table 3.15 – Overall Eating Disorder Knowledge by District

Age Group	Low		Medium		High		Medium + High	
	%	No.	%	No.	%	No.	%	No.
Gozo & Comino	7.8	10	5.8	18	4.8	2	10.6	20
Northern Harbour	31.0	40	23.9	74	33.3	14	57.2	88
Southern Harbour	13.2	147	20.4	63	23.8	10	44.2	73
South Eastern	25.6	33	16.5	51	11.9	5	28.4	56
Western	15.5	20	15.5	48	9.5	4	25.0	52
Northern	7.0	9	17.8	55	16.7	7	34.5	62

Overall knowledge of eating disorders was found to be statistically significant for gender, age group and highest level of education attained, with p-values of <0.01, which is less than the <0.05 level of significance, but not for district.

3.4. INVESTIGATING PREVALENCE OF EATING DISORDERS AMONG PERSONS AGED 15 TO 50 YEARS OLD

As well as exploring the knowledge of eating disorders in the general population, this study wished to investigate the prevalence of EDs in the population, as the last investigation of the prevalence of eating disorder for persons aged 15 to 50 was carried out 10 years ago, in 2012.

In order to assess attitudes to food and eating and evaluate the presence of an eating disorders, the five items of the SCOFF questionnaire were included in the survey. The SCOFF questionnaire was designed in 1999 by Morgan et al, as a quick and easy screening tool that could be used both by clinicians and non-clinicians. It is widely used in primary care settings with the aim of exploring the potential presence of an eating disorder. The SCOFF is deemed to be a good indicator of whether the person presents with an ED, although a clinical examination is recommended in order to confirmed this diagnosis (Botella et al, 2013; Solmi et al, 2015). The SCOFF questionnaire was considered ideally suited to this study as it is a quick, easy measure that can be delivered orally and has established high specificity and sensitivity for AN and BN (Morgan et al, 1999). Studies do show however that the sensitivity of the SCOFF questionnaire is not so high for BED, or for surveys that include men or varied ethnicities, as

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it may not catch the resulting nuances (Hansson et al, 2015; Kutz et al, 2020; Solmi et al, 2015).

The creators of the SOCFE designated 2 affirmative responses to the five questions of the questionnaire as the cut-off point that would determine whether AN or BN were detected (Morgan et al, 1999), however, a cut-off point of 3 affirmative answers was selected as it has been suggested that this gives better sensitivity and specificity (Pannocchia et al, 2011; Psych Tools, 2018).

An analysis of the 480 responses reveals that 77.3% of the sample (n=371) have between none and two affirmative replies in total to the 5 questions of the SOCFE, signifying that no ED is present; while 22.7% (n=109) of the sample replied “Yes” to three or more questions, indicating the potential existence of an eating disorder.

Within genders, 80.1% of males (n=189), demonstrated no EDs as well as 74.6% of females (n=182). However, 19.9% of males (n=47) and 25.4% (n=62) of females replied “Yes” to three or more questions, indicating the possible presence of an eating disorder.

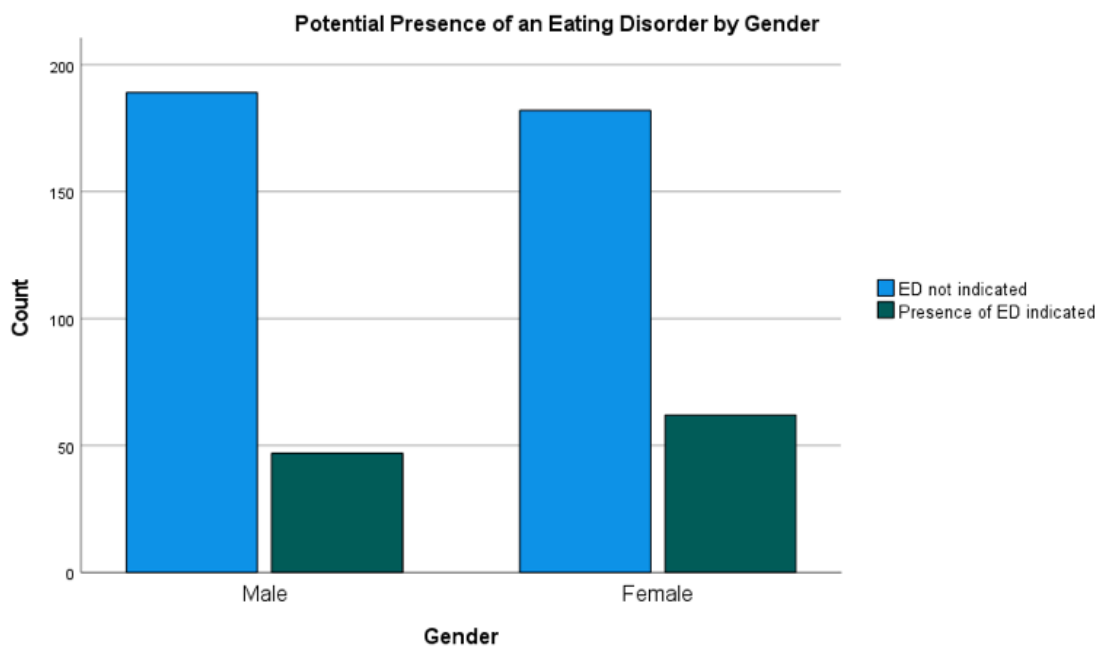


Figure 3.10 – Presence of Eating Disorder (SCOFF) vs Gender



Regarding age groups, while between 76% and 80% of persons aged 18 to 50 did not demonstrate the potential presence of an eating disorder, for 15 to 17-year olds, only just under half (46.4%, n= 13) of the persons sampled were not indicated for the presence of an ED. However, 53.6% (n=15) of 15 to 17-year olds replied yes to three or more of the questions of the SOCOFF questionnaire and are therefore indicated for an eating disorder, a much higher percentage than the average of 20% of persons aged 18 to 50 years who are indicted for an ED. Table 3.16 and Figure 3.11 refer.

Table 3.16 - Presence of Eating Disorder (SOCOFF) by Age Group

Age Group	ED not Indicated		Presence of ED Indicated	
	%	No.	%	No.
15-17	46.4	13	53.6	15
18-30	80.6	141	19.4	34
31-40	80.3	118	19.7	29
41-50	76.2	99	23.8	31

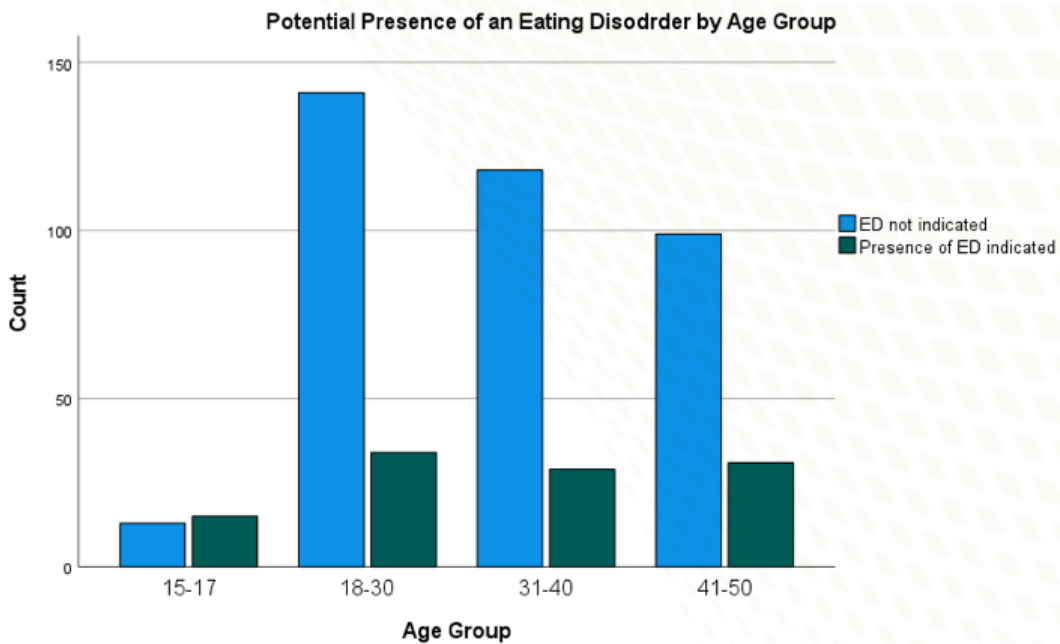


Figure 3.10 – Presence of Eating Disorder (SOCOFF) by Age Group

Across the six districts, between around 75% and 83% of respondents were not indicated for the presence of an eating disorder, as opposed to between about 16 to 25% of participants who were indicated for the potential presence of an eating disorder. Table 3.17 and Figure 3.11 refer.

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Table 3.17 - Presence of Eating Disorder (SCOFF) by District

District	ED not Indicated		Presence of ED Indicated	
	%	No.	%	No.
Gozo and Comino	83.3	25	16.7	5
Northern Harbour	80.5	103	19.5	25
Southern Harbour	74.4	67	25.6	23
South Eastern	77.6	69	22.5	20
Western	75.0	54	25.0	18
Northern	74.6	53	25.4	18

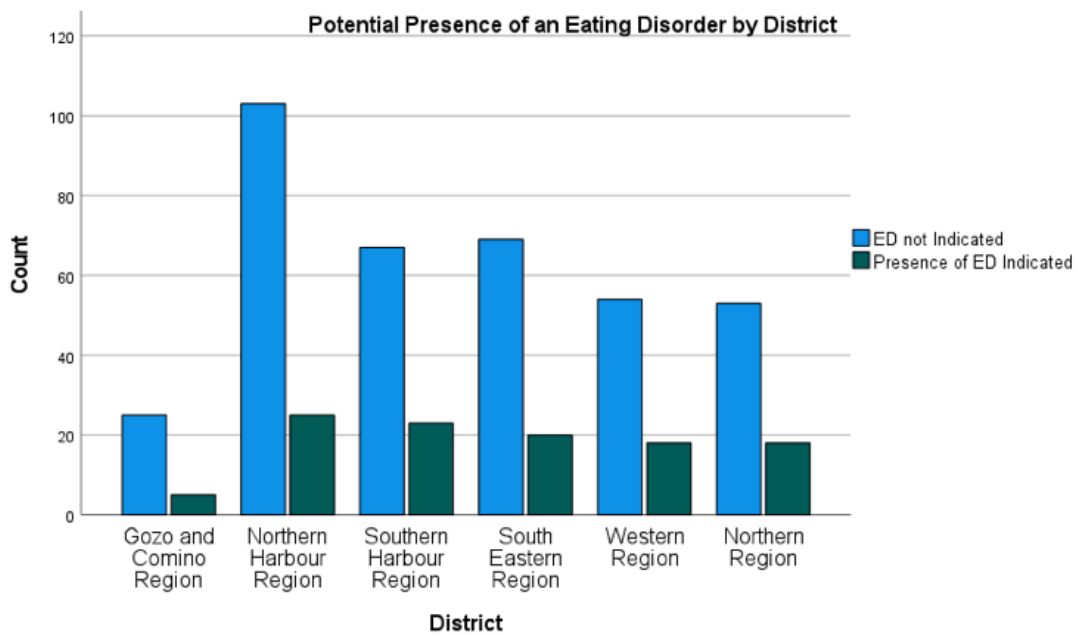


Figure 3.11 – Presence of Eating Disorder (SCOFF) by District

Examining presence of eating disorders by highest level of education attained, 100% of respondents whose highest level of education is Primary education are not indicated for the presence of an eating disorder, while for persons whose highest level of education is Secondary, Post-Secondary or Vocational, or Tertiary, between around 75% to 80% were not indicated for an ED. Meanwhile only 42.9% of respondents who replied “Other” to the question regarding highest level of education attained, are not indicated for an eating disorder as opposed to 57.1% who could potentially have an ED. Table 3.18 and Figure 3.12 refer.

Table 3.18 - Presence of Eating Disorder (SCOFF) by Highest Level of Education Attained

Highest Level of Education	ED not Indicated		Presence of ED Indicated	
	%	No.	%	No.
Primary	100.0	10	0.0	0
Secondary	75.3	128	24.7	42
Post-Secondary/Vocational	74.1	60	25.9	21
Tertiary	80.2	170	19.8	42
Other	42.9	3	57.1	4

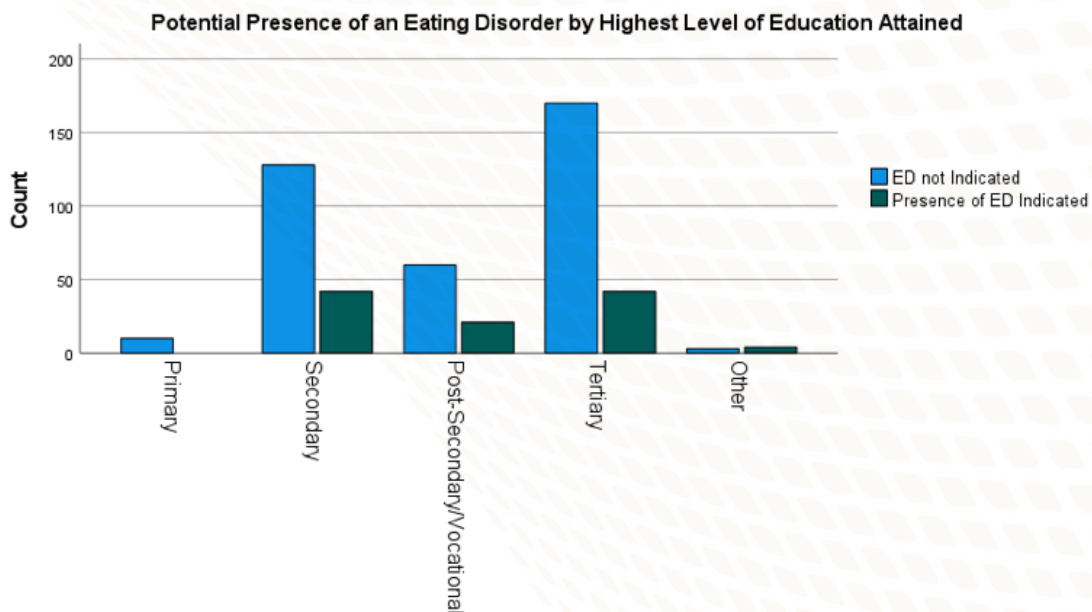


Figure 3.12 – Presence of Eating Disorder (SCOFF) by Highest Level of Education Attained

A significant association was found for presence of eating disorders and age group. A Chi-Square test returned a p-value of <math><0.001</math>, which is indicated that age group is a factor in the presence of an eating disorder being indicated, with persons between the ages of 15-17 years being at risk for eating disorders. No statistically significant associations were found for presence of eating disorders and gender, district or highest level of education achieved.

3.5. INVESTIGATING RESPONDENTS' REQUIREMENT FOR INFORMATION ABOUT EATING DISORDERS AND SERVICE DELIVERY PREFERENCES

As one of the aims of this study was to discover knowledge of eating disorder, the survey also investigated respondents' self-reported desire to learn more about these issues. Respondents were presented with 6 options for receiving information about eating disorders, varying from "I would like to know more about eating disorders", to delivery of further information through schools; the local council; local media, such as print media or TV; social media; and

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printed material such as pamphlets. Participants were asked to rank these options from most important to least important.

1.7% (n=8) of the sample did not respond to this question, with the remaining 98.3% selecting between the various means of proposed information access. The statement that was selected as first choice by the greatest number of people, i.e. the most popular choice for delivery of information about eating disorders, was for more information to be delivered in schools, followed by a general request for information (I would like to know more about eating disorders). Having more information about EDs on social media was also a relative popular choice, however local media and local council had low selection, while receiving information via printed materials such as pamphlets was by far the least popular. Figure 3.123 and Table 3.19 refer.

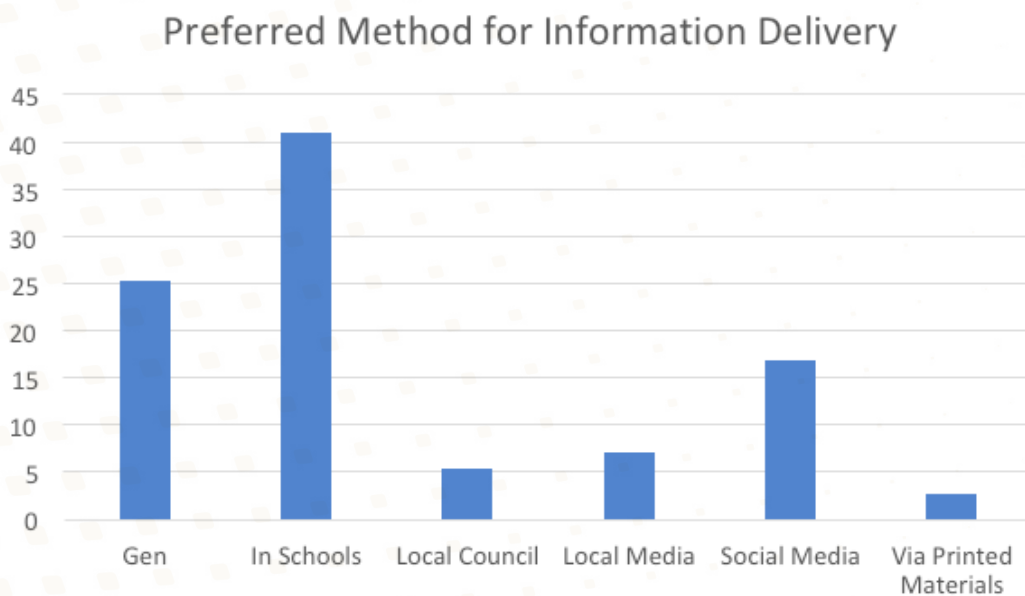


Figure 3.13 – Responses to Preferred Method for Information Delivery by 1st Choice

Table 3.19 – Selections for 1st Choice for Preferred Method for Information Delivery by 1st Choice

Ranking	Preferred method	%	No.
1st most popular	In Schools	41.0	197
2nd most popular	General (I would like to know more)	25.2	121
3rd most popular	Via Social Media	16.9	81
4th most popular	Via Local Media	7.1	34
5th most popular	Via Local Council	5.4	26
6th most popular	Via Printed Material	2.7	13

In order to gain insight into how participants would prefer eating disorder services to be delivered, they were also asked to rank four options in order of preference. The options presented were: service delivery in my locality, services provided at the General Hospital, services provided at my Local Council and services provided at my local Health Centre.

98.5% (n=473) of the sample selected at least a first choice, with only 1.5% (n=7) who chose not to reply. Of those who replied, the majority of first choice sections (32.3%, n=155) were for service delivery in the locality, followed closely by service delivery at the General Hospital, the local Health Centre was the third choice, followed by services delivered at the local council as a fourth and last choice. Figure 3.13 and Table 3.20 refer.

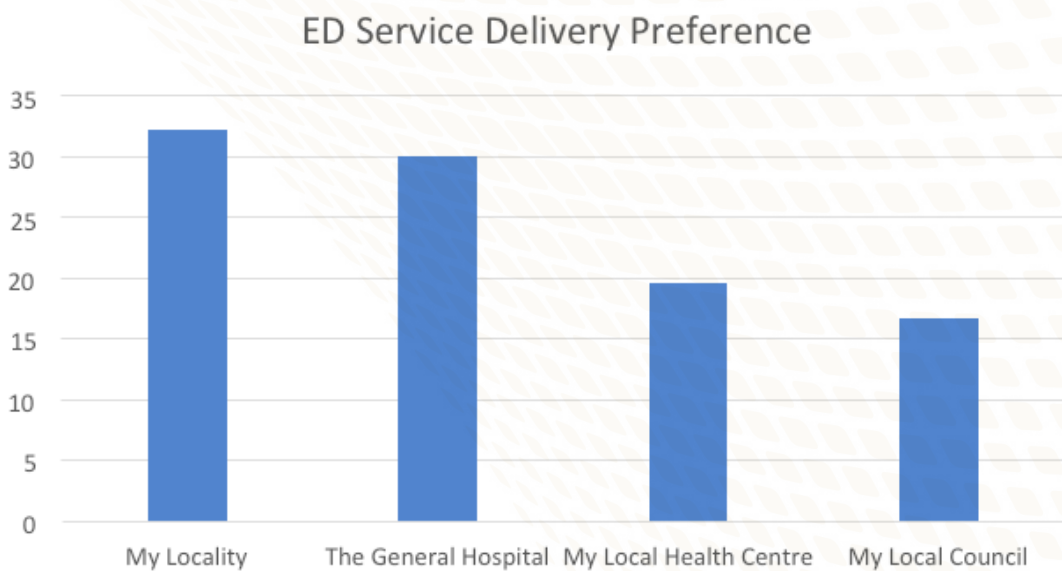


Figure 3.13 – Responses to Preferred Method for Information Delivery by 1st Choice

Table 3.20 – Respondent Preference for ED Service Delivery by 1st Choice

Ranking	Preferred method	%	No.
1st most popular	My locality	32.3	155
2nd most popular	The General Hospital	30.0	144
3rd most popular	Local Health Centre	19.6	94
4th most popular	Local Council	16.7	80



Chapter 4
Discussion of Findings

The findings set out in the previous chapter present a comprehensive insight into the knowledge and experiences of eating disorders, as well as an assessment of the prevalence of eating disorders in the population for persons aged 15 to 50 years. This study also examined preferred methods for receiving information about eating disorders, as well as preferred location for ED service delivery.

4.1. SELF-REPORTED EXPERIENCES AND KNOWLEDGE OF EATING DISORDERS

The results from this study show that fortunately personal experiences with eating disorders are uncommon. 73.5% (n=353) of participants stated that they had not had such experiences, either directly or through acquaintances. Yet, for 14% (n=67) of respondents, (6.8% males and 9.8% females), experiences with EDs are a reality; either directly through their own experience, through that of close family members, or via friends and acquaintances. 2.9% of the population sampled stated that they or a close family member had been diagnosed with an ED, while 9.6% stated that a member of the extended family or a friend or acquaintance had been diagnosed with an eating disorder, demonstrating that a small percentage of the population have close or personal experience of eating disorders. Research indicates that these persons are likely to be more empathetic to those suffering from eating disorders and to have a better appreciation of the value of the support of family and friends in the fight against EDs (Bardone-Cone et al, 2018).

This study found that 15 to 17-year olds are more likely to experience EDs, with 57.1% (n=16) of 15 to 17-year olds stating they had had personal or second-hand experience of eating disorders, while only about 25% of persons aged 18 to 50 years reported having had such experiences, echoing the literature which states that this demographic is more at risk of experiencing eating disorders, yet also less likely to have a sophisticated understanding of eating disorder. This would suggest that it is vital to provide them with the information so that they can better understand what they or their peers are experiencing. Meanwhile, the South Eastern District was the area with the most residents who stated that they had experienced eating disorders either personally or second-hand, while the Gozo and Comino District was the one where the least number of people reported having experiences of eating disorders. Nevertheless, experiences of eating disorders were low across all districts.

As well as experiences, respondents' suspicions of eating disorders were examined, to determine how cognisant participants may be to the possible presence of an eating disorder either in themselves or in someone close to them. 73.8% (n=354) of respondents reported that they had never had such a suspicion, against 26.2% who reported entertaining suspicions of the presence of an eating disorder in themselves, family or friends. The fact that experiences of EDs is almost identical to that for suspicions of EDs may indicate that having personal experience of EDs may lead to heightened awareness of these disorders, sine as Harrison & Bertrand (2016) point out, persons who have experienced eating disorders tend to be more knowledgeable about them. Both across gender and district, again, the majority of respondents stated that they had not entertained such suspicions, however when examined across age groups, it emerged that several 15 to 17-year olds (39.3%, n=11) had suspected that they themselves, a family member or acquaintance could have an eating disorder, signifying that attentiveness should be paid to persons in this age bracket when crafting any information or education campaigns.

A significant association was discovered for age group and experience or suspicion of EDs and age group, signifying that age is a factor that can influence a person's experience of

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eating disorders. This suggests that targeting ED information to the different age groups, and particularly to those in their late teens, could be a highly effective strategy, especially as they have been shown to be statistically significantly more likely to suspect or experience the presence or of an eating disorder in themselves or others. The fact that gender and district were not found to be significantly associated with experiences or suspicions of eating disorders, implies that targeting ED information specifically to gender and place of residence, is not likely to yield better effectiveness, as these do not affect whether a person is more or less likely to experience or suspect the presence of an ED in oneself or in others.

4.2. PREVALENCE OF EATING DISORDERS AMONG PERSONS AGED 15 TO 50 YEARS

In order to provide updated knowledge about the prevalence of eating disorders among 15 to 50-year olds in Malta, the five questions of the SCOFF questionnaire were asked in the survey, using 3 affirmative responses as the cut-off, to maximise the balance between sensitivity and specificity (Pannocchia et al, 2011).

This study found that most of the respondents (77.3%, n=371) are not indicated for an eating disorder, as they had between 0 to 2 affirmative replies. However, 109 persons or 22.7% had scores of three or more affirmative replies, implying the presence of an eating disorder. Since this study is representative of the general population by gender, age and district, this signifies that 22% of those in Malta who are between 15 and 50 years old, could be experiencing an eating disorder. Quantifying this, it emerges that from a total of 224,957 persons in Malta aged 15 to 50 years, (NSO, 2018), about 49,490 persons could have an eating disorder or be experiencing the type of disordered eating that has the potential to lead to a mature ED. Albeit, as explained above, the results of the SCOFF questionnaire are only indicative, the scale of this number is cause for concern. Additionally, since the SCOFF is better at picking Anorexia Nervosa (AN) and Bulimia nervosa (BN), it is highly likely that any present ED will be either AN or BN; with greater likelihood for BN, given that typically the prevalence of AN in the population is much lower, usually below 4% (Keski-Rahkonen & Mustelin, 2016). Although SCOFF is not as efficient at identifying Binge Eating Disorder (BED) this does not exclude that it can also detect BED (Kutz et al, 2020).

25.4% (n=62) of females and 19.9% of males (n=47) were discovered to be likely to have an eating disorder, while persons between the ages of 15 to 17-years old are much more likely to be vulnerable to an ED, with 53.6% (n=15) of 15 to 17-year olds indicated for the presence of an ED, in contrast to 19.4% (n=34) of 18 to 30-year olds, 19.7% (n=29) of 31 to 40-year olds, and 23.8% (n=31) of 41 to 50-year olds. This signifies that, as observed in the literature, EDs have a high incidence in women, and that the ages of 15-17 years are high risk years. However, the fact that there is only a difference of 5.5% between the male and female prevalence of EDs, shows that despite the fact that EDs still affect females more strongly, they are also highly prevalent in males.

Prevalence of EDs across districts was relatively uniform, ranging from 16% to 25%. Gozo and Comino was the least affected district, while persons residing in the Southern Harbour District demonstrating the highest prevalence of eating disorders.

No significant associations were found for presence of eating disorders and gender or district, however a significant association was discovered for age group, which supports the significant association discovered for experience/suspicion of eating disorders, reported above, signifying

once again that age is highly significantly associated with eating disorders and that this should be taken into consideration in providing age-targeted ED information.

4.3. KNOWLEDGE OF EATING DISORDERS

In order to provide a point of departure from which to assess the degree of knowledge of eating disorder within the population, respondents were asked whether they had heard of eating disorders. Survey results for the self-reported knowledge of the cohort show that awareness of eating disorders is high, with 87.3% (n=419) stating that they had heard of eating disorders. In order to provide some degree of verification of self-reported knowledge, respondents were also asked whether they could mention any eating disorders and correct replies per participant were tallied, to determine whether there existed a discrepancy with participants' estimation of their ED knowledge. Although the overall score for ability to list eating disorders correctly was lower than for self-reported knowledge, a relatively high score of 77.1% (n=370), supported the assessment that eating disorder knowledge within the sample was good, with over three quarters of the population having a good awareness of eating disorders. Indeed, within the sample, 23.1% (n=111) were able to list one ED, 41.9% (n=201) were able to correctly name two EDs, 11.7% (n=56) were able to correctly mention three EDs, while 0.4% (n=2) were able to list four EDS correctly.

Females were more knowledgeable than males. 90.6% (n=221) of females and 83.9% (n=198) of males reported having heard of eating disorders, as well as 82.4% (n=201) of females compared to 71.6% (n=169) of males, who were able to correctly list one or more EDs. All age groups reported having heard of eating disorders, with 85.7% of 15 to 17-year olds, 88.6% of 18 to 30-year olds, 92.5% of 31 to 40-year olds and 80% of 41 to 50-year olds reporting that they had heard of eating disorders. Meanwhile, 64.3% of 15 to 17-year olds, 85.1% of 18 to 30-year olds, 78.9% of 31 to 40-year olds and 66.2% of 41 to 50-year olds listed on or more EDS correctly, signifying that, while as demonstrated above, actual knowledge of EDs is lower than self-estimated knowledge, the age groups that demonstrated best actual knowledge of EDs were the 18 to 30-year olds, followed closely by 31 to 40-year olds; while the numbers of 41 to 50-year olds, followed by 15 to 17-year olds, who could correctly list one or more EDS was lower; demonstrating a disconnect between their belief in their knowledge of eating disorders and ability to name EDs. The greatest number of persons could correctly name at least one ED resided in the Southern District, while Gozo and Comino emerged as the district where eating disorders were least known, as fewer respondents could list one or more EDs.

Participants were also asked about their actual knowledge of eating disorders, which was tested for four categories or areas of knowledge: identification of the main eating disorders: Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED) and Avoidant/Restrictive Food Intake Disorder (ARFID); general knowledge and attitudes to eating disorders; recognition of ED signs and symptoms, recognition of the causes of EDs. As well as giving insight into the separate areas of participants' ED knowledge, a global score was obtained by computing the scores from the various categories to determine overall knowledge of EDs.

Knowledge or identification of the main eating disorders, Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED) and Avoidant/Restrictive Food Intake Disorder (ARFID), was found to be relatively good. 85.2% of the sample was able to correctly identify between one and four eating disorders. Knowledge of Bulimia Nervosa and Binge Eating disorder was generally relatively good, with 55.2% (n=265) and 50.4%, (n=242) who correctly

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identified the characteristics of BN and BED respectively. Knowledge of AN was considerably lower, with an identification rate of 34.8% (n=167), while recognition of ARFID was lowest, as only 28.3% (n=136) were able to correctly identify this disorder. These figures were generally also reflected across gender, and in fact no significant association was found for identification of the different EDs and gender. 15 to 17-year olds were found to be more knowledgeable than other age groups about anorexia and binge eating disorder, while 18 to 30-year olds had better knowledge of bulimia. Knowledge of ARFID remained poor across all age groups. Age was found to be a statistically significant factor for identification of AN, BN and BED but not for ARFID.

These findings demonstrate that although there may be good knowledge of eating disorders in general, identifying the eating disorders that are the most likely to be encountered remains problematic, highlighting the importance of disseminating this information to the public. Being able to identify the characteristics of an ED in oneself or loved ones is a significant feature in progressing to diagnosis and subsequently, treatment. Additionally, as the literature shows, the sooner an ED is identified and treated, the better the outcome (Escobar-Koch et al., 2010; Schaumberg et al., 2017), meaning that improvement in ED recognition by the general public may contribute to earlier treatment take up and improved outcomes in ED sufferers.

As shown in the literature review, stigma against ED sufferers remains strong. Respondents' views and attitudes to eating disorders was examined, in order to assess how empathetic and understanding general attitudes were towards these disorders and eating disorder sufferers. Stigma constitutes a considerable barrier to treatment, discouraging sufferers from opening up about their disorder to persons close to them, intensifying feelings of shame and constituting a potent hurdle to engagement with treatment (Blodgett Salafia et al, 2015; Hart et al., 2012). If treatment seeking is to be encouraged, an improvement in attitudes to mental health disorders including eating disorders would serve to considerably lighten the burden upon sufferers and facilitate treatment seeking.

A vital factor of recognising the presence of an eating disorder within oneself or others is the ability to recognise the practical ways in which these disorder present, in order to enable identification and acknowledgement of the eating disorder. Hart et al., (2012) state that the ability to recognise an eating disorder by persons close to sufferers may constitute a vital first step towards treatment. Although the majority of the sample have a good general knowledge of eating disorders, only about 30% demonstrated a good knowledge of the signs and symptoms of eating disorders, and of all the categories of knowledge of eating disorders, this was the area where understanding was weakest. This would indicate that greater knowledge about how eating disorders manifest on a practical level is an area that needs to be tackled in any information dissemination strategy. Given the strength of help that family and friends can present in aiding recognition of an eating disorder and uptake of treatment, advancing this area of ED knowledge could have an inestimably constructive effect for sufferers.

The final category of ED knowledge that this study investigated was causes of eating disorders. Although an understanding of the possible causes of eating disorders will not automatically facilitate the identification of the presence of an eating disorder, knowledge of the realities of EDs could contribute to better understanding of the realities for persons who live with these disorders. Unfortunately, a majority of low scores (61.5%) in this category indicates that most of the respondents are not aware of the possible causes of eating disorders. Blodgett Salafia et al (2015) found that the public tends to lay blame on sufferers, thus increasing awareness of

causes for eating disorders could serve to minimise stigma and encourage empathy towards sufferers.

As well as investigating the four above-mentioned categories of eating disorder knowledge individually, the aggregate scores were computed to enable understanding of the overall knowledge of eating disorders in the population. 72.9% demonstrated good to very good knowledge of eating disorders, indicating that the Maltese population is generally knowledgeable about eating disorders, with females having slightly better knowledge than males. 74.6% of females as opposed to 71.2% of males, demonstrated good to very good knowledge. The gap in knowledge does, however, become larger with regard to very good levels of ED knowledge. 12.3% females as opposed to 4.7% males demonstrated high overall knowledge of EDs. One way to remedy this could be for any future information campaigns to include male-centric learning strategies. Additionally, persons aged 18 to 30 years emerged as the age group with the best overall ED knowledge, as 84% of 18 to 30-year olds showed good to very good ED knowledge, against an average of 65% from the other age groups. However, almost 15% of 15 to 17-year olds scored better for higher levels of ED knowledge, signifying that although, in general, persons between the ages of 18 and 30 years have better knowledge, those aged 15 to 17 might have deeper knowledge. The northern harbour district had the best overall knowledge of eating disorders while Gozo and Comino had the lowest scores, which shows that although knowledge needs to improve in all districts, in the Gozo and Comino district there is greater need for information. A significant association was found between overall knowledge of eating disorders and gender, as well as age group, although no association was found for district. Thus, any campaign to increase public knowledge of eating disorders should cater to the specific audience in terms of age and gender, as these have been found to be influencing factors.

4.4. REQUIREMENTS FOR INFORMATION AND SERVICE DELIVERY

This study also enquired about respondents' requirements for further information about eating disorders. The majority of the sample responded positively to this request, evidencing a positive perspective and desire to learn more about these disorders. There was a robust request from 40% of respondents appealed for a focus on utilising schools to provide more information about nutrition and eating disorders could be provided, implying that educational institutions remain the most highly trusted places of learning. The fact that almost half of respondents selected this as their first response also suggests an underlying conviction that learning about nutrition and eating disorders is highly valued, and perhaps a belief that learning about these topics should be part of the lifelong learning journey. In addition, 17% of the sample selected social media as the venue where they would like to receive eating disorder information, suggesting that the digital media are emerging as accepted avenue for the receipt of information, surpassing the traditional media which together achieved less than 10% of responses. These results reveal that a combination of traditional learning methods and online communication may be the most effective way of conveying and increasing knowledge about eating disorders.

Alongside requirements for eating disorder information, participants were asked about their preferred location for eating disorder service delivery. 98.5% (n=473) of participants replied to this question and selected a preference, which indicates that ED services in the community would be well received. Services delivered in participants' locality and in the General Hospital were the most popular choices, with each of these options receiving about

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30% of responses. Service delivery in local health centres and local councils were not so highly favoured. Delivering services in the community has several advantages, including a more personalised service tailored to the recipient, making the issue more visible, helping to reduce negative connotations and providing greater visibility to the service provider (Bredewold et al, 2020). In extending community services to ED sufferers, it was found that such community services can be shown to “improve the quality of life, reduce hospital admissions and improve communication with other professionals involved in the service users’ care” (Saeidi et al, 2013, p. 14). Providing eating disorder services in community settings can also help to improve input from family and friends, enhance perceptions of EDs, thereby lessening stigma, as well as allowing better integration into the community for sufferers, thus reducing loneliness and social isolation.

4.5. CONCLUSION

This findings discussed above present a comprehensive insight into the degree of eating disorder knowledge in persons aged 15 to 50 years in Malta. They show that although general knowledge of eating disorders is good and that a majority of respondents are able to recognise AN, BN and BED, knowledge about ARFID remains little known, and there is still a lack of depth to ED knowledge. Recognition of the ways EDs may present in everyday life, such as avoiding eating with others and hiding behind baggy clothes, that could aid individuals in recognising EDs in one’s close circle of friends and family also remains low. Similarly, understanding of the causes of eating disorders such as genetics or past abuse or trauma was found to be inadequate.

Yet, it was also discovered that the overwhelming majority would welcome learning more about eating disorders and improving education about EDs in schools, suggesting a willingness to learn and act upon these issues.





Chapter 5
Conclusion and Recommendations

Thus study, which was representative by gender, age and district, investigated knowledge and attitudes to eating disorders in the general population for persons aged 15 to 50 years. The literature shows that diagnosis and uptake of eating disorder treatment are low, but that with improved knowledge of eating disorder in general and support from family and friends, sufferers are likely to take up treatment earlier, more successfully, and show better outcomes. This research aimed to identify gaps in the ED knowledge of the population and preferences for information delivery, as well as update our knowledge of the prevalence of EDs for this age group.

5.1. CONCLUSION

The findings from this study show that persons aged 15 to 50 years have good insight into eating disorder but are unaware of how effective they can be in helping sufferers. There is also a lack depth of knowledge, in that recognition of how EDs may present in the community is lacking and although there is good will towards sufferers, evidenced in the high majority who responded affirmatively to wishing to receive further information about these disorders, attitudes that may lead to 'victim-blaming' of sufferers still prevail.

These findings point to the necessity to improve ED information among the general public, particularly for persons in their late teens who have been found to be more highly affected by eating disturbances yet also lacking in the knowledge that may lead them to accept that their eating habits are dysfunctional.

5.2. RECOMMENDATIONS FOR POLICY AND PRACTICE

1. Engage with schools and communities to organise education-based campaigns about eating disorders. The findings show that attention should be given to improving understanding of how EDs come about, in order to mitigate stigma and victim blaming. It is also essential to include real life experiences from those living with eating disorders, to maximise understanding, connection and empathy.
2. Set up initiatives specifically targeted at males to increase awareness of eating disorder in males and reduce gender-related stigma.
3. Engage with the Educational Authorities to discuss ways to introducing more information about nutrition, healthy eating and also unhealthy approaches and attitudes to food in the curriculum, as well as discussion about mental health topics that are linked to eating disorders, such as self-esteem, recognising the manufactured aspect of social media, and empathy for others.
4. Set up a wide-spread social media education campaign about eating disorders and topics linked to EDs, such as food, attitudes to food, exercise and other related topics.
5. Involve primary care practitioners and other practitioners who may be typically involved in ED diagnosis to increase awareness of EDs, especially in populations who may be more at-risk or overlooked, such as young persons, members of the LGBT+ community and males.
6. Launch a nation-wide public education campaign about eating disorders and related matters to promote a better understanding of the issues underpinning dysfunctional

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- eating and eating disorders and help to reduce stigma surrounding eating disorders.
7. Create an eating disorder information course for parents of teenagers, as young adolescents are typically at high-risk for eating disorders and this study found that 15 to 17-year olds are more prone to eating disorder experiences and suspicions.
 8. Set up community services and outreach that target and are trained to assist eating disorder sufferers.
 9. Since eating disorder are often present alongside other conditions such as psychiatric or neurological concerns, ensure that professional practitioners are well informed wither through targeted campaigning or continuing professional development (CPD) courses.
 10. Support and/or set up initiatives that promote body advocacy, especially on social media.
 11. Work with other organisations, especially those aimed at youths or NGOs, to raise awareness of eating disorders by referencing their area of specification such that sports organisations will raise awareness of EDs in sports, NGOs working with migrants will ensure that they are informed about nutritional eating within the Maltese congtext, etc.
 12. Providing ED information to the family, friends or significant others of persons experiencing eating disorders, to educate them on the subject, but also to emphasize how important their support is to the recovery proves, as it emerged that the role of others in the ED recovery journey may not be well understood by the general public.
 13. Providing information specifically tailors to different situations and communities to increase knowledge of how EDs present in the specific situation community, as well as to increase knowledge of how an individual can assist an ED sufferer.
 14. Create a mental health first aid course specialised in eating disorders and disordered eating, similar to the interventions used for other mental health issues such as depression or anxiety.

5.3. RECOMMENDATIONS FOR RESEARCH

1. A study of the prevalence of EDs among persons aged 15 to 50 years, in order to improve the findings of this study and provide more accurate understanding of the issue, as well as constitute part 2 of a longitudinal study of the prevalence of eating disorder in Malta.
2. A study of eating disorders among teens and pre-teens, from ages 11 to 18 to research what factors affect their attitudes to food and whether there is any associations with different lifestyles, neurological conditions such as Sensory Processing Disorder (SPD), Autism Spectrum Disorder (ASD) or Attention Deficit Hyperactivity Disorder (ADHD) and characteristics of such as risk taking or perfectionism.
3. Engage in a study to examine barriers to engagement in eating disorder treatment.
4. Undertake a study together with child support services such as CYPS and CDAU to investigate rates of ARFID in children with neurological disorders.
5. Undertake a study of how attitudes of shame and stigma impact eating disorder sufferers and create barriers to treatment and how these may be dismantled.



6. Research the creation of a mental health first aid course for eating disorders and disordered eating, similar to the interventions used for other mental health issues such as anxiety, depression and others.
7. Undertake research on the different Eating Disorder interventions and preventive services, to examine best practices and new methods for reducing the prevalence of eating disorders as well as reduce rates of relapse.
8. Engage in research into ways to stimulate uptake of early intervention and treatment of eating disorders and mainstreaming ED screening.

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Appendix

Appendix A – Questionnaire: Examining Public Perceptions of Eating Disorders

Section 1 – General Information

1	What is your age? Please select one	15-17 18--30 31-40 41-50
2	What is your gender? Please select one	A. M B. F C. Other
3	What is your highest level of education? Please select one	Still studying (please specify level) _____ Primary Secondary Post-secondary/Vocational Tertiary Other, please specify: _____
4	What is your employment status? Please select one	Student Employed in a professional capacity (job requiring a University degree) Employed in a vocational capacity (job not requiring a University degree) Unemployed Housemaker/Stay at home parent Retired Other, please specify: _____
5	Where do you live? Please select one	Gozo and Comino Region Northern Harbour Region: Birkirkara; Gżira; ̄al Qormi; ̄amrun; Msida; Pembroke; San Ġwann; Santa Venera; St Julian's; Swieqi; Ta' Xbiex; Tal-Pietà; Tas-Sliema. Southern Harbour Region: Cospicua; Fgura; Floriana; ̄al Luqa; ̄az-Żabbar; Kalkara; Marsa; Paola; Santa Luċija; Senglea; ̄al Tarxien; Valletta; Vittoriosa; Xgħajra. South Eastern Region: Birżebbuġa; Gudja; ̄al Ġhaxaq; ̄al Kirkop; ̄al Safi; Marsaskala; Marsaxlokk; Mqabba; Qrendi; Żejtun; Żurrieq. Western Region: Ħad-Dingli; ̄al Balzan; ̄al Lija; ̄al Attard; ̄az- Żebbuġ; Iklin; Mdina; Mtarfa; Rabat; Siġġiewi. Northern Region: Ħal Ġhargħur; Mellieħa; Mgarr; Mosta; Naxxar; St Paul's Bay.

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Section 2: Knowledge and attitudes towards Eating Disorders

Examining general knowledge and experience of EDs:		
1	Have you ever heard of eating disorders?	A. Yes, B. No, C. Don't know
2	Can you name any specific eating disorders?	A. Yes. Anorexia, Bulimia, Binge Eating, ARFID B. No
3	Have you or anyone you know ever been diagnosed with an eating disorder?	A. Yes B. Myself or close family member C. A family member but not immediate family D. A friend or acquaintance E. No
4	Have you ever suspected that you or someone you know may have an Eating Disorder?	A. Yes B. Myself or close family member C. A family member but not immediate family D. A friend or acquaintance E. No
Examining depth of knowledge of the main EDs:		
5	Please select the sentence that you feel best represents the definition of Anorexia Nervosa.	A. People with Anorexia Nervosa dislike eating, weigh themselves constantly and are always dangerously thin. B. People with Anorexia Nervosa tend to eat very little or compensate for eating, e.g. by over exercising or purging, have a strong fear of gaining weight and feel fat even though they are not. C. People with Anorexia Nervosa choose to stop eating, like being thin, and feel fat even though they are not, and it mostly affects women.
6	Please select the sentence that you feel best represents the definition of Bulimia Nervosa.	A. People with Bulimia Nervosa eat and throw up to be thin, but it is not too serious. B. People with Bulimia Nervosa eat whatever they want and then try to get rid of the calories by purging. Although it is a disorder it is not too serious. C. People with Bulimia Nervosa suffer from a serious disorder where they lose control over their eating and compensate by, for e.g. purging or over exercising, and are very concerned about their body shape and weight.
7	Please select the sentence that you feel best represents the definition of Binge Eating Disorder.	A. People with Binge Eating Disorder have recurrent episodes of Binge eating where they eat a lot of calorie one sitting. They do not compensate for their binges. B. People with Binge Eating Disorder overeat. They can get better if they go on a diet or restrict their eating.



		C. People with Binge Eating Disorder eat a lot of high fat food and are generally overweight. It usually impacts adult women.
8	Please select the sentence that you feel best represents the definition of ARFID (Avoidant/Restrictive Food Intake Disorder), previously known as Selective Eating Disorder.	<p>A. People with ARFID are extremely picky eaters who have let it get out of control. This interferes with their growth and development.</p> <p>B. People with ARFID are unable to eat certain foods or range of foods, resulting in nutritional deficiency.</p> <p>C. People with ARFID eat only junk food and as a result have malnutrition, and are underweight and underdeveloped.</p>
Examining Attitudes to Food:		
9	Please answer the following as accurately as you can. Tick one:	
	Do you ever make yourself throw up because you feel uncomfortably full?	Y or N
	Do you worry that you have lost control over how much you eat?	Y or N
	Have you recently lost more than 6.3 kg in a three-month period?	Y or N
	Do you believe that you are fat even though others say that you are too thin?	Y or N
	Would you say that food dominates your life?	Y or N
Examining Knowledge of and attitudes to EDs:		
10	Please state how strongly you agree or disagree with the following statements:	Strongly Agree, Agree, Unsure, Disagree, Strongly Disagree.
	Eating disorders are life threatening serious conditions.	
	People with eating disorders are not trying hard enough to eat properly.	
	Not eating enough to sustain oneself, throwing up after eating, or over exercising are all symptoms of eating disorders.	
	People with eating disorders are very thin.	
	Eating disorders only affect young women.	
	With treatment, people with eating disorders can get better.	
Examining recognition of eating disorder signs and symptoms:		
11	Please state how strongly you think the following are signs or symptoms of the presence of an eating disorder:	Strongly Agree, Agree, Unsure, Disagree, Strongly Disagree.
	Avoid eating in public/with family.	
	Always cold/cold extremities.	
	Wearing baggy clothes to hide body.	
	Sudden weight gain/loss or weight fluctuation over a	

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	relatively short period of time, e.g. one month.	
	Social isolation.	
	Strong concern about body-image.	
Examining recognition of factors for eating disorders:		
12	Please state how strongly you agree with the following statements:	Strongly Agree, Agree, Unsure, Disagree, Strongly Disagree.
	Dieting.	
	Having a close relative with a history of an eating disorder.	
	Perfectionism/setting unrealistically high goals for oneself.	
	Bullying, especially about weight.	
	History of trauma/abuse.	
	Low self-esteem.	
Examining service requirements:		
13	Please rank the following in order of preference:	
	A. I would like eating disorder services in my locality.	
	B. I would like eating disorder services provided at the General hospital.	
	C. I would like eating disorder services provided at my local council.	
	D. I would like eating disorder services provided at my local health centre.	
Examining information requirements:		
14	Please rank the following:	
	A. I would like to know more about eating disorders.	
	B I would like for there to be more information about eating disorders in schools, for example through the curriculum.	
	C. I would like to receive more information about eating disorders through my local council, such as seminars, talks etc.	
	D. I would like to see more information about eating disorders on local media (print, radio and TV).	
	E. I would like to see more information about eating disorders on social media.	
	F. I would like to receive information at home about eating disorders via printed materials, such as pamphlets.	

Thank you for your participation



Appendix B - Information and Consent Form for Adult Participants for Questionnaire: Examining Public Perceptions of Eating Disorders (English)

[To be read out at the start of the telephone interview to confirm that the participant understands the information provided and gives their consent to participation in the telephone survey.]

[Statement of purpose of the study:] Hello, my name is [researcher to say their name] and I'm calling from Sagalytics on behalf of the University of Malta. Would you like to speak in Maltese or English? [adapt accordingly]

[Questions determining eligibility for this study:] We are conducting a short telephone questionnaire to examine knowledge, experience and attitudes to eating disorders and attitudes to food among the general population aged 15-50. Would you like to participate in the survey?

[Method of data collection:] The data will be collected through a one-time, anonymous questionnaire, which will be administered via this telephone call and will take around 10-15 minutes. Participants' personal names and surnames will not be asked for or used in the study and will not be known to us at all. We did not get your telephone number from any database. We are calling randomised telephone numbers, which will also not be collected or recorded in any way.

[Use made of the information and Guarantees:] Data collected will solely be used for research purposes and handled in line with GDPR and national legislation. Only the research team will have access to the raw data collected from the questionnaires. Deception in the data collection process will not be used. Participants are free to quit the study at any point during the telephone call, or to not answer any questions they do not wish to answer, without giving a reason. In the case that a participant withdraws, all the information collected pertaining to them will be destroyed. However, as this is an anonymised telephone call, withdrawal will not be possible after the survey is finished.

Participants can request access to the results of the research once the study is finalised by contacting the Faculty for Social Wellbeing on telephone number 23540 2693 or email: andrew.azzopardi@um.edu.mt or annabel.cuff@um.edu.mt.

We wish to point out that if at any point during the course of the telephone call we feel that you are at risk of harm from your eating habits or attitude to food, we will ask you if you wish to discuss this or be provided with a referral for support. This will be done in the strictest confidence. If you become upset about any aspect of your participation, you may seek assistance or support from kellimni.com, via their website www.kellimni.com, or from their email: info@kellimni.com. Additionally, in order to safeguard the confidentiality of all concerned, we wish to remind you that no part of this telephone call may be recorded, either by us or by yourself.

This study has been given clearance by the Faculty for Social Wellbeing's Research Ethics Committee.

Do you have any questions or uncertainties regarding the information provided? [Researcher to give participant some time to absorb the above. If participant affirms that they have understood, then the interviewer will proceed to the next question. If not, the interviewer will address any queries]

Do you consent to participate in the study?

Thank you for accepting to participate. Your contribution is of great value to this study

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Appendix C Information & Consent Form (Maltese)- Adult Participants for Questionnaire: Examining Public Perceptions of Eating Disorders

[Għandha tinqara fil-bidu tal-intervista bit-telefon biex tikkonferma li l-persuna t/jifhem l-informazzjoni pprovduta u t/jagħti l-kunsens tiegħu/tagħha għal parteċipazzjoni f'dan l-istħarrig.]

[Stqarrija dwar l-iskop tal-istudju:] Għażiż/a parteċipant/a, jien jisimni [riċerkatur għandu jinserixxi ismu/isimha] u qed inċempel minn Sagalytics f'isem l-Università ta' Malta. Tippipreferi titkellem bil-Malti jew bl-Ingliż? [adatta skont il-bżonn].

[Mistoqsijiet biex jiddeterminaw l-eligibbiltà għal dan l-istudju:] Qed naghmlu studju qasir bit-telefon biex neżaminaw x'jaf il-poplu in ġenerali ta' bejn il-15 u l-50 sena, dwar id-disturbi tal-ikel, u esperjenzi u attitudnijiet tagħhom lejn id-disturbi tal-ikel u l-ikel, u fuq dawn id-disturbi, u fuq l-ikel in ġenerali. Int ġenitur ta' wild ta' bejn 15 u 17 il-sena li t/jgħix fl-istess dar? Taċċetta li nsaqsu l-wild tiegħek jekk t/jixteiq t/jiehu sehem f'dan l-istħarrig? Tixteiq tipparteċipa f'dan l-istħarrig?

[Il-metodu tal-ġbir tad-data:] Id-data ser tingabar permezz ta' kwestjonarju wieħed, anonimu, li se jiġi amministrat permezz ta' din it-telefonata u li jiehu madwar 10-15 minuti. L-ismijiet u l-kunjomijiet personali tal-parteeipanti mhux se jkunu mitluba jew jiġu użati fl-istudju u fil-fatt mhumiex magħrufa lilna. Aħna ma sibniex n-numru tat-telefon tiegħek minn l-ebda database. Qedin inċemplu numri tat-telefon magħżula bl-addoċċ, u li mhux se jingabru jew jiġu rreġistrati bl-ebda mod.

[Użu magħmul mill-informazzjoni u garanziji:] L-informazzjoni li tagħtina ser tintuża biss għall-iskopijiet tar-riċerka u tiġi ttrattata f'konformità mal-CDPR kif ukoll il-leġiżlazzjoni nazzjonali. It-tim tar-riċerka biss se jkollu aċċess għad-data primarja miġbura mill-kwestjonarju. Mhux se jintuża qerq fil-proċess tal-ġbir tad-data. Tista' tieqaf milli tkompli twieġeb il-kwestjonarju fi kwalunkwe hin matul it-telefonata, jew jagħzlu li ma jwieġbux mistoqsijiet li ma jixteiqx li jwieġbu mingħajr ma tagħti spjegazzjoni. Fil-każ li parteċipant jirtira, l-informazzjoni kollha miġbura li għandha x'taqsam magħhom tinqered. Madankollu, billi din hija telefonata anonimizzata, l-irtirar mhux se jkun possibbli wara li jintemm l-istħarrig.

Il-parteeipanti jkunu jistgħu jaraw ir-riżultati tar-riċerka ladarba l-istudju jiġi ffinalizzat billi jikkuntattjaw lill-Fakultà għat-Tiŝieħ tas-Soċjeta' permezz tan-numru tat-telefon 2340 2693 jew email: andrew.azzopardi@um.edu.mt jew annabel.cuff@um.edu.mt

Nixteiq nindikaw li jekk fi kwalunkwe punt matul il-kors tat-telefonata nħossu li inti f'xi riskju ta' ħsara mid-drawwiet tal-ikel jew mill-attitudnijiet għall-ikel, aħna nitolbuk jekk tixteiqx li niddiskutu dan u nipprovdur referenzi għall-appoġġ. Dan isir b'kunfidenza stretta. Jekk int thossok ikkonċernat/a dwar il-parteeipazzjoni tiegħek f'dan l-istudju, tista tirrikorri għand kellimni.com għall-għajnuna, permezz tal-websajt tagħhom www.kellimni.com, jew fuq l-email: info@kellimni.com. Barra minn hekk, sabiex tkun salvagwardjata l-kunfidenzjalità ta' daww kollha kkonċernati, nixteiq nfakkrukom li l-ebda parti minn din it-telefonata ma tista' tiġi rreġistrata, la minna u lanqas minn naħa tagħkom.

L-istudju ġie approvat mill-Kumitat tal-Etika tar-Riċerka tal-Fakultà għat-Tiŝieħ tas-Soċjeta' (Faculty for Social Wellbeing).

Għandek xi mistoqsijiet jew inċertezzi dwar l-informazzjoni pprovduta? [Ir-riċerkatur jagħti ftit ħin beix il-parteeipant jassorbi l-informazzjoni. Jekk il-parteeipant jafferma li feheme, i-intervistatur ikompli għad-domanda li jmiss. Jekk le, l-intervistatur jindirizza kwalunkwe mistoqsija].

Tagħti l-kunsens tiegħek sabiex tiehu sehem f'dan l-istudju?



Appendix D - Information and Assent form for children aged 15 to 17 years, for Questionnaire: Examining Public Perceptions of Eating Disorders (English)

[Research aims and description:] Dear participant, I am [researcher to say their name] and I am calling from Sagalytics on behalf of the University of Malta. Would you like to continue in English or switch to Maltese? [adapt accordingly].

We are carrying out a study on behalf of the University about what people in general know about eating disorders, experiences of eating disorders, and their attitudes to eating disorders and food. We would like to ask you to participate by answering a few questions. The questionnaire should take between 10-15 minutes to answer. We would like you to know that only you can decide if you want to take part or not.

[Research procedures:] The information you give us will be collected in this phone call through the use of a questionnaire. Your details (for example your name and surname) are protected and anonymous - this means that no participant's name or personal details will be used throughout the study. Even we will not know and do not need to know. If you say yes to taking part in this study, we will ask you the questions in this phone call. Your answers cannot be understood by those around you because you will be answering by choosing from a list of possible answers. The information you give us will only be used for the purposes of this study and will be kept electronically, in a safe place, that is on a computer, that will only be accessed by the team of researchers.

In case we realise that you are at risk of harm or if we believe that your health is in danger, we will stop the questionnaire and ask to speak to your parents so that we can refer you to someone who can help you.

During this phone call you can choose to not answer any questions you do not feel comfortable answering and you may choose to stop completely at any time without need for justification. If you decide to stop answering, any information you would have given us up to that point will be destroyed. However, you will not be able to change your mind about taking part in the study after the phone call has finished, as we will not know which answers belong to who once we have finished the call.

You will be able to read about the research once the study is finished by contacting the Faculty for Social Wellbeing on emails: andrew.azzopardi@um.edu.mt or annabel.cuff@um.edu.mt or on telephone number 2340 2693.

If, at any point during or after the research process, you feel concerned or anxious and would like to talk to someone, you may seek assistance via chat, email or message on kellimni.com.

This study has been approved by the Research Ethics Committee of the Faculty for Social Wellbeing and we will be following General Data Protection Regulations (GDPR) as well as national legislation.

Did you understand the information provided here? Do you have any questions? [Researcher will pause to ensure that all has been understood].

Do you consent to take part in our study?

Thank you. Your contribution is very important to the success of this study.

Examining Public Perceptions and Experiences of Eating Disorders

Appendix E - Formola ta' informazzjoni u assent għal tfal bejn l-15 u s-17-il sena għall-Kwestjonarju: Perçeżżjonijiet Pubbliċi ta' 'Disturbi fl-Ikel' [Eating Disorders]

[Stqarrija u deskriżżjoni tar-riċerka:] Għażiż/a partecipant/a, jien jisimni [riċerkatur għandu jinserixxi ismu/ isimha] u qed incempel minn Sagalytics f'isem l-Università ta' Malta. Tippipreferi titkellem bil-Malti jew bl-Ingliż? [adatta skont il-bżonn].

Qed nagħmlu studju f'isem l-Università dwar x'jaf il-poplu in ġenerali dwar id-disturbi tal-ikel, esperjenzi tad-disturbi tal-ikel, u l-attitudnijiet tagħhom lejn id-disturbi tal-ikel u l-ikel, u fuq dawn id-disturbi, u fuq l-ikel. Nixtiequ nistaqsuk jekk tridx tipparteċipa billi twieġeb ftit mistoqsijiet. Il-kwestjonarju għandu jieħu bejn 10 u 15 il-minuta. Nixtiequ li tkun taf li inti biss tista' tiddeciedi jekk tridx tieħu sehem jew le.

[Proċeduri ta' riċerka:] L-informazzjoni li ttina ser tiġi miġbura f'din it-telefonata permezz ta' kwestjonarju. Id-dettalji tiegħek (pereżempju ismek u kunjomok) huma protetti u anonimi - dan ifisser li la ismek u lanqas id-dettalji personali tiegħek m'huma ser jintużaw fl-istudju. Aħna stess mhux se nkunu nafu u m'għandniex għalfejn inkunu nafu. Jekk taċċetta li tipparteċipa f'dan l-istudju, aħna nistaqsuk il-mistoqsijiet waqt din it-telefonata. It-tweġibiet tiegħek mhux ser ikunu jistgħu jinftieħu minn dawk ta' madwarek għax inti ser tkun qed twieġeb billi tagħzel minn lista ta' tweġibiet possibbli. L-informazzjoni li ttina ser tintuża biss għal dan l-istudju u ser tinħażen f'post elettroniku sigur, jiġifieri fuq kompjuter, li jista' jiġi aċċessat biss mit-tim tar-riċerka.

F'każ li nindunaw li int f'xi riskju ta' ħsara jew jekk nemmnu li saħħtek tinsab fil-periklu, aħna nwaqqfu l-kwestjonarju u nitolbuk biex inkellmu lill-ġenituri tiegħek jew min jieħu ħsiebek sabiex inkunu nistgħu nirreferuk għand xi hadd li jista' jgħinek.

Waqt din it-telefonata tista' tagħzel li taqbeż dawk il-mistoqsijiet li ma tħossokx komdu/a twieġeb u tista' tieqaf milli tkompli twieġeb il-kwestjonarju fi kwalunkwe ħin mingħajr ma tagħti spjegazzjoni. Jekk tiddeciedi li tieqaf milli twieġeb il-kwestjonarju, l-informazzjoni li tkun tajtna tinqered. Madankollu, ma tkunx tista' tbdid fehmtek dwar li tieħu sehem fl-istudju wara li tkun intemmet it-telefonata, għax ladarba tkun spicċat it-telefonata ma nkunux nafu liema tweġibiet jappartjenu lil liema tifel jew tifla.

Inti tkun tista' taqra dwar ir-riċerka ladarba l-istudju jiġi ffinalizzat billi tikkuntattja lill-Fakultà għat-Tiġieħ tas-Socjeta' fuq in-numru tat-telefon 2340 2693, jew permezz tal-email andrew.azzopardi@um.edu.mt jew annabel.cuff@um.edu.mt.

Jekk fi kwalunkwe ħin matul il-process tar-riċerka, jew anke wara, tħossok ikkonċernat/a jew anzjuż/a, u tixtieq tkellem lil xi hadd, tista' tirrikorri għand kellimni.com jew fuq email info@kellimni.com għall-għajnuna permezz ta' chat, email jew messagġ.

Dan l-istudju ġie approvat mill-Kumitat għal-Etika tar-Riċerka tal- Fakultà għat-Tiġieħ tas-Socjeta' u ser insegwu r-Regolamenti Ġenerali tal-Protezzjoni tad-Data (GDPR) kif ukoll il-leġislażżjoni nazzjonali.

Inti fhimtha din l-informazzjoni? Għandek xi mistoqsijiet? [Ir-riċerkatur jieqaf biex jiżgura li kollox ġie mifhmum].

Taqbel li tieħu sehem fl-istudju tagħna?

Crazi. Il-kontribut tiegħek huwa importanti ħafna għal dan l-istudju.



