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Collaborative Service System for the Treatment of Patients With Eating Disorders

MSc Product Service System Design
A.Y. 2020/2021

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ACKNOWLEDGEMENTS

To ***Professor Beatrice Villari***, for providing me enthusiastic feedback and guidance throughout the thesis development, and for sharing with me her irreplaceable knowledge that made me enhance my thoughts and my work.

To ***Fifth Beat***, for giving me a space filled with experiences into developing the career path I want to peruse in Experience Design, and for giving me great people to always learn from, *Raffaele Boiano, Francesco Vetica, Laura Cappelli*, and my own motivational voice, *Nicola Bertelloni*.

To ***Kevin***, for always being there whether I needed or not. Thank you for being my backbone throughout everything, making me the person who I am today.

To ***Mum, Dad, and Marina***, you had faith in me when I didn't and gave me hope when I had none, you made my dreams come true and I can't describe how grateful I am for everything you ever did for me, and for your support.

To ***Maria Abboud, Sandra Haddad, and Maria Haddad*** for being my net in Lebanon when I couldn't be there physically. Thank you for giving me the laughs making me forget we don't live in the same country anymore.

To ***Emma Teli, Madina Umirbekova, Mehrdad Atariani, and Ismael Godinez*** for being the friends I needed during my years in Politecnico di Milano and for being my drinking pals whenever I needed one. Thank you for making this experience irreplicable.

Lastly, to ***Italy and Politecnico di Milano***, for being home to me and making me one step closer to be the Designer I admire to be and to ***Archie***, for being my sanity during the lockdown.

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ABSTRACT

Nutrition is a science that examines the relationship between diet, health and diseases. It studies the nutrients found in food and explores how the body uses them. Nutrition also investigates different dietary choices in order to reduce risks of several diseases. It also investigates the effects of low or high nutrient consumption, while also understanding how allergies are developed. If people do not have the right balance of nutrients in their diet, their risk of developing certain health conditions increases. This is a crucial role of dieticians in which they can help people into a balanced lifestyle or with managing critical and medical conditions such as eating disorders. Psychologists have a role into treating patients with eating disorders as well as dieticians, whereas the beginning and some of the reasons behind eating disorders are psychological disorders generated by societal issues.

Unfortunately, communication solely based on treatments between the patient and a dietician is not sufficient, a psychologist is always needed in the journey of healing a patient with an eating disorder. Connections between the specialists are not concrete enough for a well-organized treatment journey, where is causes the patient to relapse during and midway treatment.

This research aims to explore the drawbacks and mistakes that might occur throughout the whole experience towards healing from the aspects of patients, dieticians, and psychologists. It mainly focuses on the communication and connection between the specialists and to the patients. The research attempts to enhance it by using service design and experience design tools and knowledge. The goal is to create a customer-centric service in order to establish full tracking and management of client profile, in addition to further user-friendly journeys and less pressure regarding the patient's wellbeing.

RELEVANCE AND METHODOLOGY

The project at the core of this thesis arose from the joint effort of Dieticians and Psychologists in Lebanon. Each of these specialists felt the need of presence from the other during the treatments of Eating Disordered patients. The communication is there, through different mediums, but unfortunately there is no one medium that includes all the data and communication in between the specialists and between them and the patient himself.

The theme of the project included the communication and data needed to prevent patients from relapsing from bad and unnecessary communications, and to reduce the time and effort in the treatment journey.

What was lacking was a medium in which all the mentioned included, where the communication would go smoothly and faster between the stakeholders. There were different solution applications that was found during researching the topic, both in Lebanon or around the world; some failed and some did not include the full package that the patient needed or is looking for in their treatment journey. Many researchers have studied this topic and reasons of patient relapsing in the middle of their eating disorder healing journey, with the aim of finding solutions that we'll go deeper into in the next phases of my thesis research.

As a result of the foregoing reasons, the research questions that underpin this research thesis and study can be presented as follows, from the more holistic to the narrowest:

1. Is there a system that includes all stakeholders needed in the treatment of a patient with eating disorder?

2. How would the communication between stakeholders influences the patient that is undergoing a treatment of eating disorder?

3. What are the crucial stages in the journey that have most relapses of a patient's journey through healing? And how can they be improved?

These were the open questions that required investigation through all mediums and experimenting to achieve patient satisfaction; that was not very easy since every person does not think, act, behave like the other. A lot of testing and working with the stakeholders in parallel was required for the thesis to be incomplete from both of my perspective and theirs.

I would like to also clarify my thesis road to end, stating the steps followed throughout the development in order to better display the methods followed, time, and effort given in every stage. Despite how accurate the time and effort could be measured, every step and stage in this thesis was reviewed by the stakeholders I was in contact with, and every stage had an iterative course, as the result of each process step was integrated thanks to the suggestions and advised emerged during the thesis further development.

Therefore, I have divided the entire work into two macro categories.

The first phase was dedicated to the research part, where I have done and extensive research among variety of mediums to find information about both the nutrition and psychology fields, since I have the basic knowledge in them. My research also was more intensive in finding information about eating disorder and its treatment journeys and approaches and try to find the different methods used in Lebanon, the middle east, and the rest of the world in general. The tough part was trying to know what treatment was more effective that the other since feedbacks vary from a psychologist and dietician to others.

In the meantime, I started also digging deeper into the stakeholders and forming a

stakeholder map to have a full view on who is included in the healing journey. Started surveying and interviewing them to gain more insights from the inside of the journey.
The second phase was fully focused on my thesis solution development. Starting from context analysis as where the solution would fit and researching other similar solutions, then analyzing the opportunity windows I had to build my solution. Going them to user analysis where I had given the insights gained from my field research with specialists, patients, and people a second look and a deepen review. In my concept developing, I started having my personas and stating what they need and want, their opportunities and frustrations. Defining scenarios of the future and the perfect treatment journey. Defined my concept and offering using a map for a better visualization and understanding, designing my ecosystem map and the service system map and last but not lease the journey maps of a patient going through the healing journey of eating disorders, mapping out the as-is (current) situation journey, critical stages, and the to-be (with service) journey where it ends with patient satisfaction and no windows for relapse.
The last step of my thesis development included testing and validation. I have did a first round of validation when my concept aroused where I have been in contact with the stakeholders throughout the whole thesis development, proceeded to the round of testing for my app platform with patients, dieticians, and psychologists where they impacted some of my judgments and the alignment of my design journey, and lastly a final round of testing & validation after the whole application is done and in prototyping mode as a closing note where they have validated that it could save time, close windows of patient relapse, save efforts of communication, and it would be a good platform for patient data storage.

PART I

Research framework

/1 Psychology in Lebanon

1.1 Overview on psychological disorders

1.2 Psychological disorders in Lebanon

1.3 Awareness in Lebanon

OVERVIEW ON PSYCHOLOGICAL DISORDERS

Psychology is the study of the mind and soul, as it is derived from two Greek words 'psyche' and 'logos'. While psychology is relatively a new science, developed countries are spreading the usage of psychology by raising awareness of mental health and are providing technical and monetary assistance. Human development, sports, health, clinical, social behavior, and cognitive processes are all subfields of psychology. Psychology was introduced first by two dominant theoretical perspectives: structuralism and functionalism. Structuralism focused on breaking down mental processes into the most basic components while Functionalism focused on how and why an organism does something, i.e., the functions of the brain. [2]

The primary goals of psychology are to describe, explain, predict, and affect the behavior and mental processes of others. First, to describe a behavior enables researchers to develop general laws of human behavior. Second, psychologists will explain how or why this behavior occurs, they will propose theories which can explain such behavior. Third, psychology is used to predict future behavior from the findings of empirical research. If prediction is incorrect, the explanation will be revised. Finally, once a behavior is described, explained and predicted, psychology attempts to change or control the behavior. For example, interventions have been widely used to treat people with anxiety disorders.

Psychologists are currently characterized as trained mental health practitioners who assist people in developing appropriate coping mechanisms for dealing with mental health issues. They can also help those who are suffering from certain conditions like depression or anxiety, as well as people who are going through a difficult moment in their lives like grieving a loss. In order to do that, they undergo years of education and training

to offer a range of mental health services. Psychologists fit into five categories, clinical, neurology, health, counseling, and forensic.

Moreover, psychologists study and help treat people's emotional, cognitive, and social processes and behaviors. One of their main goals is to evaluate and understand their client's thoughts, emotions, and behaviors. They attempt to do that by identifying behavioral and emotional patterns, diagnosing disorders, making referrals and coming up with appropriate treatment plans.

In general, a psychological disorder is defined by distressing, debilitating, and/or abnormal thoughts, feelings, and actions. The study of psychological problems, including their symptoms, etiology (causes), and therapy, is known as psychopathology. Distressing, debilitating, or aberrant patterns of behavior and inner experience can be easily identified and suggest psychological disease. Most people would regard a person who is obliged to wash their hands 40 times a day or claims to hear demon voices to have abnormal, if not disturbing, behaviors and internal experiences: beliefs and actions that reflect the presence of a psychiatric condition. Consider the nervousness that someone might feel before giving a speech or the loneliness that a freshman might feel during their first semester of college—these emotions are common, and it can be difficult to distinguish between appropriate nervousness or sadness and clinically significant anxiety or depression. At addition to private practice, psychologists may work with clients in institutions such as schools, hospitals, community health centers, jails, nursing homes, and rehabilitation clinics. They may also do research and studies in their chosen field. Counseling and psychotherapy, commonly known as talk therapy, are used by psychologists to treat mental health difficulties. Some, on the other hand,

concentrate solely on research or teaching and do not work with patients. Psychologists, unlike psychiatrists, are not medical doctors. That means they can't write prescriptions or perform medical operations in most states. Science can help people not just be more successful, but also improve their health. It assists many people in overcoming their mental diseases so that they can live their lives. Drug development and the ability to identify various diseases (such as Alzheimer's and Parkinson's) have both benefited from psychological research. As a start, psychology can help individual build better relationships, improve communication. Build self-confidence and enrich careers. In essence, psychology aids people in large part because it can explain why people behave in certain ways. A psychologist can help people improve their decision-making, stress management, and conduct by studying past behavior and predicting future behavior with this kind of professional knowledge. Psychologists identify and help people overcome the barriers that prevent them from making better choices, from exercising more or working more efficiently to using technology safely, based on a deep understanding of how factors related to biology, mental processes, and social relationships and interactions affect lifestyles. Psychologists apply psychological research to assist people in realizing their full potential and performing at their best. While psychology is a growing field in Lebanon, Lebanese people are still lacking proper psychological treatment, especially after the COVID-19 pandemic and the august 2020 explosion. According to El Othman et al., Lebanese citizens are facing significantly higher stress, depression and anxiety. The authors recommend that mental health awareness and accessibility to psychologists should be further promoted by Lebanese government officials.

PSYCHOLOGICAL DISORDERS IN LEBANON

A NEAR HISTORY DEBRIEF

Lebanon have been under stressful events since forever. Starting from the early wars and crisis to a reputation of all the stressful and depressing events again nowadays, as every Lebanese would say "history is repeating itself". These unfortune events took place very close to each other, leaving Lebanese people out of breath but ready and cold to what would come after.
Speeding forward all these hapless events to both years 2019 and 2020, a lot has happened in this very miserable period to the Lebanese population, including them from their babies to their elderly.

Starting from 2019, in June there was a shooting in Tripoli where a gunman opened fire and killed four security members in Tripoli, before he blew himself up in an apartment, leaving Tripoli in a shock and terrified. In August, the Lebanese president declared a statement where he said "Israel drone attack a declaration of war" leaving the Lebanese people frightened and stocking food and necessities preparing for a war. In October, the Lebanese forest fires have started, killing people and firefighters, and in parallel the Lebanese protests of 2019-20 have started leaving the country without a prime minister due to the resignation of Saad Hariri in response to protests. In December, a new prime minister, Hassan Diab, was assigned, and Carlos Ghosn escapes from Japan and arrives in Beirut. Going through 2020, in January the Lebanese protests resume after weeks of calm, and a new cabinet is formed after months without one. In February, the first case of COVID-19 in Lebanon is confirmed in Beirut, and Lebanon bans all travel by non-residents by air, sea or land from countries worst hit by the COVID-19 outbreak. The Public Works Ministry named China, South Korea, Iran, and Italy as affected countries ("Coronavirus outbreak 'getting

bigger' - WHO". BBC News. Retrieved 2020-02-28). In March, the first COVID-19 death is recorded. In April, a Baakline attack took place killing nine people with a knife and gun. In July, there was an exchange of fire between Israeli soldiers and four Hezbollah members.

In August 2020 Beirut explosions happened, one of the most tragic events killing two-hundred and eighteen people at-least, seven-thousand injuries, fifteen billion dollars in property damage, and leaving an estimated of three-hundred thousand people homeless as a large amount of ammonium nitrate stored at the Port of Beirut in the capital city of Lebanon exploded. The blast shook the whole country of Lebanon. It was felt in Turkey, Syria, Palestine, Israel as well as parts of Europe, and was heard in Cyprus, more than 240 km (150 mi) away. It was detected by the United States Geological Survey as a seismic event of magnitude 3.3 ("M 3.3 Explosion - 1 km ENE of Beirut, Lebanon". earthquake.usgs.gov. U.S. Geological Survey. 4 August 2020. Retrieved 3 November 2021) and is considered one of the most powerful artificial non-nuclear explosions in history. The government declares a two-week state of emergency following the explosions, and the protesters called on the government to end the neglect that caused the explosion. Prime Minister Hassan Diab announced that

Figure 01 Beirut Explosion on the 4th of August

he and his entire cabinet had resigned following anger over the Beirut explosions. As the explosion wasn't enough stress and anxiety to the Lebanese population, two people were killed and at least ten wounded in clashes between Hezbollah and tribal members in Khalde causing uncertainty.

In October, Lebanon has witnessed more explosions as a fuel tanker exploded, leaving at least four people dead and thirty injured. The blast occurred after the tank caught fire in Tariq-al-Jdide district. In November, the 2020 Baabda prison escape occurred, causing sixty-nine inmates escaped from the prison to be wondering in the streets of Lebanon. More events have happened, but I have chosen to showcase the major ones and there were more to write for 2021, but let's stop here and talk about the Lebanese people and the way they have dealt with everything that they went through physically, financially, and most importantly mentally.

LEBANON MENTAL HEALTH

Speaking of mental health, the Lebanese populace has long been subjected to conflict-related traumas and domestic instability, which has resulted in a variety of mental health problems and disorders. Even before the current extended crisis, over a quarter of adults in Lebanon suffered from one or more psychiatric disorders, with post-traumatic stress disorder having a particularly high prevalence (approximately 25%). The most recent comprehensive study on the prevalence of different illnesses in Lebanon was completed in 2006. Phobias, depression, and anxiety were the most common problems among Lebanese people, according to this study, and they were commonly linked to war-related stress. Mental illnesses such as depression were found to be the most common, with anxiety disorders accounting for 16.7% of the population and mood disorders accounting for

12.6%. Suicidal ideation was also reported by 4.3% of the population. People who have been exposed to war-related trauma have a three-fold increased chance of acquiring a mood disorder and a two-fold increased risk of developing an anxiety disorder. In Lebanon, where around 70% of the population has been exposed to one or more instances of violent war, this compounding risk is likely to have far-reaching consequences. COVID-19 worries, and economic uncertainty are linked to increased levels of stress and anxiety, especially among women and younger Lebanese subjects with poor home situations. The existence of pandemic-related anxieties mixed with financial difficulty enhanced stress and anxiety, emphasizing the importance of screening for mental health issues among populations with multiple risk factors.

Concluding the mental health aspects on the Lebanese population, I have realized how uncontrollable factors can play a huge role in a person's mental health, and that is what happened with every Lebanese person, even the ones who does not live there currently.

A dynamic model for wellbeing (Campion J, Nurse J. A dynamic model for wellbeing. Australas Psychiatry. 2007) have confirmed the hypothesis mentioned above. The model considers how various social and individual risk factors affect mental health and how these risk factors might be addressed. It looks at the need of actively developing protective elements in order to strengthen an individual's resilience to deal with life's challenges, as well as the additional input needed to foster resilience in those who already have mental health issues. This approach to wellbeing strikes a balance between addressing risk factors and encouraging protective factors, and it employs a

public mental health approach to wellbeing promotion in specific settings and the larger environment, which is backed up by local and regional policy.

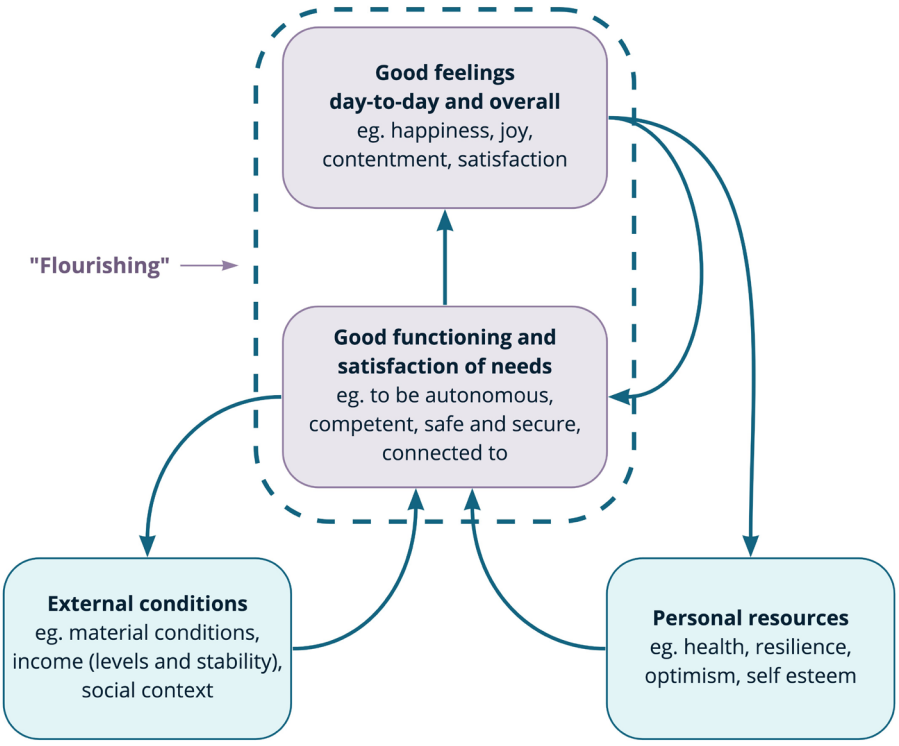


Figure 02 A dynamic model for wellbeing (Australas Psychiatry. 2007)

PSYCHOLOGICAL AWARENESS IN LEBANON

In Lebanon, the psychological awareness is being speeded just recently, after Beirut's big explosion as a lot of the Lebanese population needed psychological help after the blast to heal their PTSD (Post Traumatic Stress Disorder). Unfortunately, Mental illnesses are widespread in Lebanon, with prevalence compared to that in Western Europe (Azar SA, Hanna K, Sabbagh R, et al., 2016, Karam EG, Mneimneh ZN, Karam AN, et al., 2006). The growth of several mental health problems in the Middle East Region has been exacerbated by war-related trauma, internal conflicts, and political insecurity. With every traumatic experience, psychologists are trying their best to raise awareness on mental health in Lebanon, using different mediums like on-street banners, posters, and social media, hoping their voices would be reached and people would start giving in, and start their healing journey.

Sadly, stigma against mental illness and psychological disorders in Lebanon involves a lot of stereotyping, as one would say "I'm not crazy", labeling, and resulting in rejecting people diagnosed with any mental illness. The discrimination aimed towards those suffering from mental illness by the greater population or community is known as the public stigma against mental disease. Self-stigma arises when people with mental illnesses believe that their worth is diminished as a result of their disease. The stigma attached to mental illness may lead to social marginalization of those who suffer from it, as well as a reduction in patients' willingness to seek mental health treatment.

Patients with mental illnesses and community members were both thought to be affected by culturally particular attitudes. Cultural variables frequently alter public attitudes toward those diagnosed with mental illness and influence opinions regarding the cause and treatment of mental disease. In the Arab world, where the

majority of people diagnosed with mental illness suffer from war-related mental health repercussions and live-in poverty, addressing cultural attitudes connected with stigma towards mental disease is especially important. Furthermore, due to cultural shame, those diagnosed with mental illness in the Arab world may hesitate to seek formal psychiatric help. The identification of cultural attitudes and beliefs linked to stigma against mental illness has immediate implications for culturally tailored interventions aimed at reducing public stigma. The findings of a study by two PhD researchers in Lebanon indicated and confirmed that professional mental health facilities are inaccessible for most young people in Lebanon. That there were many barriers to seeking professional psychological help including the high cost of psychiatric care, the public view of mental illness, the negative role of media, lack of trust in qualifications and expertise of mental health professionals, and difficulty to access mental health services. Overall, a variety of misconceptions about the causes and treatments of mental illnesses were very common in Lebanese culture. These misconceptions were associated with the public stigma about mental illness. In situations like this, mental health nurses must play a great role in enhancing awareness about causes, treatment, and stigma against mental illness (Rayan, A., & Fawaz, M. 2018).

Mental illness is just another language you wouldn't normally understand.

The Asfourieh Association is a Non-Profit Organization specialized in raising awareness on mental health. In this very campaign, the call for action is to tell people generally, and stigmatizers specifically, not to discriminate the mentally-ill. It does that by tackling three major illnesses, having each illness accompaigned by a baseline spoken in its specific tone.

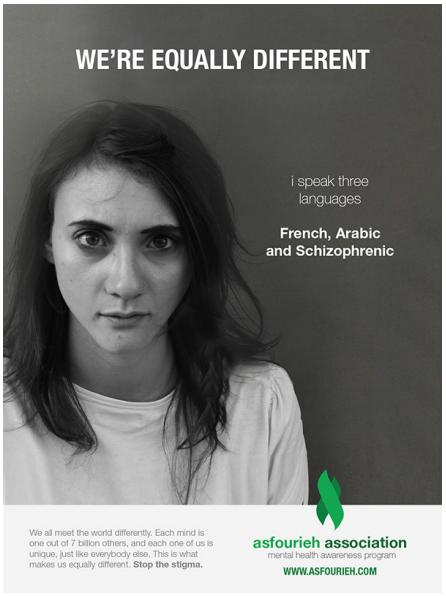


figure 03 & 04
Posters from the Asfourieh Association mental health awareness campaign

/2 Nutrition in Lebanon

2.1 Overview on nutrition & dieticians

2.2 Dieticians in Lebanon

2.3 Dieticians & Psychologists

OVERVIEW ON NUTRITION & DIETICIANS

The study of nutrients in food, how the body uses them, and the link between diet, health, and disease is known as nutrition. Nutrition also examines how people can use dietary choices to lower their risk of disease, as well as what occurs when a person consumes too much or too little of a nutrient and how allergies function. Nutrients are the building blocks of life. Nutrients include proteins, carbs, fat, vitamins, minerals, fiber, and water. People are more likely to acquire certain health disorders if their diet lacks the proper mix of nutrients.

Nutrition is an important aspect of one's overall health and development. Better nutrition is linked to better newborn, child, and maternal health, stronger immune systems, safer pregnancy and childbirth, a lower risk of noncommunicable diseases (such as diabetes and cardiovascular disease), and longer life expectancy. Malnutrition, in all of its forms, poses a serious hazard to human health. Today, the globe is grappling with a double burden of malnutrition: undernutrition and obesity, particularly in low- and middle-income nations.

To understand how foods affect the human body, nutritionists apply concepts from molecular biology, biochemistry, and genetics. Dietitians interpret nutrition science into terms you can comprehend. For their patients, clients, and communities, they unlock the potential of food and promote healthy living. A dietician would not just throw you a diet or a list of things to avoid and send you on your way, nor would he or she advocate or sell you needless foods or supplements. Dietitians go beyond fads and gimmicks to provide you with sound, life-changing guidance that is personalized to your goals, as well as your unique needs and difficulties.

Dietitians don't only follow the latest food trends and provide their patients uniform advice. Instead, they create food and nutrition plans that are specific to a person's goals and needs. Dietitians assist

citizens in developed countries in improving their health by collaborating with doctors to improve the eating habits of people with complex health problems, policymakers to assist the government at all levels in developing population-wide health strategies, industry leaders to consult on food systems, food sustainability, food service management, production, and marketing, market researchers to assist in conducting research to better understand food science, and educators to teach students about food science.

Dietitians can also help individuals make healthy food choices, influence food-related policy developments, educate individuals, governments, education facilities, and industries on nutrition programs, help public and private establishments manage quality food services, conduct nutrition research, create diet plans for individuals with health conditions such as diabetes, heart disease, cancer, allergies, and obesity, provide education and advice for complex nutritional requirements such as intravenous feeding, negative nutrients, nutritional supplements, food safety storage, diet and drug interactions.

Changes in body weight were shown to be much bigger when they were frequently supported by qualified dietitians, according to a study. In fact, trained dietitians' competence is critical for health advice, particularly when it comes to detecting eating problems.

Eating disorders are behavioral problems marked by significant and persistent changes in eating habits, as well as disturbing thoughts and emotions. They can be life-threatening illnesses that disrupt physical, psychological, and social functioning. Anorexia nervosa, bulimia nervosa, binge eating disorder, avoidant restrictive food intake disorder, and others are examples of eating disorders. Eating disorders impact up to 5% of the population and are most prevalent throughout

adolescence and young adulthood. Eating disorders are frequently linked to food, weight, or shape obsessions, as well as anxiety over consuming or the repercussions of eating certain foods. Restrictive eating or avoidance of particular foods, binge eating, purging by vomiting or laxative overuse, and compulsive exercise are all behaviors connected with eating disorders. These behaviors can become compelled in ways that resemble addiction.

Lebanon is on track to miss all of its nutrition targets for mothers, babies, and children under the age of five (MIYCN). With 31.2 percent of women aged 15 to 49 years suffering from anemia, little progress has been made toward the goal of lowering anemia among women of reproductive age. Meanwhile, there has been little progress toward the low birth-weight goal, with 9.2% of infants having a low birth weight. With an estimated 37.0 percent of adult (aged 18 years and above) women and 27.4 percent of adult men living with obesity, the country has made no progress toward meeting the obesity objective. Lebanon has a higher obesity rate than the regional average of 8.7% for women and 6.0 percent for men. At the same time, diabetes is expected to afflict 12.2% of adult females and 14.5 percent of adult males in the United States.

DIETICIANS IN LEBANON

The importance of health and wellness has long been a component of Middle Eastern society, especially Lebanon. The most popular Arabic welcome phrase "keef el-soha?" inquires about a person's health. Another popular expression in Lebanon is "yaatik el-afyeh" which means, may God bring you health, and is used as a welcome, as well as when someone is doing physical labor or has had a long day.

While the language may stress the importance of health and wellbeing to Lebanese people, their habits and activities have steadily drifted away from it through time as a result of exposure to bad diet and lifestyle trends. The Lebanese have a generally healthy diet, although it has been tainted by imported American patterns. However, the Lebanese are very beauty concerned, therefore anything involving weight loss has always been a huge hit.

Although wellness is more than just weight reduction for us, it is the key to attracting people to it.

According to the Global Wellness Institute, it wasn't until the 1980s that the wellness movement began to be taken seriously in the medical, academic, and business worlds, with the introduction of more workplace wellness programs and the rise of the fitness and spa industries (GWI).

According to the GWI, an admittedly partisan source, wellness was a $3.7 trillion worldwide sector in 2015, and it is only expected to increase as more people become aware of the importance of maintaining a healthy lifestyle in their overall well-being and the prevention of ailments.

A new healthy Lebanon

Lebanon is only now waking up to the wellness business, and while it has a long way to go to catch up to worldwide levels of economic output and predominance, the seeds have been planted, and the potential exists.

The AUBMC Health and Wellness Center, which incorporates integrative health services, opened in 2015, making it the first of its kind in Lebanon and the Middle East. "There is a huge worldwide demand, with everyone talking about evidence-based complementary and alternative medicine. So we thought that AUB, being a leader in the fields of education and medicine in Lebanon, and taking in consideration the high demand for such non-conventional medical services, should have its own services that target those people that are seeking non-conventional medicine pathways, especially those practices that have a very strong evidence of success," explains Maya Romani, assistant professor of clinical family medicine at the American University of Beirut Medical Center (AUBMC) for Executive Magazine.

Lebanese people have a very lean tendency of following when comes to trends, they have always lived their lifestyles according to what is in the market and trendy. The same thing goes to their health life, and more specifically nutrition wise.
Among other factors the Lebanese society, more in concern women, always seek to look the best they can physically. They always seek help of a professional in this case and keeps in track with a dietician all the time. If not, they would undergo diets found online and trendy diet plans like the keto diet.

Not all doctors believe that a dietician is required to suggest a healthy diet for their patients when it comes to nutrition.

Newly trained doctors are increasingly referring their patients to dietitians, but it was previously a struggle because many old school doctors believed their education qualified them to prescribe diets if needed, which it did not, but thankfully, new doctors understand the value of a good diet, so the change is happening, and as long as we fight, we will win. In June, the Lebanese Dietitian Syndicate was invited to present at the 21st Lebanese Congress of Surgery, suggesting that nutrition is becoming increasingly important in Lebanon.

There are no specific data for the number of dietitians in Lebanon, but Christelle Gedeon, head of the Syndicate of Dietitians, thinks that there are over 3,000, resulting in a very competitive industry. Hospitals are the most sought-after professions for dietitians, she adds, but because the Ministry of Public Health only requires hospitals to have one dietitian, many hospitals minimize expenses by having unpaid interns do most of the work. As a result, dietitians either work part-time at hospitals and run their own clinic the rest of the time or work entirely in their own private clinic. However, acquiring clients in a competitive market like Lebanon is difficult, and many people with a degree in nutrition wind up working in sectors unrelated to nutrition. Or they reduce their prices significantly; some dietitians charge as little as $10 per session, potentially lowering industry standards.

DIETICIANS & PSYCHOLOGISTS

Anything that impacts the mental health can have a huge impact on the physical and physiological health of a body. The opposite might be true as well, as there are several theories on how a person's diet may influence and impact their mood and sometimes risk having conditions such as depression and anxiety.

While more research is needed, observational studies imply that there is a link between what people eat and their mental health in general, Diets associated with mental health advantages, for example, tend to be high in fruits, vegetables, whole grains, and healthy fats, all of which are anti-inflammatory nutrients. However, the reason for this effect of diet is uncertain.

Certain dietary patterns' inflammatory consequences, according to some scientists, may help explain the link between food and mental health. Increased inflammation appears to be linked to several mental health disorders. Researchers and authors are discussing this relationship further till this day.

Biological variables, such as genetics, life experiences, and family history, can all contribute to mental health disorders, according to MentalHealth.gov (Trusted Source). Access to food and the quality of one's nutrition can all have an impact on one's mental health.

Eating habits might be influenced by one's mental health. When you're angry or irritated, it's tempting to reach for less healthy items like sweets or highly processed snack foods.

Many antidepressants and anti-anxiety drugs can also boost hunger and desires. In both of these scenarios, mental health issues can make sticking to a healthy diet more difficult.
Nutrition and its effects on mental health are still being researched. While additional research is needed, current

studies imply that our eating choices may have some impact on our mental health. Still, we must keep in mind that eating is only one aspect of the much larger and more complicated problem of mental health. As a result, anyone suffering depression or anxiety symptoms, or who is concerned about their mental health in general, should engage with a trusted healthcare professional to build a specific treatment plan.

In order to treat a lot of psychological disorders that are related to eating behaviors, the presence of both the dietician and psychologist has to be mandatory in the treatment funnel and journey of a patient. In Lebanon, psychological disorders that are sever and eventful are like war stress, anxiety, depression, and a lot of social and societal pressure.

These disorders affects the body and the perspective of the body to a patient leading to body image dissatisfaction, where in that case a psychologist is needed.

In the next chapter, the relation of eating disorders with the Lebanese society and distress will be discussed further, including treatments and opportunities for better solutions.

The below figure discusses all the relations between abnormal eating patterns and body disturbance that is cause by many internal and external factors as shown, the figure authors Brytek-Matera, A., & Czepczor, K. have discussed, studies, and researched deeply into each one of eating disorders cases to prove all relations stating with this research that "body image issues has increased since the mid-twentieth century. Distortions in size perception, as well as body dissatisfaction, related to eating disorders, refer to body image disturbance." (Brytek-Matera, A., & Czepczor, K., 2017).

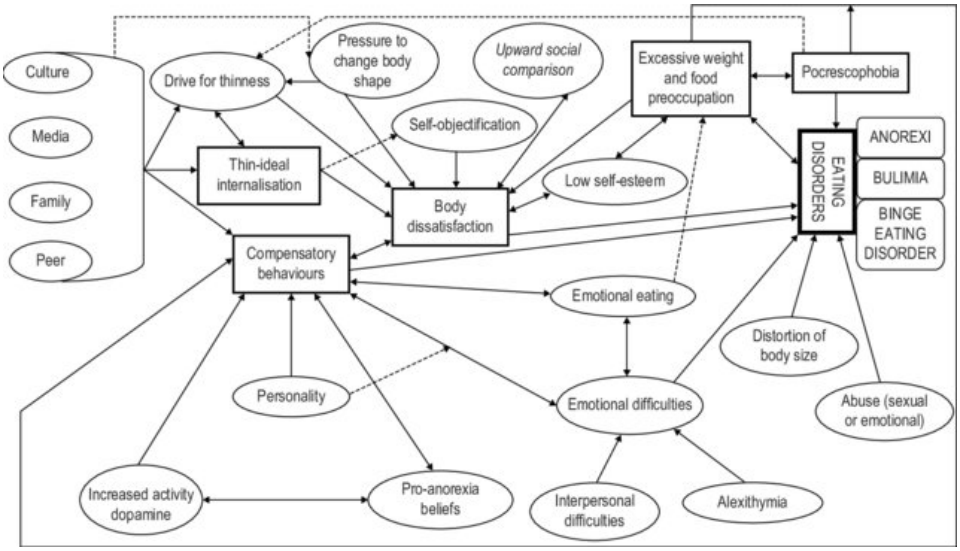


Figure 05 Encompasses factors leading to emergence and persistence of eating disorders.

/3 Eating Disorders

EATING DISORDERS IN LEBANON

Anorexia nervosa, bulimia nervosa, and binge eating disorder are currently among the most serious mental disorders affecting adolescents and young adults. They usually coexist with mental illnesses like depression, substance abuse, and anxiety disorders. Worldwide, the average prevalence rate in young females is estimated to be 0.3 % for anorexia nervosa, 1 % for bulimia nervosa and at least 1 % for binge eating disorder (Hoek and Van Hoeken 2003).

Previous research has looked into the impact of ethnicity and culture on the development of eating disorders.
Females are significantly more likely than males to suffer from these diseases, and they are more frequent in industrialized and Western countries Furthermore, by fostering a "culture of thinness," western media content and exposure has been found to have a major impact on body image and eating behavior.
Evidence reveals that countries that do not fit the Western model are not immune to eating disorders, contrary to popular belief. In reality, research have found that eating disorders are becoming increasingly common in non-Western countries in general, and in the Middle East in particular.

Jumping to the context of Lebanon, Studies conducted on Lebanese university students indicated a prevalent desire to become thinner, high awareness of food caloric content and avoidance of particular foods (Afifi-Soweid et al. 2002; Khawaja and Afifi-Soweid 2004) as well as prevalent abuse of laxatives and diet pills (Yahia et al. 2011). As well as many other studies reporting that most of the students used to sports for the aim of losing weight, followed diets, used medication including laxatives, diet pills and others, and a few used induced vomiting.

Other major factors that the Lebanese population is going

through is the media content and exposure. Soft symptoms such as disrupted eating behavior, body dissatisfaction, and dieting behavior have been linked to the rising popularity of the desire to be skinny. Eating disorder indicators discovered include binge eating, self-induced vomiting, and laxative use, in addition to Arabs at risk for eating disorders. In the Arab world, eating disorders can present in a variety of ways: some Arabs have expressed eating disorders somatically, as nausea, stomachache, and other symptoms, rather than psychiatrically.

A typical pattern emerges as societies proceed along the economic development continuum, with transitions in industrialization and urbanization taking place within the larger framework of globalization. People embrace a more sedentary lifestyle as they rush to burgeoning city centers in search of industrial, manufacturing, and service jobs, and a striking dietary transition happens as food becomes more freely available and accessible. The shift in food supply has resulted in an influx of highly attractive packaged and processed meals with lower nutritional content. In terms of diet, these processes are having the effect of flooding the food supply in these emerging countries with Western foods that are heavy in fat and sugar. The arrival and proliferation of Western fast food restaurants throughout industrializing countries is perhaps the most visible indication of this transformation. This dietary shift has resulted in a rise in population BMIs and lifestyle-related diseases, as well as an increase in eating pathologies and eating disorders.

War is one of life's most stressful situations, and it has been linked to higher rates of anxiety, depression, and post-traumatic stress disorder. Despite the fact that civilians may be more sensitive to war stress, few research have looked at the effects of war

on eating behavior in this demographic. Indeed, the disruption of food supplies, which leads to unstructured eating patterns and, in some cases, forced dieting, is a stress element that adds to the other negative effects of conflict. This component, together with excessive stress, may raise the risk of eating disorders, as well as anxiety, sadness, and post-traumatic stress disorder (PTSD).

Lastly, although quarantine/ confinement is necessary to stop the disease from spreading, it has a variety of negative psychological effects, including fear of infection, anxiety, rage, and boredom. Fear of COVID-19 was linked to higher food restraint, weight, and shape concerns across the board, but especially among dietician clients, according to research. People who are at a higher risk of negative psychological and social repercussions from quarantine or detention should receive additional support.

There are different types of eating disorders all of which warrant early professional help. These include:

- **Anorexia Nervosa**

Individuals are preoccupied with weight loss. They typically impose strict dietary and possibly compensatory behaviors

- **Bulimia Nervosa**

Individuals are also preoccupied with weight loss. They engage in a cycle of bingeing behaviors accompanied by a feeling of loss of control, guilt, and shame. Their weight often fluctuates, yet it may remain within a normative range.

- **Binge Eating Disorder**

Individuals engage in binge eating behavior. Unlike individuals with Bulimia Nervosa, they do not engage in compensatory behaviors.

- **Other Specified Feeding and Eating Disorders**

EATING DISORDERS TREATMENTS

Treatment methods and approaches are different from a specialist to another, from a clinic to another, and from a country to another. Some might think it's a dietician's job entirely and some might think it's a treatment for the state of mind, as one might think it's a mental illness or just a physical illness.
Lebanese people suffering from an eating disorder have always taught that what is related to food is just physical, so their first treatment intuition is to see their general family doctor or book a consult with a dietician.

The fact is, the best way of treatment for eating disorders, of-course depending on the severity a patient has reached, and on what kind or type of an eating disorder they have, is a multidisciplinary approach of treatment. The on-going research on what is best nowadays as everything changes from a day to another and everything gets modernized.

Treatment and Outreach Program for Eating Disorders (TOP-ED)

The Department of Psychiatry in the AUBMC (American University of Beirut Medical Center) has taken an initiative to establish a program dedicated to providing specialized care to patients suffering from an eating disorder, in collaboration with the Department of Clinical Nutrition, and the Department of Family Medicine at AUBMC. The program provide services which travers clinical, educational, research, and social/advocacy avenues, named "Treatment and Outreach Program for Eating Disorders (TOP-ED)".

TOP-ED's Philosophy and Mission

"In the newly established Treatment and Outreach Program for Eating Disorders (TOP-ED), we recognize the multifaceted nature of eating disorders which involve individual, familial, cultural, and

global factors. We embrace the philosophy that eating disorders are not strictly about food, body, and weight. We also adopt the viewpoint that health may be achieved at every size. Our mission is to support patients on the pathway toward long-term recovery. Through research, educational, and outreach activities, we hope to promote a better understanding of the illness, in order to create an environment conducive to prevention, early detection, and recovery."

TOP-ED Clinical Services

"Treatment and Outreach Program for Eating Disorders (TOP-ED) at AUBMC adopts a multidisciplinary approach and provides individualized patient care based on the latest advances in eating disorders research. Patients are helped to normalize their eating behavior. In order to facilitate long-term recovery, patients' coping style and comorbid issues are also addressed. Family members and/or significant others are engaged in supporting the individual in the recovery process."

The treatment and level of care meets the needs of the patient and depend on the severity of the eating disorder. Services offered include the following:

1. Assessment

• Our initial assessment is aimed at gauging eligibility for the TOP-ED.

• We assess the severity to determine the appropriate level of care.

• In cases of severe underweight and/or medical complications, a referral is made to the psychiatric inpatient unit (PIU).

• Follow up assessments are aimed at investigating the overall health needs in order to facilitate holistic care.

2. Inpatient hospitalization

During inpatient hospitalization, an eating disorders protocol

is administered as per the directives of the PIU attending psychiatrist, in consult with the Eating Disorders team.
Primary goals during inpatient hospitalization include:

• Weight restoration

• Medical stabilization

• Providing psychoeducation to individuals and families

3. Outpatient services
Patients may benefit from one or more of the following:

• Individual psychotherapy

• Group psychoeducation and psychotherapy

• Family therapy or parent support

• Nutrition, education, and therapy

• Medical and/or psychiatric follow up

GAPS & OPPORTUNITIES

The major gap was the availability of the clinic to medium and low income people, as the clinic was not affordable to them, and with the economic crisis Lebanon is going through, a lot of people have become under the poverty line which makes it impossible for them to undergo a, what is not supposed to be, "luxurious" treatment like the one offered by AUBMC.
Another gap was awareness of people to start going to psychologists, even though there were a lot of campaigns to enhance the initiative, but unfortunately not succeeding as intended.

The bright side and the opportunity I saw and took advantage from is how aware the new generation of Lebanese people about mental health, they only have an obstacle to get rid of Infront of their start of their healing journey, and that obstacle is their parent's approval, as they would see this as a societal scandal.

What if we target the young generation? What if we could treat them without the need of their parent's approval? And many other questions ran through my head and needed further investigation. Further in-people investigation.

/4 Hypothesis

4.1 Problem hypothesis

4.2 Solution hypothesis

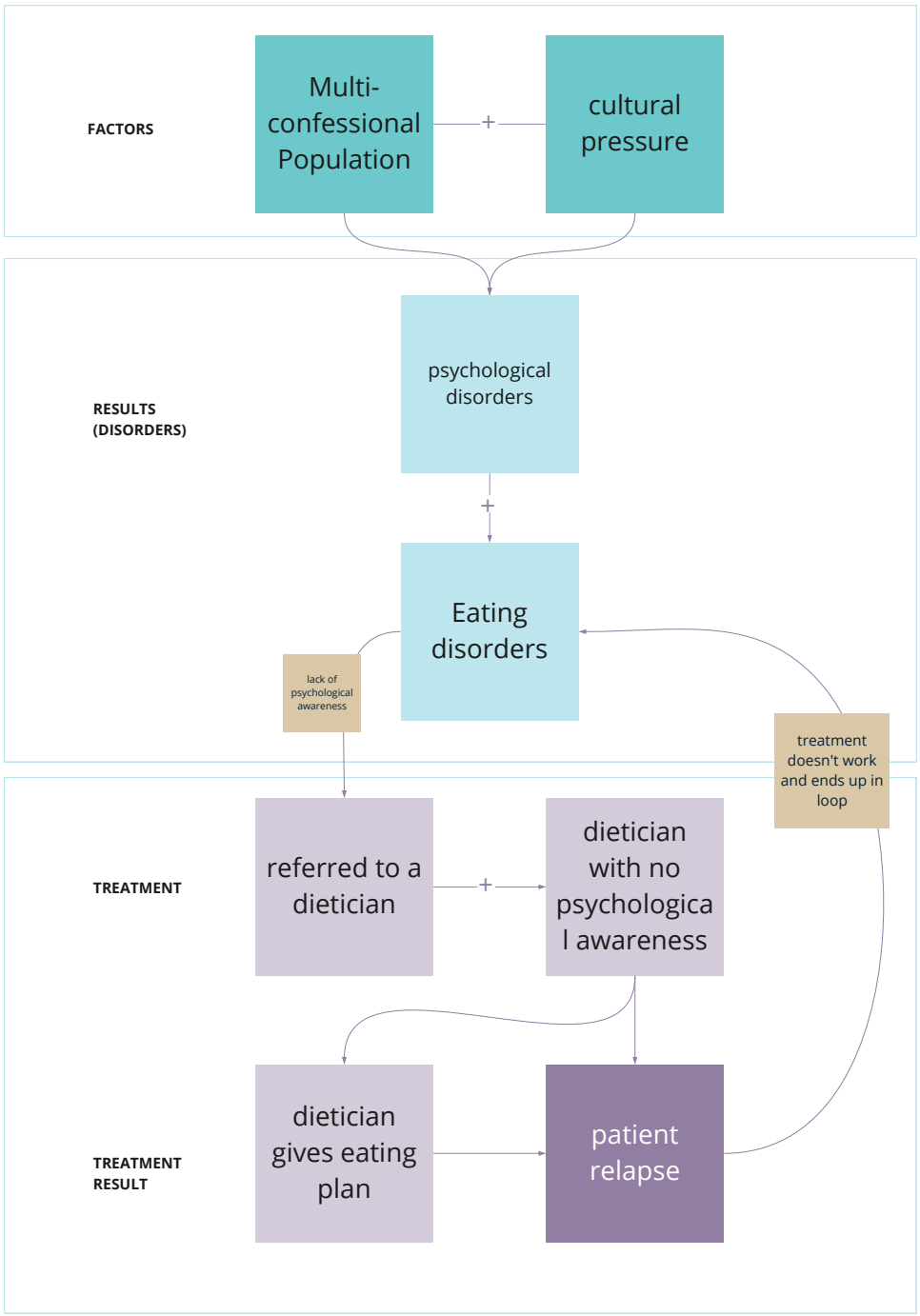


Figure 06 Thesis hypothesis problem

PROBLEM HYPOTHESIS

After researching more and digging deeper into what eating disorders are, what are their causes, why and how they were in the context of Lebanon, I created a map of where I started stating my hypothesis of the problem and loop, where should I break it and how.

I started by stating that eating disorders are a result of psychological disorders, and these psychological disorders came from many factors like the multi-confessional population of Lebanon and cultural pressure. Many other factors have been discussed earlier that causes people of Lebanon to go through mental illnesses and psychological disorders.

As for the treatment of eating disorders, the problem was that people who are suffering from an eating disorder thinks that it's a food intake problem and their entourage refers them to go and have a consult with a dietician, who in this situation, lacks from psychological awareness and education.

As the dietician treats and gives diet plans to the patient, they are not treating the roots of the issue, which results of patient relapse and repeating the loop. The patient would think that the dietician is not capable of treatment and goes to find another dietician that would go on with the same treatment, resulting in the same results of relapse.

In some cases, the dietician would recommend the patient to see a psychologist, with that recommendation a lot of patients would stop the treatment immediately thinking that they are sick because of the stigma against psychologists.
In other cases, the treatment would go in parallel from both the dietician and psychologists but without an intact communication and the patient would just get lost between both, ending up relapsing.

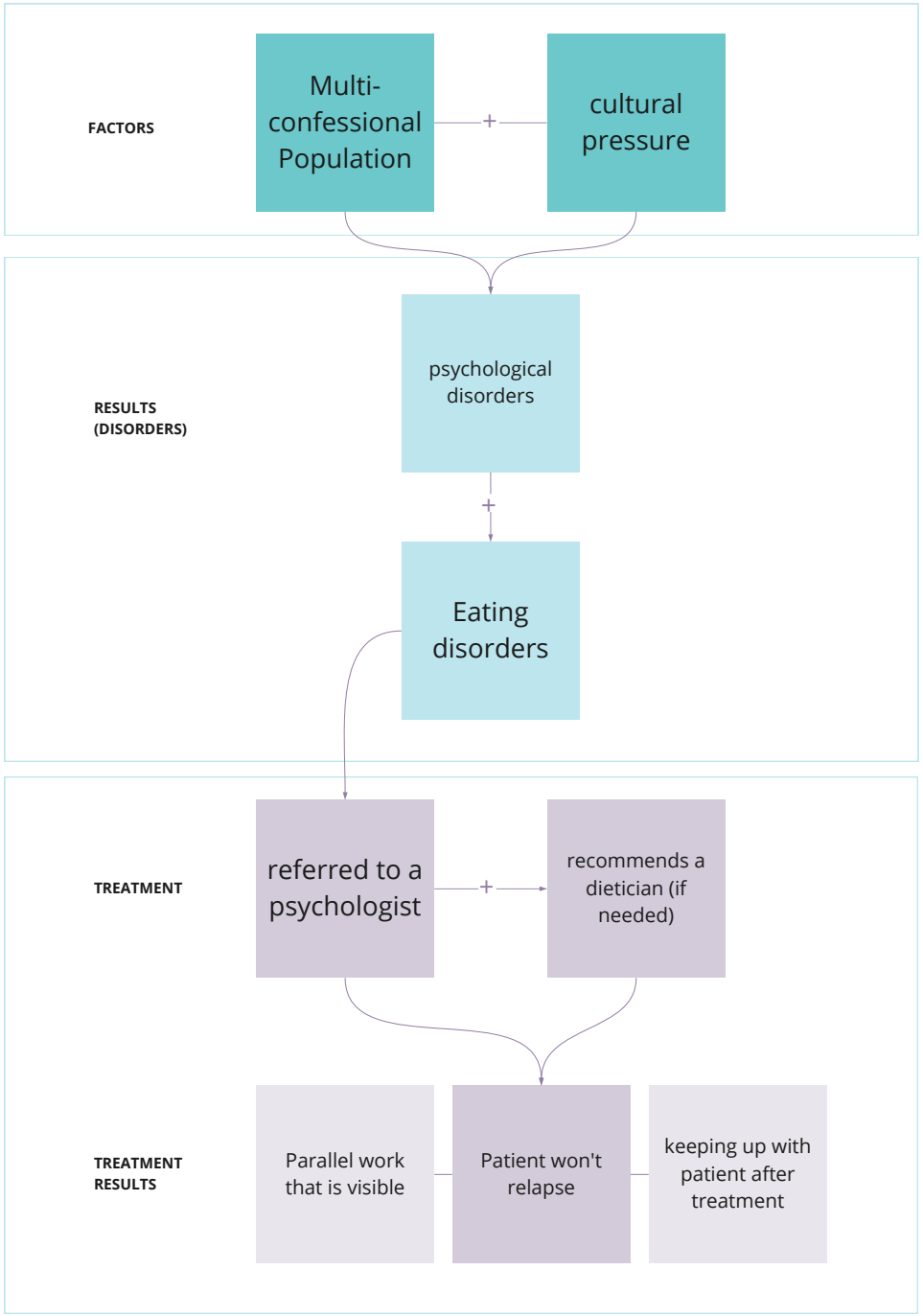


Figure 07 Thesis hypothesis solution

SOLUTION HYPOTHESIS

Finding the weak points in my problem hypothesis, going through deeper research, both desk and field research, I have found that the treatment section was the main weak point that needed to be fixed. As I have mentioned many times before, the stigma against psychologists was the main problem and issue. So, I have thought:

What if the patient was introduced to the psychologist before a dietician?
Would that make a difference?
How is it going to differ?
What happens after getting referred to psychologist?

Using these questions made me realize another weak point, which was the communication between both specialists and the need of other specialists in other fields rather than just nutrition and psychology.
I have made a hypothesis solution path that I wanted to follow and end up the treatment with a good result, a satisfied patient with no relapses.

I started the detour of my hypothesis in the treatment stage, starting by the patient getting referred to a psychologist who will treat the main psychological problem that caused the patient to suffer from an eating disorder.
The psychologist will then decide the necessity for a dietician to be included in the treatment and if so the communication should be within every step of treatment with the patient included in decisions. In this way, the patient wouldn't have an opportunity for relapse.

PART II

Project Development

/5 Context Analysis

5.1 Current situation

5.2 Current solutions (case studies)

5.3 Opportunities

CURRENT SITUATION

What is currently going on in Lebanon in order to treat eating disorders is not as effective as it should be, not to mention how time consuming it is for all specialists included, and the patient themselves, in the healing journey.

Treatments outside of Lebanon are very up-to-date and showcases modern technologies and techniques, the opposite of what Lebanon is offering their patients, from specialists' connections to patient's relapse episodes.

The next sections will showcase some of the solutions founded with their arguments of pros and cons of each both in Lebanon and the rest of the world. I would like to highlight that there were not much to find or look at in the context of Lebanon, since there is only one way of treating a patient of an eating disorder from the perspective of connections and communication. As the treatment needs to start with the psychologist and goes next, if needed, to the dietician, in Lebanon the patient seeks help from the dietician, because of the stigma against psychologists, and so the dietician ends up with just recommending a psychologist to the patient. The patient here either accepts going to a psychologist and the treatment happens in an invisible parallel or ends up not accepting the way the dietician is doing the treatment and looks for another specialists, or sometimes just quit trying. Ending up with an as-is regular therapy of recommendations and parallel invisibility.

CURRENT SOLUTIONS

Eating psychology education

NAME
Reed Courses (eating psychology coach diploma course)

PROBLEM
Some dieticians are not educated enough to face ED from a psychological POV.

VALUE
The course aims to give an overview over both Nutrition and Psychology perspective to give the full capability in treating ED patients.

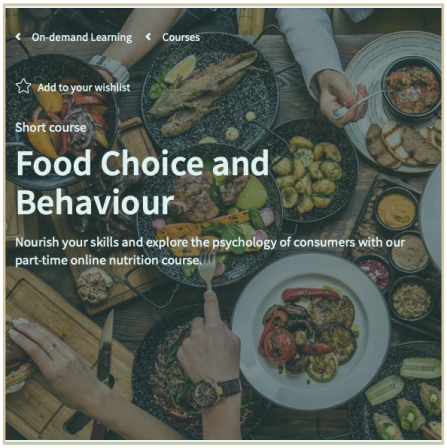
https://www.reed.co.uk/

NAME
Psychology of eating

PROBLEM
Some courses do not qualify a dietician to be an expert in eating disorders.

VALUE
The course is a 250 hour program to certify as a mind body eating coach

https://psychologyofeating.com



NAME
Online Food Choice and Behaviour short course

PROBLEM
The course is not enough to educate dieticians on the psychology field.

VALUE
A course to fill a knowledge gap and explore the psychology of eating

https://on.abdn.ac.uk/

Starting with thinking about raising awareness techniques and thinking about the beginning of the problem, I have tried finding out how can dieticians know more about psychology and what kind of education is out there, and vice-versa with psychologists and their knowledge on nutrition.
I have ended up only finding courses online about food psychology and food choice and behavior courses.
Unfortunately, the only way to waken the psychology part in a dietician is by giving them courses, and same thing with psychologists, since there should be accreditation for them to be able to use the certificate. It is not an easy choice to go with education and so I have stopped looking in that perspective.
The only thing that was an appeal and interesting for me while I was researching in that area, was the fact that these courses were to be taken online and that made me highlight that point in the part of Education for forward investigation.

Customer relationship management

NAME
NutriAdmin

PROBLEM
It is just a management tool between the patient and their dietician

VALUE
CRM for nutritionists
(All Your Data in One Place)

https://nutriadmin.com/

Eating disorder clinical therapy

NAME
Priory Group

PROBLEM
Going through ED alone/ full treatment of a clinic

VALUE
the clinic offers a range of treatments that suits every patient. From inpatient (residential), outpatient, and day care programs.

https://www.priorygroup.com/

NAME
Collaborative
nutrition counselling

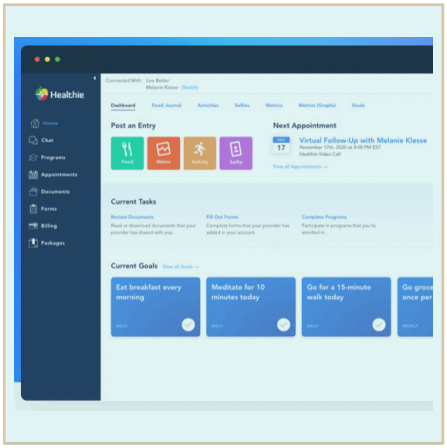
PROBLEM
treatment with a specialist in more than a field

VALUE
The counsellor is a registered dietician that is specialised in Eating disorder recovery and mental health nutrition

https://collaborative.com

The next thing I came across while searching for ways of eating disorder treatments were some customer relationship managements, which is a software for nutritionists and dieticians to store their clients data, customize their profiles, pre-build data fields, use the software for meal planning and many more CRM (customer relationship management) features. There was a lot of similar software on the web, but I could not find one that helps dieticians to be in contact with other specialists.
Another thing that caught my attention was a clinic that offers therapy just for eating disorder patients, which was the ideal therapy and treatment. Unfortunately, after digging deeper into the concept, I found out that this is just physical, and no digital versions of these clinics were found or built.
What caught my attention here is the way of having more than one specialist maintaining a patients' journey through eating disorder healing.

Collaborative Therapy



NAME
Healthie

PROBLEM
practicing through digital platforms

VALUE
the platform gives access for specialists to help in wellness practice and discovering EHR (electronic Health Records)

https://www.gethealthie.com/

NAME
MindBodyWell

PROBLEM
Treatment using a team of specialists

VALUE
Two phases that includes assessment then therapy

https://www.mindbodywell.com

NAME
Eating disorder treatment collaborative

PROBLEM
treatment with a specialist in more than a field

VALUE
Eating Disorder Treatment Collaborative (EDTC) offers comprehensive outpatient psychotherapy and nutrition counselling services

https://eatingdisordertr.com/

After finding the idea of more than a specialist collaboration for a patient of eating disorder, I have researched into collaborative therapy where I have found several treatment websites that indicate the treatment in a specialist collaborative way.
What I liked in these case studies was the fact of including more than just dieticians and psychologists in the treatment journey. Another thing that caught my attention was Healthie, which is practicing and discovering health records and treatments online, the unfortune thing here was that Healthie did not offer collaborative treatments that were accessible to the patient but was more like a portal to access data of patients.
Data storage is a good idea when including it with other features from the other case studies.
This has entered my notes when thinking of the way I want to continue my thesis research and project development.

OPPORTUNITIES

Gathering the case studies found and after analyzing what went wrong and right with each one of them, I have written some side notes on what I appreciated the most and would like to have them in my project development in later stages. To be able to know what the market needed and especially that nothing from what was in the case studies was in Lebanon, since I couldn't find digital innovative ideas in the context.

Each one of the case studies included either digital or physical implementations to treatments of eating disorder, as well as either an individual effort or collaborative effort, which is more than one specialist joined in the healing journey.

Creating a positioning map seemed the best approach to figure out the area I need to focus on for my thesis and project development. In this way I can find the window of opportunity where there isn't many cases and treatment implications and take it to my advantage to create an innovative solution.

I would like to discuss in deep every section of the positioning map, starting from the top right where all case studies were digital individual efforts, which are online sessions therapy to educational courses and education.

Going to the top left section, case studies of digital collaborative effort took place where only one case study was found in that area, and it was about specialists storing and sharing patients' data.

Jumping to the bottom right, I have highlighted this area to be physical individual efforts that is mainly regular clinical therapy, the as-is therapy discussed earlier.

The physical collaborative area was meant for all the clinics and therapy centers that offered eating disorder therapy.

My area of focus appeared then to be on both the digital and physical sections of the collaborative effort.

here begun my project development.

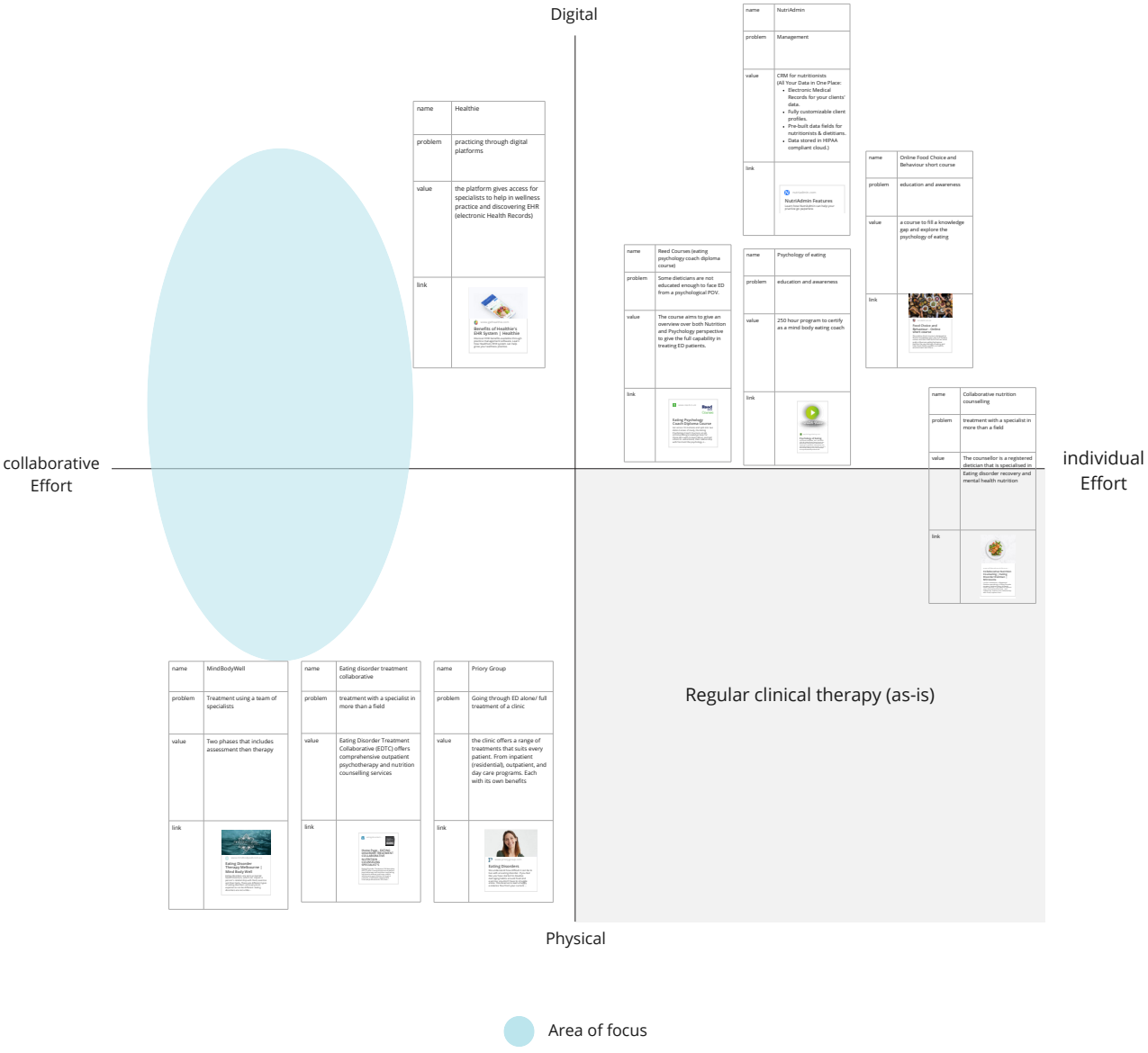


Figure 08 Opportunity and positioning map

/6 User Analysis

LEARNING PLANS

Wanting to learn more about the subject from the eyes and mouths of people that are inside of it, I have decided to set a learning plan before speaking with them.
Starting with conducting a survey to the public, to anyone who I could reach in the time I had. In order to get the best results, I designed a learning plan to know what I need to know exactly, to have accurate result.
I have divided my survey into 3 main topics: mental well-being, eating behaviors, and perceptions. Every topic was divided into 3 steps, assumptions, want to know, and investigating.

For the first topic, mental well-being, I have assumed that some people suffer from mental disorders or illness, but they are not aware of it, people are aware of their mental illness/ disorder but they don't seek help, and that people are trying their best to know what is behind their symptoms without seeking professional help. I wanted to know: Do people have symptoms that they are not aware to what it leads to? Are people who are aware of their symptoms seeking help? what are the diagnoses? what are the reasons behind not seeking professional help?
My investigating questions for this topic were: Are people getting diagnosed by professionals or their feelings are not letting them? Do they know what their mental state is?

The second topic, eating behaviors, I have assumed that some people are suffering from eating disorders without knowing it, people that are aware of the change in their eating behaviors are not seeking consultancy, and people are trying their best to know what is behind their symptoms without seeking professional help. I wanted to know Do people have symptoms that they are not aware to what it leads to? Are people who are aware of their symptoms seeking help? what are the diagnoses? what are the reasons behind not

seeking professional help?
My investigating question for this topic were: Are people getting diagnosed by professionals or their feelings are not letting them?

The third topic, perceptions, I have assumed that there are a lot of misconceptions about dieticians and psychologists/ therapists, and the biggest reason behind not consulting professionals is the older generations' perspectives. I wanted to know what are people's perspectives about professionals depending on their age? does the older generation affect the younger's attitude?
My investigating question for this topic were: Do the Lebanese population have a misconception on professionals (dieticians & psychologists/ therapists)?

Refer to figure 00.

To reduce the time of interviews for the sake of the specialists interviewed and taking their time as precious as I could, I have designed a learning research plan for the interviews too. I have designed one for every field specialist I interviewed, that made a total of two plans, one for dieticians and the other for psychologists.

I have divided every research plan into the main research questions I needed answers to, the technique I wanted to go with, effort exerted into every interview, what elapsed at that time, and the output I intended to have by the end of the interviews.

The technique was the same for both field specialists, a one-to-one semi-structured interview, with the same efforts, which were the effort of creating a script, looking for interviewees, contacting them, scheduling interviews, conducting the interviews, scripting the interviews, and in the end gathering insights.

Questions differ from the dietician interviews to psychologists' interviews, for the dietician my research questions were: how do dieticians know that their patients are suffering from eating disorders? what happens when dieticians figure that a patient are suffering from an eating disorder? how does the treatment plan of an eating disordered patient goes? and who plans it? does a dietician contact a psychologist for any kind of backup? if yes, how? how long does the treatment takes and what are the gaps and problems faced? And let a dietician describe the journey of a patient with an eating disorder from a to z.

For the psychologists my research questions were: how do psychologists know that their patients' are suffering from eating disorders? what happens when psychologist figure that a patient are suffering from an eating disorder? do they send them to a dietician? how does the treatment plan of an eating disordered patient goes? and who plans it? does a psychologist contact a dietician for any kind of backup? if yes, how? how long does the treatment takes and what are the gaps and problems faced? let a psychologist describe the journey of a patient with an eating disorder from a to z.

Refer to figure 00.

LEARNING PLAN

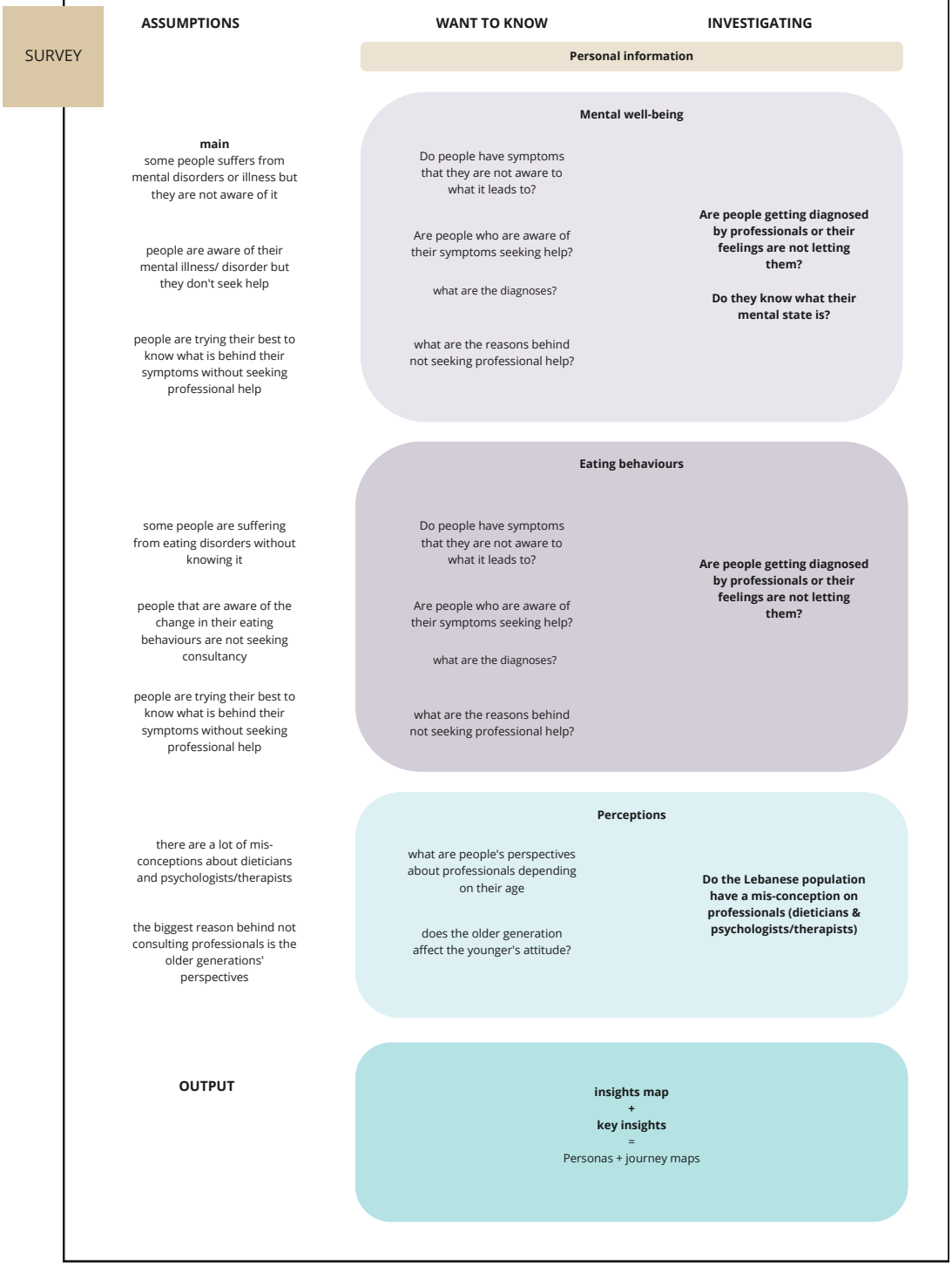


Figure 09 Learning plan for surveys

RESEARCH PLAN/ dieticians

INTERVIEWS

RESEARCH QUESTION	TECHNIQUE	EFFORT	ELAPSED	OUTPUT
how do dieticians know that their patients' are suffering from eating disorders?	One-to-one semi-structured interview	• Creating a script • Looking for interviewees • Contacting them • Scheduling interview • Conducting interview • Transcripting interview • Gathering insights Total: 40 hours	4 hours	Insights + personas & empathy maps + journey maps
what happens when dieticians figure that a patient are suffering from an eating disorder?				
how does the treatment plan of an eating disordered patient goes? and who plans it?				
does a dietician contact a psychologist for any kind of backup? if yes, how?				
how long does the treatment takes and what are the gaps and problems faced?				
let a dietician describe the journey of a patient with an eating disorder from a to z				

RESEARCH PLAN/ psychologists

INTERVIEWS

RESEARCH QUESTION	TECHNIQUE	EFFORT	ELAPSED	OUTPUT
how do psychologists know that their patients' are suffering from eating disorders?	One-to-one semi-structured interview	• Creating a script • Looking for interviewees • Contacting them • Scheduling interview • Conducting interview • Transcripting interview • Gathering insights Total: 30 hours	4 hours	Insights + personas & empathy maps + journey maps
what happens when psychologist figure that a patient are suffering from an eating disorder? do they send them to a dietician?				
how does the treatment plan of an eating disordered patient goes? and who plans it?				
does a psychologist contact a dietician for any kind of backup? if yes, how?				
how long does the treatment takes and what are the gaps and problems faced?				
let a psychologist describe the journey of a patient with an eating disorder from a to z				

Figure 10 Learning plan for interviews

SURVEY INSIGHTS

My first field research started with conducting a survey to know the people's voice and their point on both the nutrition and psychology fields in Lebanon.
The survey was divided into four main sections: Sociodemographic data, Well-being, Feelings, Eating behaviors, and Perceptions. My reason behind this division is to confirm my research questions, starting with knowing the percentage of people that are suffering from any mental illnesses without their knowing to if they were dealing with any eating disorder without their knowing too.
I have also asked some questions to know if they were ever medically diagnosed with either a mental or an eating disorder and leaving some free spaces to know their opinion about it.

The survey resulted into a sad and painful answers to read, considering the ages of the survey takers, but it was a success for me since it did prove my hypothesis about people's feelings and eating behaviors.

There were 53 responses to the survey and the results are as stated in the next pages, in details and with explanations.

Survey inspirations

I have tried to find some survey inspirations to conduct my survey in a very accurate way, since I have wanted to have an output of both mental health of survey takers and their eating behaviors.

I used measures that were proven to be effective in knowing if the person has a mental illness or an eating disorder.

For the mental wellbeing, I have used The Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS), it is a scale of seven positively worded items, with five response categories, which have been specifically designed to measure both the feeling and functioning aspects of positive mental well-being.

I have also used The Office for National Statistics' subjective well-being questions, which are a set of 4 questions with a response scale of 0-10, intended to capture what people think about their well-being. In the end of the mental wellness there is the Social Trust Question.

Refer to figure 00

The Centre for Well-being at nef's recommended well-being measures

SWEMWBS

Below are some statements about feelings and thoughts. Please choose the answer that best describes your experience of each over the last two weeks.

Statements	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future					
I've been feeling useful					
I've been feeling relaxed					
I've been dealing with problems well					
I've been thinking clearly					
I've been feeling close to other people					
I've been able to make up my mind about things					

ONS

Below are some more questions about feelings. Please give a score of 0 to 10 where 0 means extremely dissatisfied/ unhappy or not at all anxious/ worthwhile and 10 means extremely satisfied/ happy/ anxious/ worthwhile.

Questions	0	1	2	4	5	6	7	8	9	10
Overall, how satisfied are you with your life nowadays?										
Overall, how happy did you feel yesterday?										
Overall, how anxious did you feel yesterday?										
Overall, to what extent do you feel the things you do in your life are worthwhile?										

Social trust question

Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please give a score of 0 to 10, where 0 means you can't be too careful and 10 means that most people can be trusted.

Can't be too careful								Most people can be trusted		
0	1	2	3	4	5	6	7	8	9	10

Figure 11 SKEMWBS, ONS, and the Social Trust Question

For the part about the survey takers' eating behaviors, I have used the SCOFF Questionnaire, The SCOFF questionnaire (Morgan, Reid and Lacey, 1999) is a five item measure, developed to serve as a simple, easy to remember screening tool for eating disorders. The instrument was designed for use by professionals and non-professionals alike and can be used in primary health care settings. The SCOFF items were developed via focus groups with eating disordered patients and specialists in the field (Morgan et al, 1999). Questions can be administered orally or in written format (Perry et al, 2002).

Scoring:
Each "yes" response to the five yes/no questions on the SCOFF is summed for the total score. Scores of 2 or greater were originally set a cut-off point for maximum sensitivity to detect anorexia and Bulimia nervosa (Morgan et al, 1999).
A cut-off points of 3 has been suggested as the best compromise between sensitivity and specificity.

S – Do you make yourself Sick because you feel uncomfortably full?

C – Do you worry you have lost Control over how much you eat?

O – Have you recently lost more than One stone (6.35 kg) in a three-month period?

F – Do you believe yourself to be Fat when others say you are too thin?

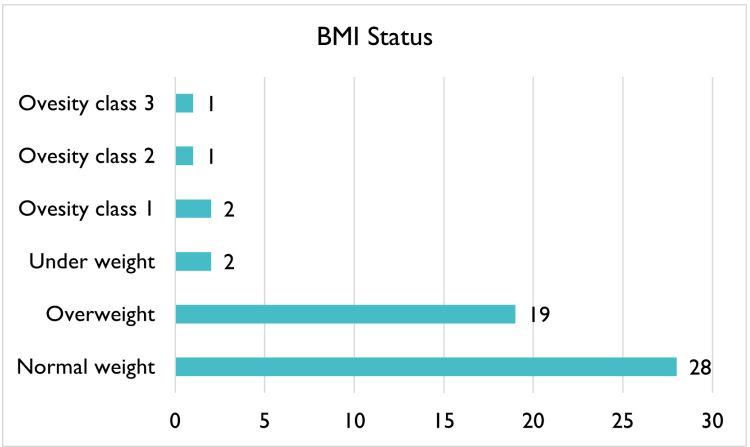
F – Would you say Food dominates your life?

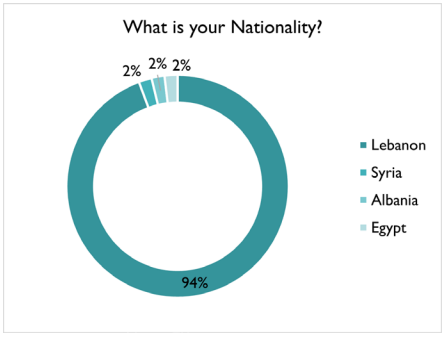
Sociodemographic Data

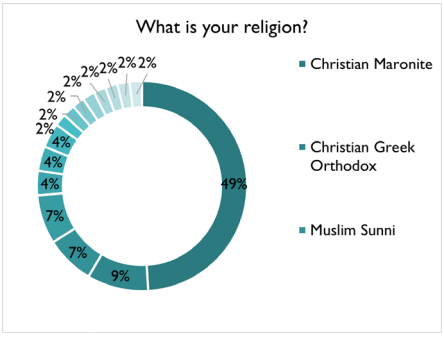
The purpose behind including a sociodemographic data intake in my survey is to know who are the people taking the survey, as it mattered to me the context they have lived in, their nationality, their age, gender, professional status, religion, civil statues, and their BMI status.

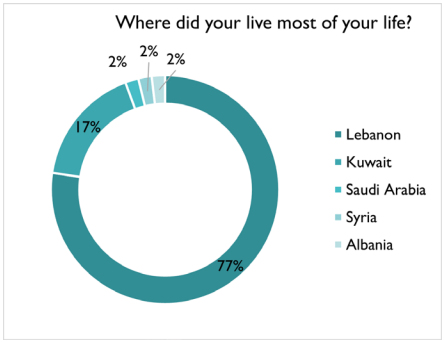
I wanted to have an authentic survey contexted in Lebanon with the majority of Lebanese takers. I achieved that as the results have shown that 94% of the survey takers are Lebanese and 77% lived most of their life there. The results also resulted that most of my survey takers were early adults from 20 to 25 years old and 25 to 30 years old. Almost equal with gender, as results shown that the female takers were slightly more than the male takers with 51% over 49%. It mattered to me to know their professional status, religion, and civil status to see if these factors impacted the fact that they would have a mental disorder.

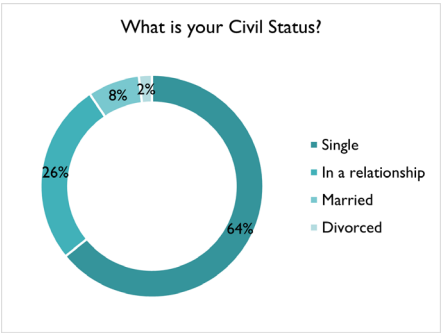
Most important intake here was calculating their BMI, I have asked about their weight and height and have calculated their BMI manually, as results showing, 28 of my survey takers out of 53 were in a normal weight, but the next majority category was overweight which stated the fact of emotional and distress binge eating.

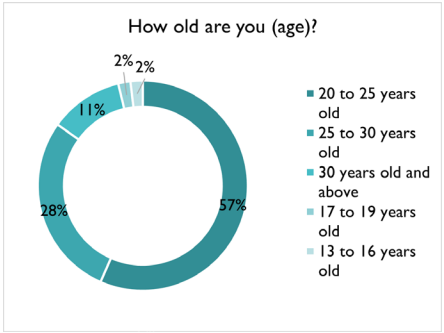


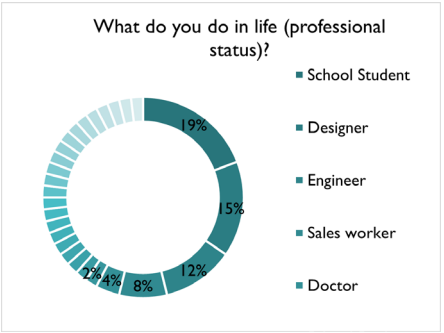

What is your Nationality?
2%
2%
2%
94%
Lebanon
Syria
Albania
Egypt

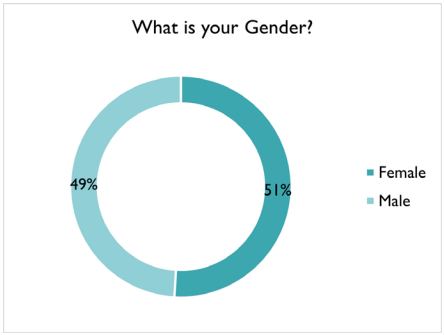

What is your religion?
49%
9%
7%
7%
4%
4%
4%
2%
2%
2%
2%
2%
2%
2%
Christian Maronite
Christian Greek Orthodox
Muslim Sunni


Where did your live most of your life?
77%
17%
2%
2%
2%
Lebanon
Kuwait
Saudi Arabia
Syria
Albania


What is your Civil Status?
64%
26%
8%
2%
Single
In a relationship
Married
Divorced


How old are you (age)?
57%
28%
11%
2%
2%
20 to 25 years old
25 to 30 years old
30 years old and above
17 to 19 years old
13 to 16 years old


What do you do in life (professional status)?
19%
15%
12%
8%
4%
2%
School Student
Designer
Engineer
Sales worker
Doctor


What is your Gender?
51%
49%
Female
Male

Well-being

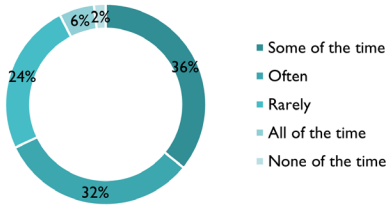
In order to be able to measure the survey's takers' state-of-mind and well-being, I followed the measuring scales that I spoke about before.
My results have turned out to be that most of my survey takers' well-being is in a good place as 36% is able to make up their minds about things some of the time and 32% often, 43% some of the time thinks clearly and 24% often does, 40% answered that they often do feel useful and 26% answered some of the time.

38% said they feel close to other people some of the time and 26% said they often do. 40% deals with problems some of the time and 34% said they often do. 38% some of the time feels optimistic about the future and 24% said they often do.

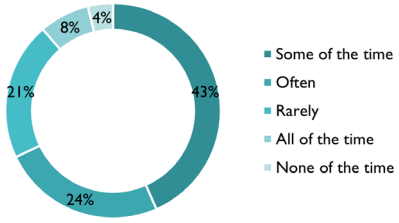
The answer "rarely" has been the third most answered option in the past mentioned categories with 24%, 21%, 15%, 24%, 19%, and 23% respectively.

Meanwhile, the answers the survey takers stated on "I've been feeling relaxed" was 38% rarely as the highest rate and in next was some of the time resulting 32%, none of the time came forth with 11% after often with 17%, the scores and results to this category shows the stress and anxiety levels the survey takers are going through.

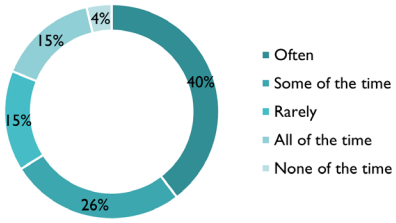
I've been able to make up my mind about things



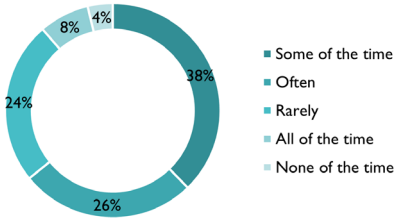
I've been thinking clearly



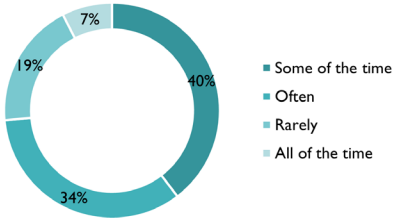
I've been feeling useful



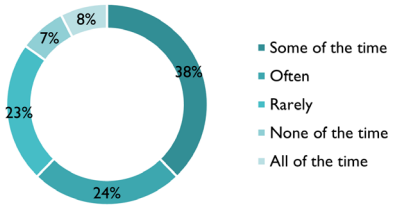
I've been feeling close to other people



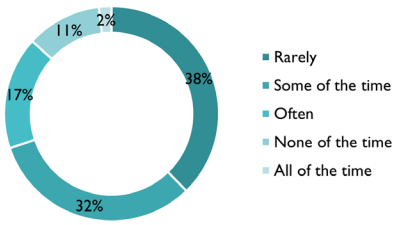
I've been dealing with problems well



I've been feeling optimistic about the future



I've been feeling relaxed



Feelings

In this part of the survey, the results should state and confirm the last question to the last part, whether they feel stress and anxiety nowadays or are more relaxed. The scale was from a 0 to 10, 0 being the lowest and 10 the highest.

For their satisfaction with their life, 14 pollsters answered 7 and 11 of them answered 8, on both scales 6 and 5 there were 7 answers on each.

11 pollsters answered chose 7 as happy they were feeling in the past few weeks, results in this category shows 8 pollsters on each 4 and 5 on the scale and 7 pollsters on each 6 and 8 on the scale.

The anxiety category shows the majority of the survey takers being anxious in the last few weeks, resulting with 8 pollsters on each scale of 7,8 and 5.

The answers on the question of "to what extent do you feel the things you do in your life are worthwhile?" were 10 on each of the scales 6 and 5, resulting a low scale.

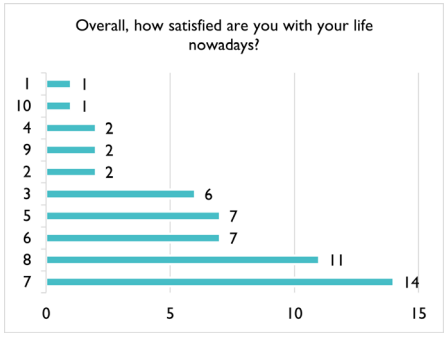
Most of the survey takers have answered a very low scale to the question that detects trust issues which was "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" scale was 0 to 10, where 0 means you can't be too careful and 10 means that most people can be trusted. The results were 11 answers on the scale 5, 10 answers on the scale 7, 9 answers on the scale 3, 8 answers on the scale 1, and 4 answers on the scale 2, which makes it a total of 42 low answers between 53 total survey takers.

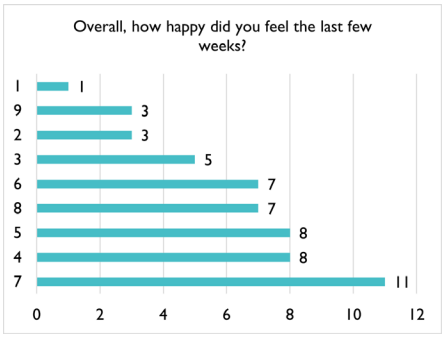
I have added questions to know if the survey takers consult a psychologist or not, 83% answered with No, as they don't, and 17% answered with a Yes, as they do. 74% of the survey takers have said that they have not been diagnosed with a psychological disorder/mental illness while 15% answered with Yes, as they have been diagnosed by a professional and 11% have answered with

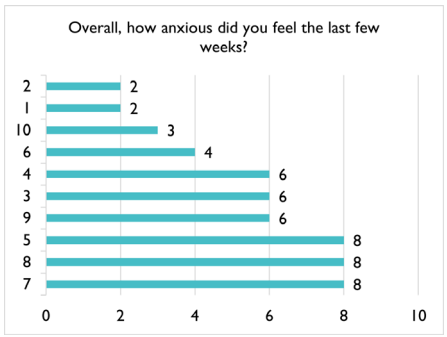
that, they have researched their own symptoms by themselves without a professional diagnosis.

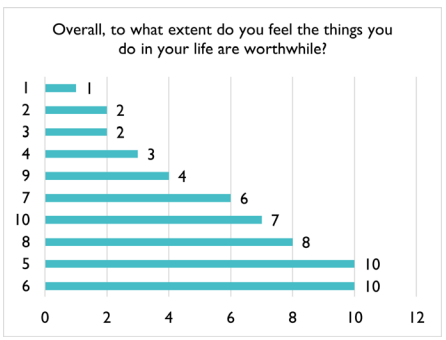
The conditions and diagnoses that were defined by the survey takers are: general anxiety (mentioned five times), depression (mentioned three time), anger issues, addictive personality, perfectionism, Obsessive-Compulsive Disorder (OCD), Post-traumatic stress disorder (PTSD), borderline personality, and trust issues.

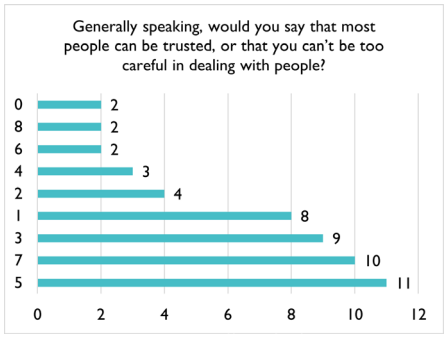
Reasons for people who answered to the question "If you are diagnosing yourself without professional help, specify reasons behind not seeking professional help?" were feeling fear (three responses), time (two responses), I can manage it myself, financial difficulties, fear of being misunderstood and misdiagnosed, did not have the chance to (two responses), a response with "I can manage it myself", a response with "I'm good", and a response with "I really have no idea why I don't go to therapy, I guess there is no reason and now I should be going".
The answers to this question shows the difficulties the survey takers are having to accept going to a therapist.


Overall, how satisfied are you with your life nowadays?
1 1
10 1
4 2
9 2
2 2
3 6
5 7
6 7
8 11
7 14
0 5 10 15

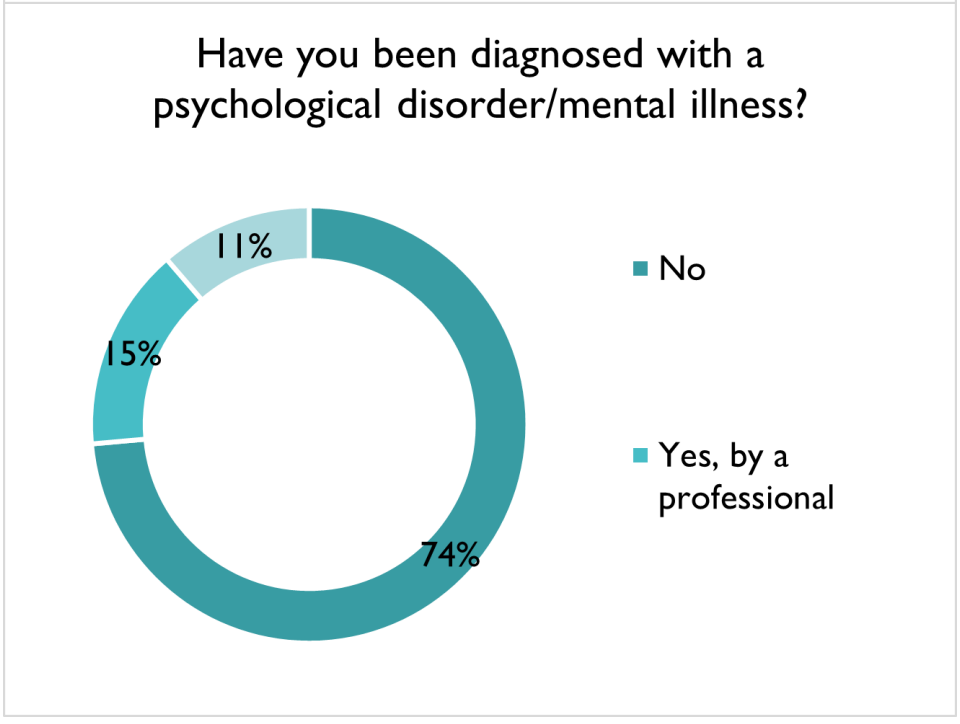

Overall, how happy did you feel the last few weeks?
1 1
9 3
2 3
3 5
6 7
8 7
5 8
4 8
7 11
0 2 4 6 8 10 12


Overall, how anxious did you feel the last few weeks?
2 2
1 2
10 3
6 4
4 6
3 6
9 6
5 8
8 8
7 8
0 2 4 6 8 10


Overall, to what extent do you feel the things you do in your life are worthwhile?
1 1
2 2
3 2
4 3
9 4
7 6
10 7
8 8
5 10
6 10
0 2 4 6 8 10 12


Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?
0 2
8 2
6 2
4 3
2 4
1 8
3 9
7 10
5 11
0 2 4 6 8 10 12


Are you consulting a psychologist/therapist?
17%
83%
No
Yes


Have you been diagnosed with a psychological disorder/mental illness?
11%
15%
74%
No
Yes, by a professional

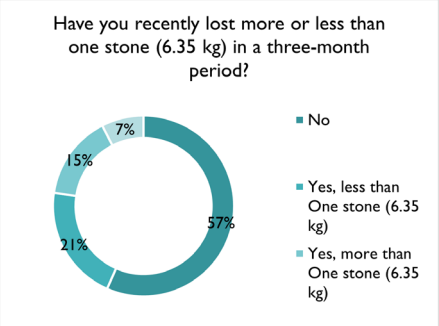
Eating Behaviours

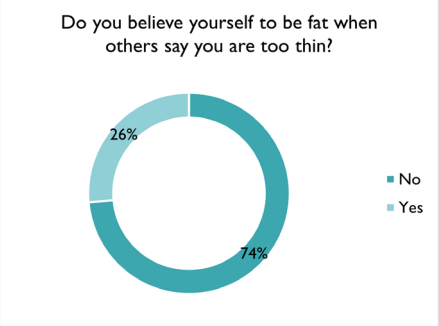
In this section of the survey, the questions are intended to find a result of either the survey takers have an eating disorder or not, and if they do know, diagnosed, or not.
The survey was made with the measurement spoke about earlier, using the SCOFF questionnaire.
S: Over the last few weeks, have made yourself SICK because you feel uncomfortably full? The majority of survey takers answered this question with a No scoring a 72%.
C: Over the last few weeks, did you worry you have lost CONTROL over how much you eat? The majority answered with a No scoring 66%.
O: Have you recently lost more or less than ONE stone (6.35 kg) in a three-month period? 57% answered with a no, 21% answer with "yes, less than one stone (6.35kg)", and 15% answered with "yes, more than one stone (6.35kg)".
F: Do you believe yourself to be FAT when others say you are too thin? 74% answered with a No, while 26% answered with a yes.
F: Would you say FOOD dominates your life? 51% answered with No, 26% answered with Maybe, and 23% answered with yes. The results to this question indicated unhealthy relationships with food.

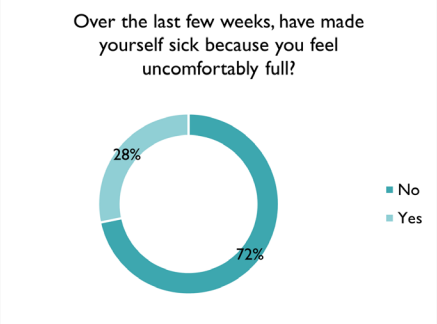
Most of the survey takers have answered No when asked if they were satisfied with their eating patterns, scoring a 51%. Most of them also answered a No when asked if they ever eat in secret, scoring 81%.

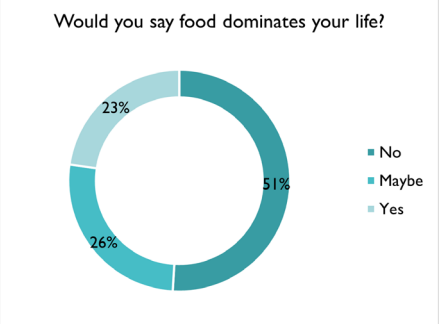
When asked if they are consulting a dietician, 91%, which is the majority, answered with a No, whilst 9% said Yes.
When asked if they have been diagnosed with an eating disorder 85% said No, 9% said "Yes, by a dietician" and when asked to specify their condition, the responses were: Binge eating (mentioned 3 times), stress eating, and Bulimia.

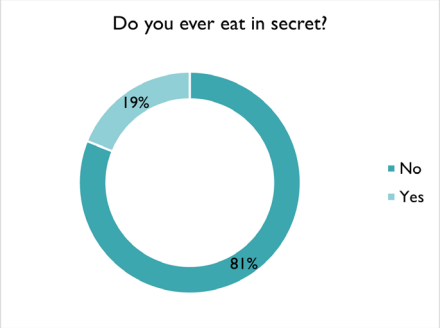
Survey takers were asked to specify the reasons behind not seeking professional help (if they were diagnosing themselves without professional help), the answers were: no time (mentioned twice), a response of "I can manage it myself", and a response of "I don't care about it. I can control myself if in any circumstances i get into any problem require to eating"

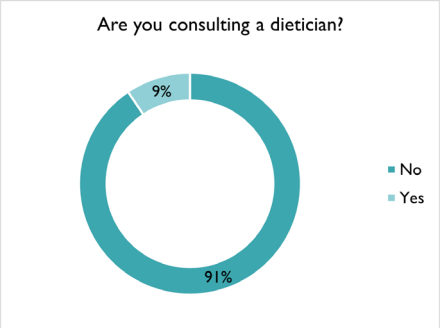


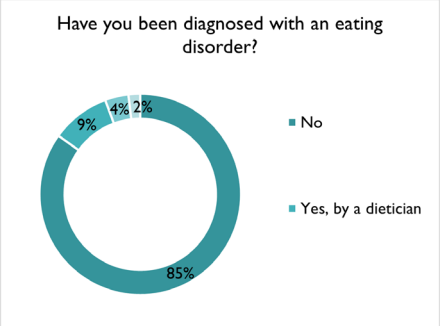












Survey takers were asked to express their opinion in a free space about how psychological and mental well-being affects a person's eating behaviors, the answers were:

"Anxiety made me eat less than what I usually eat."

"Mental-wellbeing affects eating behaviors and eating behaviors (diet too) affects mental wellbeing. Many people eat because they don't feel well, then feel bad because they overate (vicious cycle). Our society is very hard as well, they only value thin bodies, we are sent messages all the time that say "thin= good", this is harmful. We should focus on our health and strength, not looks."

"It depends on each person relationship with food :p for example I stress eat a lot and at the same time if I'm happy I eat a lot too if sad I tend to reduce how much and what I am consuming etc."

"Personally, food is a passion. I like to be introduced to new restaurants, eat good food... food is a pleasure to me but sometimes it's my go to when I'm anxious and stressed."

"They're directly related, most if the time when I get stressed or down, I go eat junk food, yet I know that I will be gaining weight which makes the situation worse"

"In my personal experience, trying to use food to overcome my stress does not work. Only makes it worse."

"I know that when I used to be sad, I would lose weight.. so I try to be sad from time to time :p"

"Personally, stress makes me lose track of my diet I just eat whatever is available"

"I believe this is related to each person differently"

"It may cause eating disorder anorexia or bulimia"

"Stress is a factor for sure"

"It's about self-esteem"

"A lot."

Perceptions

I dedicated a section in the survey for the takers to express their perspective and perception about both the nutritional and psychological fields in Lebanon.

When asked about their perspective on Dieticians and their expertise in the field of Nutrition in Lebanon, on a scale from a 0 to 5, most of answers were on both scales 3 and 4, scoring 17 responses on each, as a third highest score scored was for the scale of 2 with 10 responses.
The answers to this question stated the fact that they think that dieticians are poor-medium experts in their own field, nutrition, with a range of 2 to 4 out of 5.

When asked about perspective on Dieticians and their expertise in the field of Psychology in Lebanon, on a scale from a 0 to 5, most of answers were on perspective on Dieticians and their expertise in the field of Nutrition in Lebanon, on a scale from a 0 to 5, most of answers were on scale 2 with 17 responses, second in place comes scale 0 with 10 responses, and thirds comes in place was scale 1 with 9 answers.

The answers to this question stated the fact that they think that dieticians are not experts in the field of Psychology, with a range of 0 to 2 out of 5.

When asked about their perspective and if they think dieticians in Lebanon are qualified to address psychological eating disorders, 43% answered with Maybe, being uncertain, and 36% answered with No.

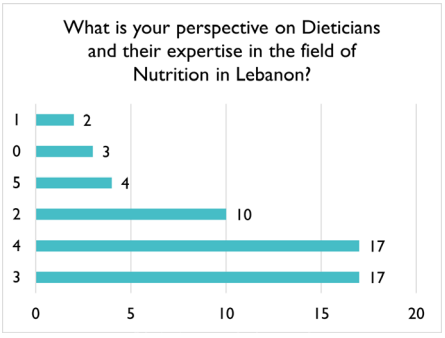
Most of the takers stated that dieticians are not qualified to address psychological eating disorders, confirming my hypothesis.

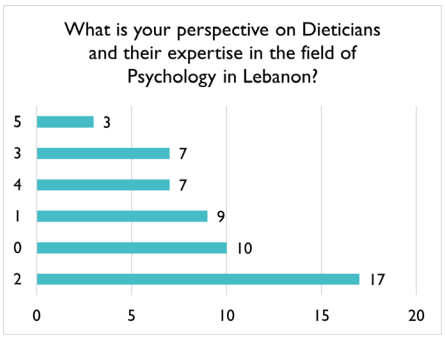
When asked if they think dietician should be in constant connection with psychologists

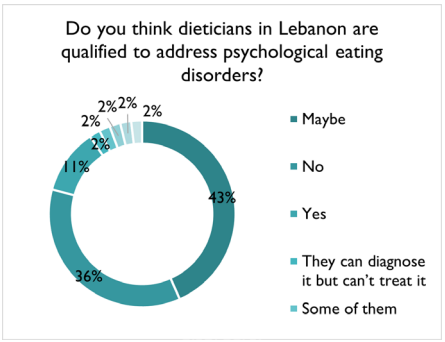
for the patient's benefits, 42 survey takers out of 53 answered with a Yes, 7 answered with Maybe, while only 4 answered with No.

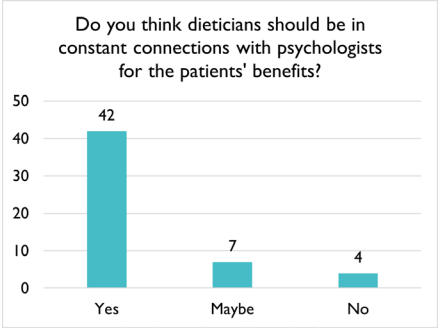
To conclude their perspective on both the nutritional and psychological fields and the connections in between them, survey takers were asked if they think dieticians are actually in good connections with psychologists in Lebanon.

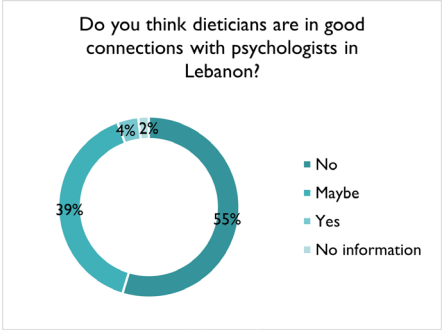
Takers answered with 55% No, 39% Maybe, 4% Yes, and 2% with a response of "no information".











The last question was an open field for the survey takers to express freely what they think about the psychological and nutritional system in Lebanon. The answers were:

"I think dietitians focus more on the calorie deficit than on the patient's mental well-being. They push them to not cheat on their diet instead of understanding their body and mind."

"Frankly, I don't trust them at all. At the end, it is another business to deal with.
Needs lots of improvements"

"Definitely requires to be updated with our community needs"

"Should be mainly enhanced through education at universities to start with"

"Due to the economic, financial, safety and many other issues in Lebanon, the mental health of the citizens is deteriorating. Most people no longer have access to healthy food and nutrients because of the lack of availability and the insane increase in prices of chicken, meat and all kinds of food"

"People should pay more attention to their behavior and their kids' behavior and eating patterns, especially in schools, the majority of adolescents suffer from anorexia, bulimia and orthorexia.."

"I have been on a diet all my life and never once a dietitian recommended for me psychological help but the last dietitian helped me realise that i have a stress eating problem"

"I think that they should make this a thing!"

"It's shit as hell"

"this is why there are now nutritionists who practise intuitive eating, those care about psychology and about how diet culture affects us"

"Psychological system is amazing since most good therapists I know are Lebanese. Where as for nutritional system, I can't really tell but the people I met were great."

"I think better cooperation should be the norm"

"I believe that a combination of psychological and nutritional support would be perfect for each individual regardless if they're facing an eating disorder or not. Same as checking up on our health we should check up on our mental health as well as how we're taking care of this body."

"They are related to each other"

"Like other Arab cultures, the Lebanese express their emotional concerns through somatic or physical complaints, as these are more socially acceptable. As a result, people suffering from common mental disorders such as depression may manifest their condition through stomach aches or migraines, making them more likely to visit their family doctor to seek treatment rather than a mental health professional. Family doctors or GPs, being unaware of the actual cause of the individual's complaint, may resort to prescribing medication which does not address underlying mental health problems."

"People feel comfort in food and when it's taken away from nutritional systems they needs psychological ppl to lead them the right way"

"Need improvement, still there are some that are really professional"

"I believe dietitians are doing a great job. Lebanese people in general they have the tendency to overeat especially in occasions like family gatherings. As for psychology lebanese are improving in this field that is to more serious approaches"

"I've seen a lot of dietitians in lebanon when I was younger (14-17), and they all gave me a very strict diet, telling me exactly what to eat and not actually teaching me how to eat or how to lead a healthy lifestyle. This led to more restrictions and then binging and gaining all the weight back. I don't think dietitians in lebanon try to find the problem or roots behind the weight gain or obesity. Since then i've lost the weight by seeing a dietician in Europe and the first session is actually 95% your background, your lifestyle, asking questions about your mental health and what lead to this point in your life"

"they just work in that field for the title of DR"

"There's not enough awareness about them"

"they should be in contact some of the times when the patient is facing difficulties or eating disorders"

"Def needs more work"

"Mental therapy can sometimes be considered as an extra service offer by a dietitian who does not have the skills to perform that activity.
On the other hand, most psychologists neglect the dietary system and its importance."

"I'd say the system is poor because professionals are mainly after how they can maximize their profit"

"The psychological system is good we have great therapists and psychiatrist but they are very expensive most of my entourage isn't able to check with someone i dont have a large experience with dietitians but i can certainly say we have a poor diet/psychological connection in lebanon out of experience"

"I have no experience whatsoever with any professionals, but I did meet psychology students and nutrition students in Lebanon as well as social media influencers in the nutrition field. I personally did not like their approach, but these are only few among a lot of specialists that could be talented"

"It is not taken in a very serious manner"

"Honestly I dont know anything about them because I dont think I will visit them in my life"

"No idea, maybe not well connected or developed"

"recently they are more aware of the cruciality to work together"

"It should be improved"

"Psychological and nutritional system is weak"

"need a push"

"Needs more to improve"

SPECIALISTS INTERVIEW INSIGHTS

After listening to what the people had to say about dieticians and psychologists, I wanted to hear from the other side, the expert one, and so, I conducted interviews with both fields' experts.
I have done in total of 10 interviews, 5 with dieticians from several backgrounds and field of application, and 5 with psychologists.
I have written a script of interview so I won't waste any expert's time, be straight to the point, and most importantly gain the most insights I can.

I will showcase the interviews in order of, scripts of every field (two in total), the interviews with insights of each.

When interviews were conducted, I have prepared a keynote to present questions easily and so they can still see each of the questions in-front of them while responding.

A consent slide (Figure 00) was shown to every interviewee before starting the interview in order to take full consent of recording the talk for educational purposes and consent of using their name and words were taken.

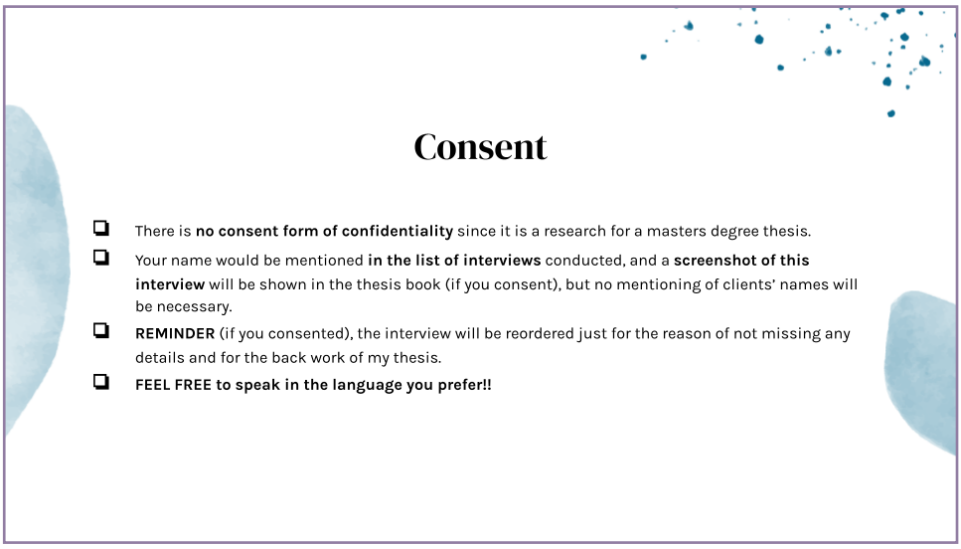


Figure 12 Consent slide from interviews keynotes

DIETICIANS

Research questions

These are the main questions the research is trying to answer

How do dieticians know that their patients' are suffering from eating disorders?

What happens when dieticians figure that a patient are suffering from an eating disorder?

Does a dietician contact a psychologist for any kind of backup? if yes, how?

How does the treatment plan of an eating disordered patient goes? and who plans it?

How long does the treatment takes and what are the gaps and problems faced?

Let a dietician describe the journey of a patient with an eating disorder from a to z

There are 4 areas of focus

1. Psychological mental health
2. Eating disorders
3. Treatment plan and strategy
4. Communication among psychologists and dieticians

Technical details

Interviews are semi-structured
Location: Google Meet/Zoom
Duration: Up to 45 minutes

Questions path

Opening
Beginning questions
Introduction to the subject
Exploring the central subject
Conclusion

Interview Script

Opening
- what is your exact title?
- how long have you been in the nutrition field?
- why did you become a dietician?

Introduction to the subject
- how much do you know about psychology?
- have you studied psychology in any way?
- have you integrated psychology in any of your treatment plans?

Exploring the central subject
- Can you tell me exactly the journey that happens when a patient with an eating disorder consults you?
- what is the connection between dieticians and psychologists in Lebanon?
- can you tell me more about treatment plans? how long do they take and who is involved?
- can you tell me about your connections? who is your surroundings and who do you deal with on a regular basis? do you usually tend to give recommendations to patients?

Conclusion
Thank you very much again for your availability and willingness to answer these questions. Your answers will help us design a service that can help creating a better communication level between the patient and the dietician by having a connection between dieticians and psychologists in Lebanon.

Lastly, are you willing or able to send your patients a survey to help me better understand their pov?

PSYCHOLOGISTS

Research questions

These are the main questions the research is trying to answer

How do psychologists know that their patients' are suffering from eating disorders?

What happens when psychologist figure that a patient are suffering from an eating disorder? do they send them to a dietician?

How does the treatment plan of an eating disordered patient goes? and who plans it?

Does a psychologist contact a dietician for any kind of backup? if yes, how?

How long does the treatment takes and what are the gaps and problems faced?

Let a psychologist describe the journey of a patient with an eating disorder from a to z

There are 4 areas of focus

1. Psychological mental health
2. Eating disorders
3. Treatment plan and strategy
4. Communication among psychologists and dieticians

Technical details

Interviews are semi-structured
Location: Google Meet/Zoom
Duration: Up to 45 minutes

Questions path

Opening
Beginning questions
Introduction to the subject
Exploring the central subject
Conclusion

Interview Script

Opening
- what is your exact title?
- how long have you been in the psychology field?
- why did you become a psychologist?

Introduction to the subject
- how much do you know about nutrition?
- have you studied nutrition in any way?
- have you integrated nutrition in any of your treatment plans?

Exploring the central subject
- Can you tell me exactly the journey that happens when a patient with an eating disorder consults you?
- what is the connection between dieticians and psychologists in Lebanon?
- can you tell me more about treatment plans? how long do they take and who is involved?
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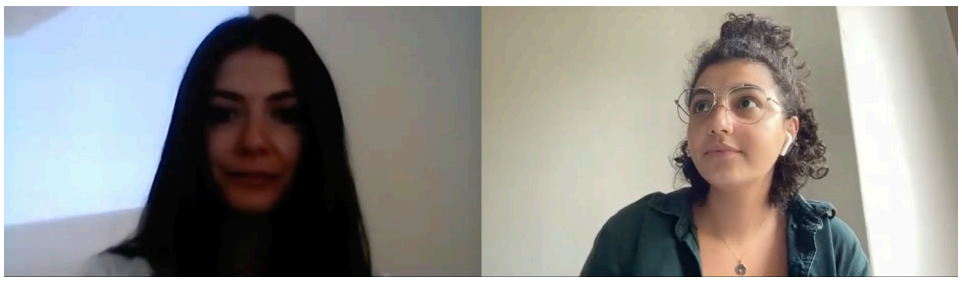
Conclusion
Thank you very much again for your availability and willingness to answer these questions. Your answers will help us design a service that can help creating a better communication level between the patient and the dietician by having a connection between dieticians and psychologists in Lebanon.

Lastly, are you willing or able to send your patients a survey to help me better understand their pov?

INTERVIEW 01 | DIETICIAN RACHELLE



Insights

- eating disorder is a multi-disciplinary work
- who is around the patient is a big influence on the treatment
- psychologists - psychiatrist - dietician is the best triangle and mix for a good treatment plan
- there is an assessment done for the patient in the beginning that includes his background, eating patterns, etc. that results in what the dietician should know (if they are suffering from a disorder or not) and they advise to see a psychologist/psychiatrist
- all patients are referred to the dietician by a psychologist/psychiatrist
- the approach of treatment changes once the dietician knows about the eating disorder, but the work of treatment goes 30/70% and in parallel between both dieticians and psychologists
- the diet centre is in collaboration with a team of psychologists (third party)
- the patient is not given an ideal plan since there is difference in the disorder

the patient is suffering from

- sometimes, if the dietician treatment plan is not working and the problem is severe the dieticians need psychological back-up to the case (hospitalised)
- there is no treatment time frame set as it depends on the patient's will
- there was no link between dieticians and psychologists but now (recently) there have been a link and a contact between them as the awareness is raised about the subject and that is a good thing (social media and etc.)
- the link is there but the way of linking them is not there, the platform is a good idea as a personal experience

ABOUT RACHELLE

christelle bedrossian diet clinic

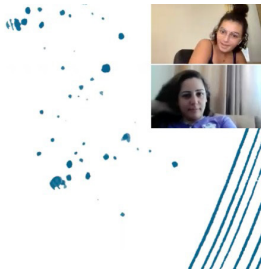
She is an assistant dietician in Christelle Bedrossian Diet Clinic.

Dietitian Christelle Bedrossian is a nutritionist and consultant trained in two fields:

The medical diet protocol for rapid and safe weight loss and the diet program for weight loss surgery nutrition.

Dietitian Christelle Bedrossian is aslo a frequent guest on various Lebanese and Arab TV and radio stations.

INTERVIEW 02 | DIETICIAN OLIVIA TURK



01

Insights

- the dietician knows that the patient is suffering from an ED depending on the person, for example kids starts crying (from my experience) -11 &13 y/o- , they get scared and it triggers them to talk about their feelings on them overweight.

- for older people the run away and they don't continue with the treatment and this is why a psychologist has to be there for them and support them (and you know how no one here in Lebanon goes to psychologists) so i need to try in a way to know their lifestyle and know what they like and dislike and i give them a diet plan

- when a dietician figures that a patient has an ED they shouldn't be their own psychologist. they should help till their limit in a way to help without pressuring the patient

- the hardest thing in the first month is that the patient continues with the treatment

- in Lebanon "there should be" a part where i need to do a medical background check and to try to cooperate with a psychologist

- a dietician can know their

medical background if the patient says or shows something, if not they can know from the women's period (it's not regular) and the shape of body shows too

- I don't contact a psychologist for backup but i talk to a friend and he's a psychologist a casual talk but sometimes i give advice to talk to a psychologist and it depends on their will, but later-on of-course i really wish and hope that the treatment goes in parallel and having both in a session

- dieticians put the plan of treatment but during it the psychologist should put his own plan but i have no clue how the cooperation happen (never happened with me before)

- as a normal person 6 months the treatment goes on but for a ED patient the treatment goes on for a year and more

- The gaps and problems faced are that the patient wouldn't have the will to continue

- the system between psychologists and dieticians is a disaster, there is no cooperation, and the media is destroying it more and more (by trends)

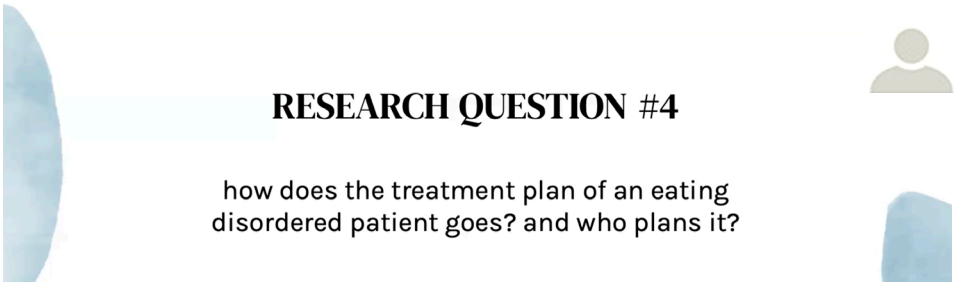
- "i feel that we are all mentally sick"

ABOUT OLIVIA

Olivia's Green scale
Dietary Consulting

Dietitian Olivia El Turk is a clinical dietitian and therapieutic nutritionist specialised in eating behavior and emotional eating

INTERVIEW 03 | DIETICIAN KAREN CORDAHI



Insights

- Needed help with a girl with an eating disorder, mentioned needing a psychologist with girl's consent.
- Signs of eating disorder: way of talking and topics they talk about: they workout too much, underweight wants to lose weight, parents' pressure, obsession with perfect diet.
- Steps after ED diagnosis: Refer to psychologist (in developed countries, not lebanon)
- Ideal scenario: psychologist in team or referral. However psychologists are seen as too much or overkill in Lebanon. You need a psychologist to help. If there is a team dietitian talks to psych, if referral then parents talk to psych.
- Timing and specific portions for type of ED (different for binge eating and anorexia for example). Treatment is for psych but meal plan by dietitian.
- Psychologists and dietitians should have parallel work (coordinated) in observing the patient (how they are feeling, weight, are they happy).
- Treatment depends on patient (6-9m usually, up to 2 years and more depending on severity)

- Focus on how a patient behaves during treatment, their behavior can affect treatment and prolong it.
- People not being treated for ED in Lebanon. Society is severely judgmental, causing ED.
- Nutritional system needs improvement, especially in the detox diet, which has become more of a business.
- People are hesitant in going to a psychologist, they think they shouldn't go because they are not sick.

ABOUT KAREN

She is an registered dietician who is freelancing in quality contol

INTERVIEW 04 | DIETICIAN SARAH

Insights

- Diagnosis of ED: Very stubborn on quantity/ quality of food. Use sport and the process of dieting as punishment not joy. They focus only on weight, not health.
- Need help from a psychologist to proceed after diagnosis of ED.
- Lebanese patients reject and do not accept getting help from psychologists, they think they are sick if they consult with a psychologist.
- Psychologists and dieticians should work as a team, working together in the clinic would be good.
- Check the relationship of the client with body, mind and food.
- Treatment depends on each case, there are gaps between patients and psychologists.
- Approach should be better studied and clients should be engaged. Dietitians alone can't do anything. Psychologists should engage clients before starting a diet, to figure out the causes of the ED (ex: bullying). Hence, resolving these problems/ traumas can help with the eating disorder. Group work

instead of 1v1 consultation.

- Social media/internet can affect a person. Seeing a psychologist should be normalized.

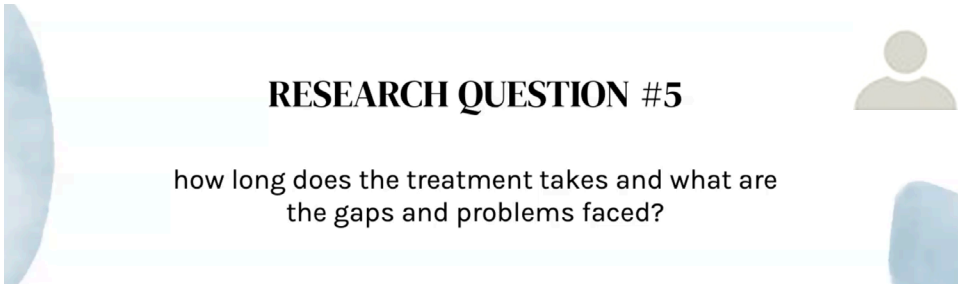
ABOUT SARAH

Sarah is a licensed dietician, she wanted to open her own clinic but couldn't because of the economical situation in Lebanon.

She started online consultations and begun through Instagram.

She believes that diets shouldn't be receptive, she believes in changing lifestyles.

INTERVIEW 05 | DIETICIAN REINE



Insights

- Looks at eating behaviors, looks at deficiency or signs of malnutrition. Body composition test.
- First step is to refer to a psychologist, can't work with patients if not psychologically treated. Gives nutrition guidelines but doesn't go in details. Helps with putting on right track. Usually she would give choices of psychologists from the center. But she needs to convince patient to seek psychologists before referring them.
- Age range affects the patient's decision to seek treatment, older lebanese population rarely accepts it.
- There is contact with psychologist, might supply the eating report to give the psychologist full details. Also, necessary contact is necessary from psych to dietitian to simplify the dietitian's work. Contact usually is through phone or visit.
- Plan is divided between the two and works parallel together.
- Every case differs for duration but minimum is on

average 6 months. Gaps and problems include not liking psychologist or too costly, not wanting to accept patient has psychological issues. Also, problems might occur from psychologist side if they are not qualified enough to treat patients with ED. Parental support is important and often missing when it comes to who is motivating patient at home and preparing the food.

- Sometimes miscommunication and missing information can occur in the contact between dietitian and psychologist.

ABOUT REINE

Specialized in diabetes care, 2-3 years experience, not connected to psychology (no information), no proper education in psychology.

INTERVIEW 06 | PSYCHOLOGIST GEORGES

Insights

- in psychology there is limits as we work on mental health, everything physiology we don't work on it (out of limits) because we didn't study it and we didn't work on it
- so as bulimia, anorexia, and binge eating is out of our limits and we refer a dietician
- the relationship between dieticians, psychologists, and patients is a very good triangle and efficient
- as a disorder, we of-course have a cause for it (a factor) maybe bullying, a trauma, etc.
- we look for the factor and pathology that caused the disorder before referring to the dietician, and sometimes we don't refer to dieticians since we can work on the factor as therapy
- for example a patient with bulimia asks the psychologist what can she/he eat and that's why the patient should be referred to a dietician
- the contact happens with the dietician (the dietician is the psychologist's friend) through a phone call and usually we tell the patient and ask for consent to see a dietician.
- I don't have a dietician list to go through for contacting
- I ask the patient if she/he would like a dietician to intervene (if she said yes we go through it, if no the patient care about fixing what's casing the disorder like trauma as an example)
- solving the trauma of a person can solve the disorder in consequence
- sometimes the patient asks for a dietician to intervene

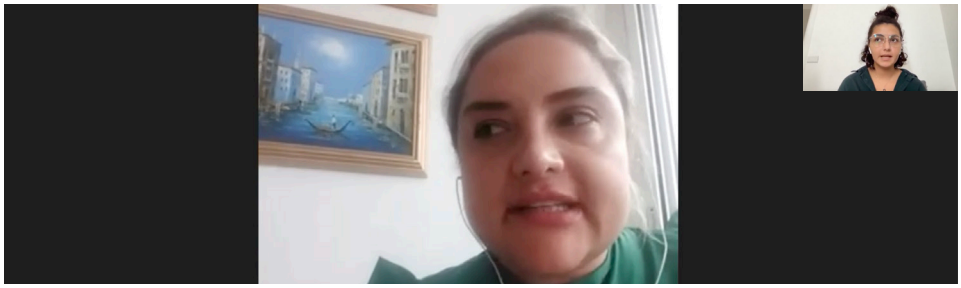
- some people avoid admitting that they have an eating disorder because of the stigma

- "there is a very big stigma in Lebanon about the eating disorder topic"

ABOUT GEROGES

Georges works as a psychologist in the prison of Roumieh in Lebanon

INTERVIEW 07 | PSY CLAUDIA NEHME



Insights

- eating disorders concern women more than men
- the main cause of eating disorders is in between daughters and mothers (psychoanalysis approach)
- there's something in the family between parents and siblings going on and there is a weakness point that the family is suffering from that can cause eating disorders to happen (systematic approach) and its a msg that the person is not fine and the system of the family is not fine.
- The father doesn't have his place in the family and the bond between the mother and daughter is not cut and that might be a trigger to eating disorders
- other factors are genetic, or it might be in the family
- (psychiatric approach) says that this might be that the person is melancholic and is not aware of what is going on around her
- between all the approaches no one has ever found the actual main reason behind eating disorders
- the structure of the personality could be a cause and sometimes its just a phase that might or might not pass and the person ends up dying
- The perception of the body, and a distorted body image

affects as well.
- Some people get eating disorders because of that they don't express their feelings and it shows in their body
- there are levels of severity for anorexia
- these eating disorders are scary because they are a matter of life and death
- the most important thing to happen when a person is suffering from an ED is that the parents notice that she/he is going through this phase (especially during puberty and teen years)
- models that are very skinny and social media are a huge impact on teenagers that will lead to go to a strict diet without the supervision of a dietician
- the bullying factor at school, sexual abuse triggers bulimia and anorexia
- the history of the person is very important to take into consideration
- therapy with someone that is suffering from eating disorder is not easy and it's a long path
- in Lebanon, there are a few anorexia cases but the trend is bulimia and there is a lot of binge eating due to stress (lockdown, covid, financial crisis, lack or water & electricity, lack of bread, oil, Beirut blast, explosions..etc)
- there is no access to gyms and sports and they go on a yoyo diet
- something is not fine and there is depression so in the beginning we do an inventory of depression to see the amount of depression
- it is always psychological behind the ED, unless it is a physical issue
- anorexic people are in denial and does not ask for help, not even from dieticians
- patients that are anorexic someone sent them to the psychologist (like a friend at school, etc..)
- parents usually realises when it's too late (dangerous level)
- bulimic people usually goes to dieticians and sometimes it works but other times it doesn't
- the cooperation between dieticians and psychologists

in Lebanon is still not working well yet
- after 15 years of experience, and i did my thesis and masters degree on ED
- and I think they (dieticians & psychologists) are still -i don't want to generalise) and i have people that i met and worked with that are good but there is no good confidence.
- the whole "circle" works when the patient is hospitalised or if there is a centre that is made for people that are suffering from ED.
- the centre does not exist in Lebanon and some people tried to do it but it failed, it failed for the reasons of a lot of factors as its in-between taboo and not taboo. It wasn't organised well and you can find these centred outside of Lebanon that are working well.
- I think in these circumstances, a centre like that should exist as all people in Lebanon are suffering and tired.
- I don't know if it will work because of the financial resources and others or to raise awareness
- if there is a centre that completes the whole treatment is the best approach to the cases
- in the centre there should be the dietician and a psychologist (they could be together in the session)
- when the client comes to a psychologist and gets referred to a dietician and the opposite is negative
- stakeholders in an ideal centre: music/art therapy because we're talking about expressing themselves and it could be in being creative / group therapy as an activity / general med / psychiatrist / cooking classes / yoga classes .. etc.
- a centre that is faraway from parents (and i insist) as they are unfortunately the main stress factors
- a person to feel a connection with their body has to be alone and going through it all alone
- Gaps between dieticians & psychologists is there is

no connection that makes them work together in parallel and the plan is not organised
- obstacles could come from the parents and the surroundings of the person / and financial issues
- the centre should not be in a hospital / perception issues

ABOUT CLAUDIA

Licensed Psychologist-Psychotherapist: CBT - DBT-PTSD therapist- Accredited Trainer - Psychology teacher

Member of the American Psychological Association (USA) & Licensed Psychologist MoHealth License 15 juin 2021 (Lebanon)

Overall experience: 15 years

University Studies
- PhD studies in Clinical psychology and Psychopathology at Université de Lyon 2 Lumière France 2012-2017 , Jules Vernes Picardie 2021-

Work experience
- Private Practice - Beirut, Lebanon
- Online Counseling- DRAPP
- Group Trainer

INTERVIEW 08 | PSY CHRISTINA RIACHI

Insights

- The clinic is officially drained as they are working 16 hours+ during the crisis
- people are much more accepting and understanding when is comes to therapy nowadays, there are still people that believes that people that goes to therapy are crazy people but this has changed so much recently (in the last 1 to 2 years) and people are much more aware of mental health especially after the crisis that Lebanon is going through
- what happens is that: when we do an assessment we find out that the person is dealing with an eating disorder, and there are standardised questions we ask the patient as well
- when we know that the person has eating disorder, we define what type of eating disorder it is (bulimia, anorexia, etc.) after that we know what type it is we discuss with the patient the treatment plan and of-course we have collaborations with dieticians so we can't just work purely psychology without dieticians as they work on the quality of the food (we need their expertise in that field) but we work on the commitment and behaviour to stick to therapy and the thoughts that is leading to certain behaviours, and dieticians also

work on choosing the kinds of food and these other details

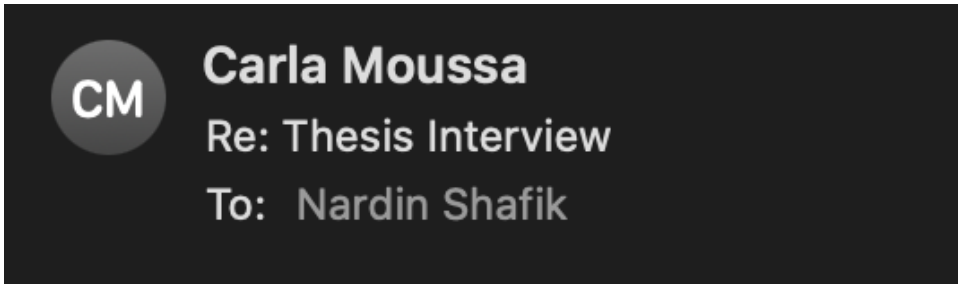
- for eating disorders, psychologists plan the treatment, and dieticians shouldn't plan sense they work on the consequences and not the behaviour, and you can not work on the consequences without working on the cause. because even if they work with the dietician and they become better, the relapse percentage is so high, so we are the ones who set the treatment plan according to the case. For example: bulimia, we need from 15 to 20 sessions and they are very structured sessions.
- we don't talk to dieticians for back-up but we do collaborations and the patient talks to the dietician directly, if the dietician had any warning signs she/he talks to us directly
- the treatment plan timeline depends on the patient and cases but usually from 16 to 20 months, the anorexic cases needs more
- gaps faced are mainly patients motivation, if the patient is not motivated to do any kind of therapy it would fail and eating disorders are harder when it comes to treatment, as successful rates for CBT therapy (which is the most successful) is not that high (around 35% for anorexia, 55% for bulimia, and more than 99% for binge eating). given that this is the best form of therapy the numbers and success rates are bad and not high.

ABOUT CHRISTINA

Christina owns a clinic with the name of Brainstation for psychotherapy & professional training.

Brainstation is a comprehensive psychological treatment and professional training institute.

INTERVIEW 09 | PSY CARLA MOUSSA



Insights

Psychology/therapy in the eyes of the Lebanese population

- Thanks to its empirical research methodology, its techniques and experiments, psychology has long ago been established as a science. Yet the majority of the Lebanese population still regards psychotherapy as a taboo subject, as a pseudoscience. This particular society does not view it as a necessity and does not take it seriously. As proof of that, the adjectives 'crazy' and 'insane' are the most commonly used in describing mental patients.

Mental illness is perceived as something to be ashamed of, something to be hidden and never talked about. People with mental illnesses are considered weak by the general population and are judged and marginalized. Suicide rates increase by the day because of the oppression, and mental health awareness is not part of any school curriculum.

How therapists know that patients are suffering from eating disorders

- Therapists have spent several years studying human behaviours, and part of these behaviours are eating disorders. It is a pattern we learn to identify quickly for it can pose risk to the patient's life.
- Just like any disorder it has its own set of symptoms, emotional, behavioural and physical. In general, behaviours and attitudes that indicate that weight loss, dieting, preoccupation with weight, food, and calories, refusal to eat certain foods, skipping meals, withdrawal from going out with friends and participating in activities. All of that is accompanied by an extreme concern with body size and shape, extreme mood swings, noticeable fluctuations in weight, both up and down, amenorrhea, difficulty concentrating, dizziness, and fainting, feeling cold all the time...

What happens when therapists figure that a patient has an ED

- Like any other treatment plan, treating an ED has to be multidisciplinary. That involves a therapist for talk therapy, a psychiatrist for medications, a general physician for overall health and a registered dietician for an adequate meal plan to prevent a relapse.
- Treatment plan of an ED patient and who plans it:
- The immediate goal of a treatment plan is to get the patient out of physical danger, and that comes by treating the physical complications which sometimes require hospitalization. Then comes the psychological treatment which is the most important component of an ED recovery. It could be centred around cognitive behavioural therapy, family based therapy, group therapy, or psychoanalysis. Along with this comes the nutritional education where a registered dietician can help the patient have a better understanding of their

disorder and help develop a healthy meal plan to regain full health and build a healthy relationship with food.

Does a therapist contact a dietician for backup?

- As previously mentioned, a therapist cannot work alone in the treatment of an ED. A therapist requires the help of other professionals to ensure the wellbeing of the patient, which is always the end goal. A dietician is one of those professionals that therapists reach for when they are presented with a case of an ED.

How long does the treatment take and the problems faced

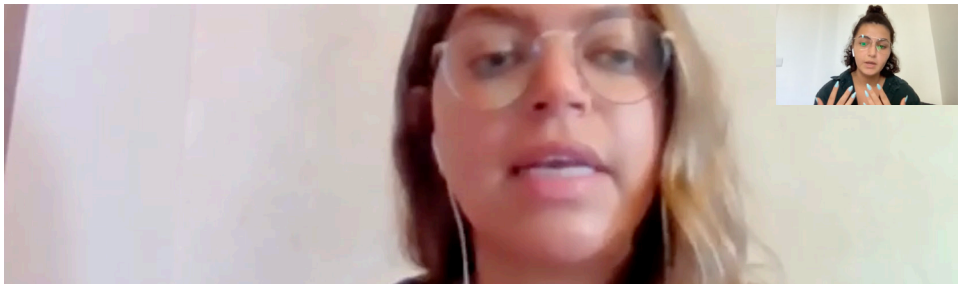
- Therapy can last from a few months to a few years. Eating disorders are not easy on the patient especially if they were hospitalized, therefore are not the easiest to overcome when it comes to mental illness. But the success rates are high.

The main problems patients face are relapses. As mentioned, EDs are very challenging and can take their toll on the patient, sometimes they slip and end up right where they started, on the edge of starvation. This is why it is incredibly important to always have a multidisciplinary team ready for action, to prevent such relapses.

ABOUT CARLA

Carla Mossa is a clinical psychologist graduated from the Lebanese University

INTERVIEW 10 | DIETICIAN JOANNA JLEILATY



I n s i g h t s

- A psychologist will eventually need the help of a dietitian for treating eating disorders. There should be a communication between the two to treat ED.

- When there is a recovery mindset (patient is stable), the patient can suggest if they want to continue with a dietitian. But not all dietitians can properly treat ED in case they don't have the right terminologies, communication skills to assess and process with people with ED. Refer to specialized dietitians that might not trigger the ED behaviors of the client. Referrals are gained through experience, meetings and connections.

- Joint effort with people with the same objective, people first not to take it as a business.

- Topic is stigmatized in Lebanese culture, no one truly understands ED. People go to dietitians first because of lack of psychological awareness. If Dietitian's ethics are good, they should refer to specialized therapists to diagnose and follow up patients.

- Follow-up and updates with therapist happens by dietitian contacting therapist to join consulting session with client to accommodate their needs in a better way.

- People who suffer from anorexia require nutrition counseling that accompanies them because their mind cannot function properly because of the very low food intake. This is the case when bmi is extremely low. Other than that the journey would include psychological intervention with the assistance of dietitian at the same time on a weekly basis.

- Sometimes psychiatrists can assist by giving medication to regulate emotions. Sometimes personal trainers can help to improve body image, but they should be specialized for EDs.

- Less often gynecologists might assist with very underweight women to regulate menstrual cycle.

ABOUT JOANNA

Joanna Jleilaty
Expert in Eating Behaviors and Disorders

Expert in Eating Behaviors & Disorders- Founder of RecoverlyEverAfter- Eating Disorders & Obesity Master Practitioner- Certified Master NLP- Certified Master CBT- ACT Practitioner- DBT Practitioner- FBT Therapist- Intuitive & Mindful Eating Specialist

CHAPTER SUMMARY

In this chapter, a lot of insights were gathered and compared with the research part. Both are equally adequate to prove the hypothesis solution and problem stated in previous chapters.

Both quantitative and qualitative were collected and analyzed with the aim to understand, observe, and interact with people in their natural setting. Results in this chapter, both from surveys and interviews were mapped out and divided into sections to better understand the theme and scenario the thesis was going with.

The categories were divided as: treatment, indicating all insights that spoke about the treatment phase, assessment, concerning feedback and insights gathered about the assessments both dieticians and psychologists does before starting with the treatment journey, referrals, that states the insights gathered on how every dietician is referring the patient to a psychologist or vice-versa, fields, where it states holistic insights about both fields of nutrition and psychology, surroundings or patient's perspective, showcasing insights that spoke about the way the patient is being affected by their surroundings and their own feelings and impacts, qualifications, to know more if every specialists is qualified to do the other's part, obstacles, indicating the obstacles emerged now and to avoid them during concept development, and needs, indicating the basic and deep needs of both patients and specialists.

/7 Concept Development

SCENARIO

And as I touched my skin

I realized

This is the body I will be in

This is my home

- *Take care of your home*

Figure 13 Eating disorder recovery poem by unkown

The city and society have changed their outlook, they have changed their perspective from which things are seen and the perspective on how to deal with problems and issues faced. The mental well-being is considered one of the most important health issues, the new generation have widened and opened the people's eyes and made it clear that they need the psychological help, that everybody needs it.
Following this purpose, a large part of their power is conferred to all those categories considered socially fragile, which can now act in their own good, making decisions on the future development of the city.
To make treatment accessible to everyone, many pillars on which the society lived in is based, from strict parents to fear of speaking, from economic crisis to self-esteem crisis, have been simplified. The steps taken into treatment, the journey of healing is now easier than ever, available, and reachable by anyone, no matter the circumstances.

PERSONAS

After analysis the people and specialists, the clear image of a patient persona came through.

A persona of an eating disorder is usually very empathetic to everyone else but her own self, the persona I have chosen is living under the roof of strict parents where her dreams are not reachable as easy as a child living with easy-going parents.

The patient persona, Maria, is very conscious about her own health and mental well-being, as the new generation is open to the fact of consulting a psychologist and a dietician more than the older generation would ever be.

A Lebanese dietician persona has a bit of a stereotype where they always consider opening a clinic after getting their accreditation and license of practice.
Our persona dietician, Olivia, has some background in psychology since she likes exploring into it more and help clients that have food intake issues and problems because of their psychological and mental health.

Our last persona, the psychologist, is very empathetic and conscious towards the future and his clients. He, Elias, has a very soft spot for young people that are dealing with problems and complicated stories.
He always tries to spread awareness about mental health and the importance of talking to a psychologist, and he keeps trying to connect with other specialists in the country and outside to maintain and advance his level of expertise and connections.

Maria Abboud

BIO
21 y.o
Lebanese
Living in Akkar (North of Lebanon)
family social class: low-medium

Maria is an only child of a very closed family that lives in a village far north of Lebanon. Her father works as an accountant and her mother is a stay-at-home wife. Maria is attending her second year in the university as to become a Veterinarian. She is a very ambitious girl that likes to try new stuff and loves adventures. She likes going out with her friends as well as staying home alone to watch series and movies, and to take care of her plants. Maria is very conscious about everything, including herself and her body and she always pay attention on what and when she eats.

DIMENSIONS

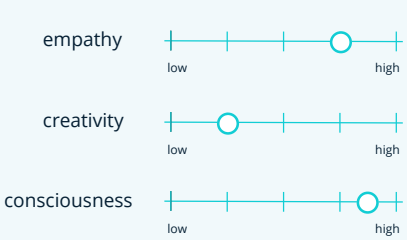


Figure 14 Persona of a patient

"I know what is wrong with me but i'm scared of letting people know, especially my parents"

GOALS

- Become a veterinary
- See progress of the growth of her plants
- To have a routine in her life
- Healthier lifestyle
- Get out of the country to continue with higher education
- Travel around the world

NEEDS

- To train her voice more, she likes singing
- To spend more time with her father as he's always working
- To move out of her family's house to feel more independent

FRUSTRATIONS

- Not being able to regulate her lifestyle concerning food and working-out
- Not being able to find a trusted person to share with her life steps
- Not being independent enough to seek for the help she wants and needs

Olivia Turk

BIO
32 y.o
Lebanese
Living in Nehme (South of Lebanon)
family social class: medium

Olivia is a registered dietician that studied nutrition late in her twenties, she started her career in Nutrition since she really loves it and relates herself to it very much. She has studied psychology in eating as well during her years of degree because of her own interests in the subject. Olivia believes that every dietician should know at least a bit of psychology in order to treat the patients well and that it is the base of everything. She started her own clinic since 2 years and she is giving her full attention and time to it since.

DIMENSIONS

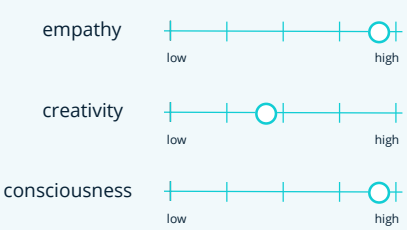


Figure 15 Persona of a dietician

"I try to know as much as I can about psychology but I can't be half a specialist in psychology"

GOALS

- Become a well-known dietician in Lebanon
- Get out of the country to to treat abroad patients
- To have patients from around Lebanon
- To collaborate more with other specialists in the country
- Travel around the world
- Learn more about psychology and never ending her education levels

NEEDS

- To train her voice more, she likes singing
- To spend more time with her father as he's always working
- To move out of her family's house to feel more independent

FRUSTRATIONS

- Feeling that Lebanon is limiting her career to a certain point
- Not being able to give her 100% in online sessions
- Not being able to help those in real need of help

Elias Hakim

BIO
34 y.o
Lebanese
Living in Jounieh (Mount of Lebanon)
family social class: high

Elias is a psychologist who likes to help young people with various stories. For him, those young people are important and has to be successful. Therefore, he concerns a lot about them. Knowing that there are still a lot of the Lebanese population who are not educated about mental health, makes him want to help those who are buried under the stigma. Elias is also very passionate in helping people that are suffering from Eating disorders and traumatic experiences that led to it so they can live a better life and a healthier lifestyle.

DIMENSIONS

Figure 16 Persona of a psychologist

"Mental illness is perceived as something to be ashamed of, something to be hidden and never talked about."

GOALS

- Become a well-known psychologist in Lebanon
- Get out of the country to to treat abroad patients
- To have patients from around Lebanon
- To collaborate more with other specialists in the country
- Specialise in traumatic experiences and eating disorders
- Raise awareness about psychology in Lebanon

NEEDS

- To maintain his own mental and physical health
- To spend more time in giving mental health awareness
- To get to know more people and connections in the field

FRUSTRATIONS

- Lebanon is limiting his career because of the stigma on psychology
- Not being able to give his 100% in online sessions
- Not being able to help those in real need of help

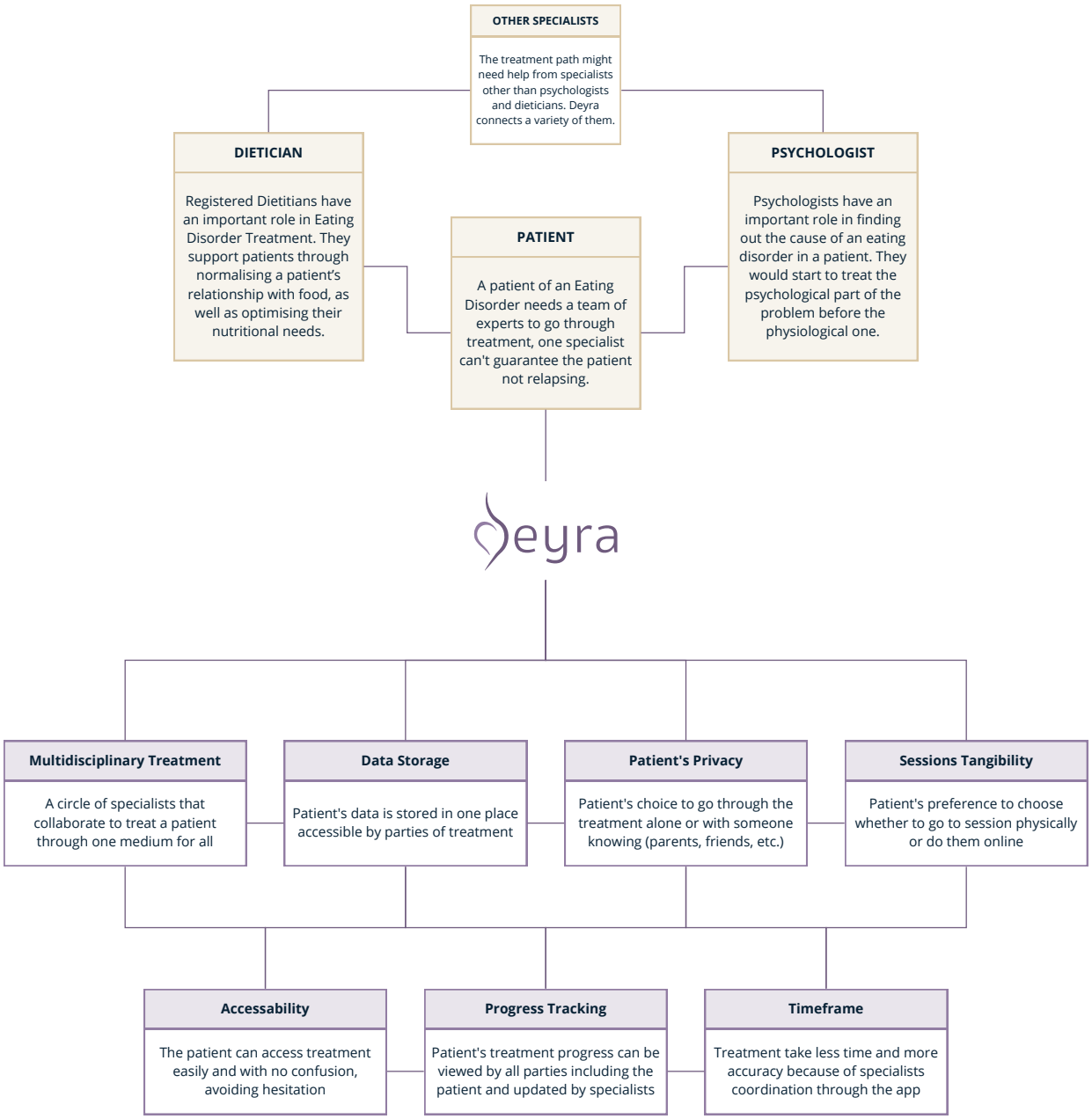


Figure 17 Concept offering and difinition

CONCEPT & OFFERING DEFINITION

The concept was generated after finding out what the needs of the stakeholders were, starting with the needs of patients, where they needed a place to treat or know what they have considering their food intake and lifestyle, they fear society's eyes and would like to do things privately. Psychologists' needs the right referral for patients to start their treatment journey with them, and they need the connection portals with other specialists like dieticians to ensure that the treatment of their patients is going according to plan and with no obstacles and difficulties. Dieticians needs the portal of connections and communications with other specialists, especially psychologists, where a lot of eating-related problems comes from the mental well-being of a person.

Deyra is offered to those certain people, with including other specialists that would be a help with the treatment journey of a patient. Deyra offers Multidisciplinary Treatment, as it is a circle of specialists that collaborate to treat a patient through one medium for all. It offers Data Storage, since the patient's data is stored in one place and accessible by parties of treatment. It offers Patient's Privacy, if a patient's choice is to go through the treatment alone or with someone knowing (parents, friends, etc.). Deyra offers Sessions Tangibility, where it's a patient's preference to choose whether to go to session physically or do them online. Accessibility, the patient can access treatment easily and with no confusion, avoiding hesitation. Progress Tracking, patient's treatment progress can be viewed by all parties including the patient and updated by specialists', and Timeframe, where treatment take less time and more accuracy because of specialists coordination through the app.

Table 00 showcases the differences and comparisons between Deyra and other services.

COMPARISON	OTHER SERVICES
Individual/ team work	Individual work/ collaboration through a weak medium
Medium tangibility	Intangible
Data storage	Individual access to individual storages, shared when needed
Tangibility of sessions	Either online OR offline sessions
Accessability	Needs scheduling through phone calls or websites
Track of progress	No tangible track of progress (patient POV or other specialists collaborating POV)
Timeframes	Regular time of treatment or more

Figure 18 The differences and comparison between Deyra and other services

DEYRA
A circle of specialists that collaborate to treat a patient through one medium for all
Tangable
One place, accessible by all parties included in treatment
Both - Could be in presence (physical) or online (digital) depending on the preferences of both the specialists and patients
Easy accessability since it is an application downloaded on a cellphone
Easy track of progress and accessible anytime anywhere (on the app)
Less than regular time of treatment

SERVICE IDENTITY

LOGO

Deyra = Circle in Arabic

Circles represent wholeness, a natural sense of completion. They are warm, comforting and give a sense of sensuality and love. Their movement suggests energy and power. Their completeness suggests the infinite, unity, and harmony.

Deyra

Eating Disorder (ED) symbol

Some people view the eating disorder symbol as a combination of two lines which combine to represent strength and recovery. Individual interpretation may vary, although a popular explanation has the smaller line representing the eating disorder, and the larger line standing for the strength and courage displayed by those in recovery. The heart may also symbolize self-respect, acceptance, and love.

Figure 19 A tattoo of the eating disorder symbol

PALETTE

Blue

Blue calls to mind feelings of calmness or serenity. It is often described as peaceful, tranquil, secure, and orderly. Blue is often seen as a sign of stability and reliability.

Turquoise

A color that encourages reflection and focusing on one's own needs, thoughts and feelings. It can be connected to a higher self-esteem and love for oneself.

Purple

The purple ribbon symolysis the awareness of Eating Disorders

Gold

The color gold is the color of success, achievement and triumph.

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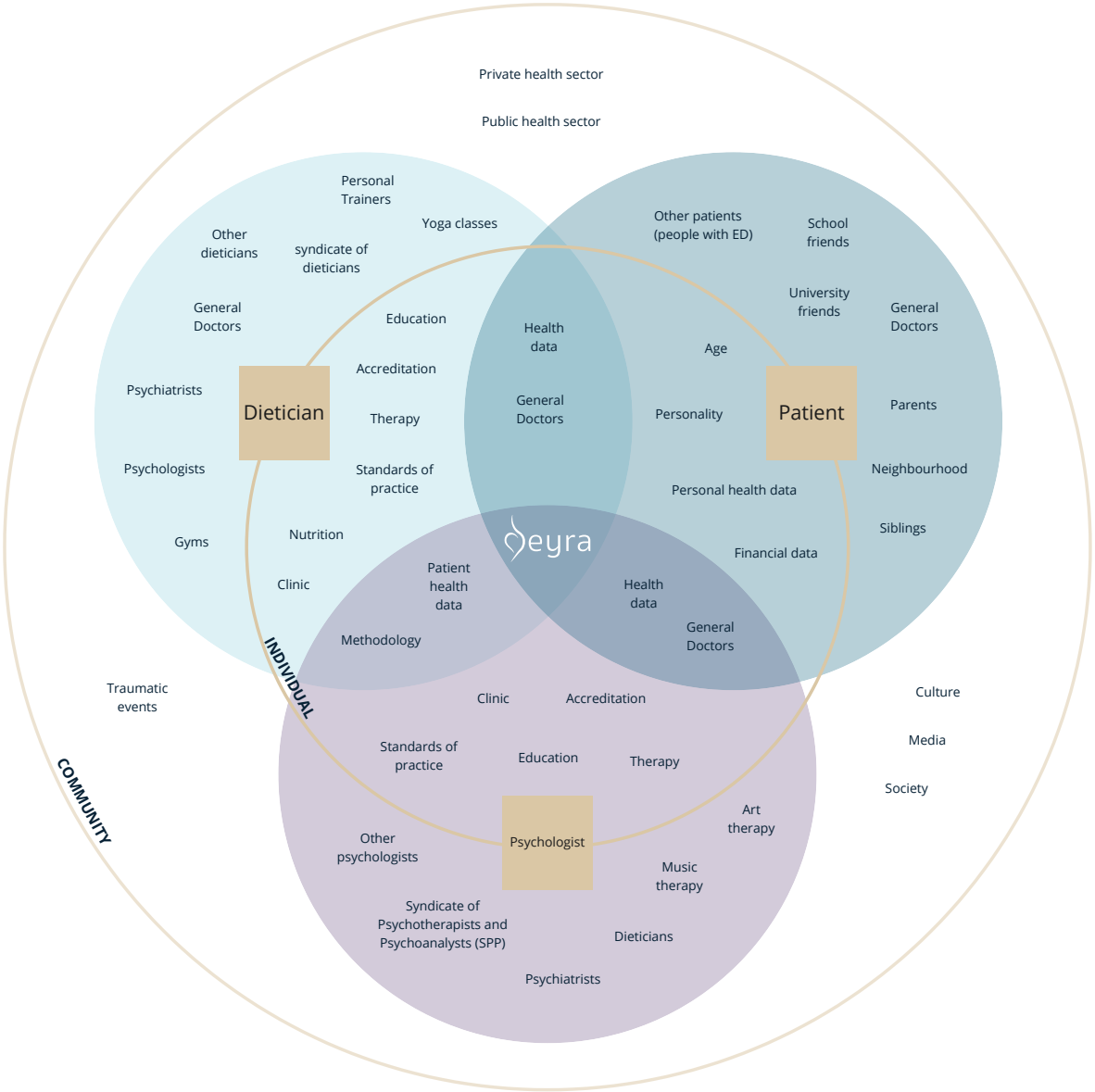


Figure 20 Deyra's Ecosystem Map

ECOSYSTEM MAP

Deyra's ecosystem targets mainly who is affected by the three primary stakeholders, the patient, dietician, and psychologist. Each is divided by either an individual influence or a community one.

Starting with the patient's circle of influence, in the individual part we have their age, personality, personal health data and their financial data and capability. For their community part, a lot of external factors can influence the patient's choices and decisions. Starting with their own siblings, parents, neighborhood, to their school friends, university friends, and their general doctor. Another influence might also come from other patients that are suffering from an eating disorder.

As for the dietician's circle of influence, starting with their individual part, their education, accreditation, their own therapy, standards of practice, their nutrition and clinic. For their external circle, community, they have yoga classes, personal trainers, other dieticians, general doctors, psychiatrists, psychologists, gyms, and the Syndicate of Dieticians.

Patients share their health data and their entourage of general doctors with dieticians.

For the psychologist's circle, from the inside, individual, we have education, therapy, accreditation, standards of practice, and their own clinic. The outer circle, community, psychologists have connections with art therapy, music therapy, other psychologists, dieticians, psychotherapists, and the Syndicate of Psychotherapists and Psychoanalysis (SPP)

Psychologists have common connections with the patient with both health data and general doctors, while on the other side they have common connections with the dietician as for methodology and patient's health data.

Find figure 00.

SYSTEM MAP

Deyra's system is highly impacted with Interaction and information flows.
The main and primary stakeholders in the system are the patient, psychologist, and dietician, where the information flows between the three of them constantly and during any step.

The secondary stakeholders in the system that are affected by the primary ones are the patient's parents, the patient's general doctor, and other specialists in the application that might or might not be included in the therapy and treatment journey of the patient.

There are also financial flows between the patient (primary) and their parents (secondary) and between the parents (secondary) and the patient's general doctor (secondary).

There won't be other financial flows running between other stakeholders, unless another specialist joins the treatment journey and so they will be a primary stakeholder.

Deyra's application relates to all stakeholders but the patient's parents, as they are an external influence of the patient. Interaction flows comes mainly from the primary stakeholders with the application, or within each other through the application.

Deyra's activities, assessments, progress, data storage, health data, dietary data, and privacy are all related to the primary stakeholders using information exchange and interaction flows.

Figure 00 showcases the details mentioned in a system map.

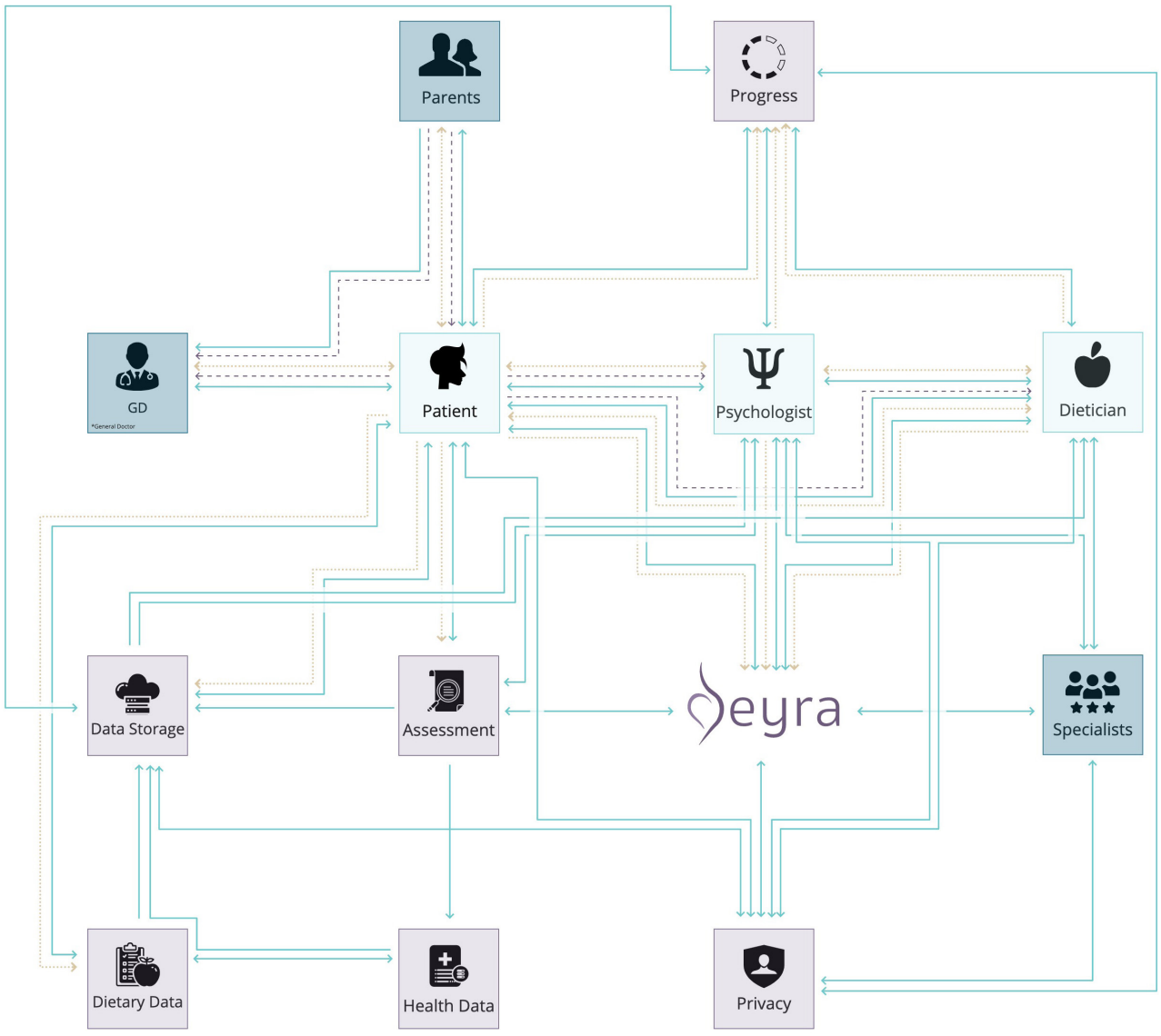


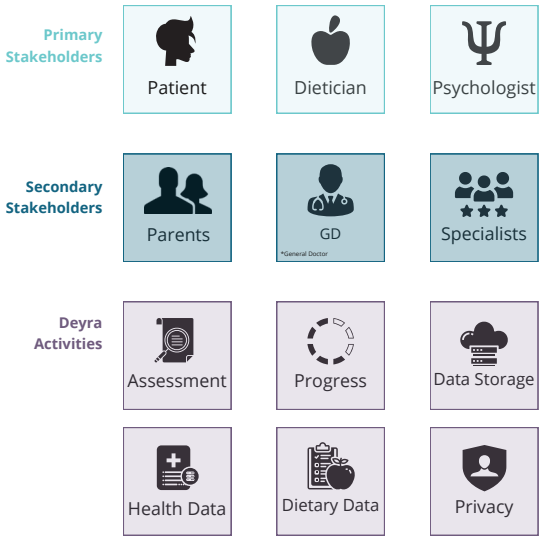
Figure 21 Deyra's System Map with Legend

LEGEND

Interaction Flow

Information Flow

Financial Flow



JORNEY MAPS

Mapping out the patient's journey as they go through now from the start of their trauma or psychological distress till the end of the treatment (figure 00) helped figuring out the crucial areas to focus on with Deyra, what was the main issues during the stage and what does the patient need? Highlighting the crucial area in another journey map (figure 00) and focusing on those stages, with paying attention to other stages as well.

The Journeys were made with the patient's point of view but with actions of specialists for comparing how Deyra would be beneficial for all stakeholders included.

The crucial stages were decision-making and visit before starting the treatment journey (the problem), recommendation being the top one crucial stage, plan, updates, and repeat in during treatment stage, updates, decision, and stay aligned in after the treatment.

Unfortunately, as presented in the map, the satisfaction level of the patient went very low in the after-treatment phase, which causes relapses and cutting out specialists.

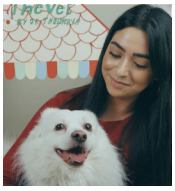
The map was done with the help of an eating disorder patient where she stated her point of view in every stage and what she would need.

Deyra's journey map (figure 00) presents differences in stages, whereas the first stage of treatment, the patient must fill in their personal data and do their assessment using the application in total privacy.

To avoid consulting a dietician first, the application recommends psychologists first indicating the reasons for this step, after the session with a psychologist, the later can recommend a dietician through the application, if there was a need for one.
The sessions go on in parallel with individual efforts but the next phases in the treatment journey is discussed between specialists and informed to the patients after agreeing. Reptation if needed happens until specialists decides to end the treatment, an assessment form for the end of treatment occurs for the patient to fill to show change.

As presented, the after-treatment levels of patient's satisfaction are the highest and the patient can stay aligned with their specialists till whenever they would like using the application.

The map was discussed with an eating disorder patient where she stated her point of view in every stage and what she would need, and specialists for the help of finding gaps of treatment journey.



Maria Abboud

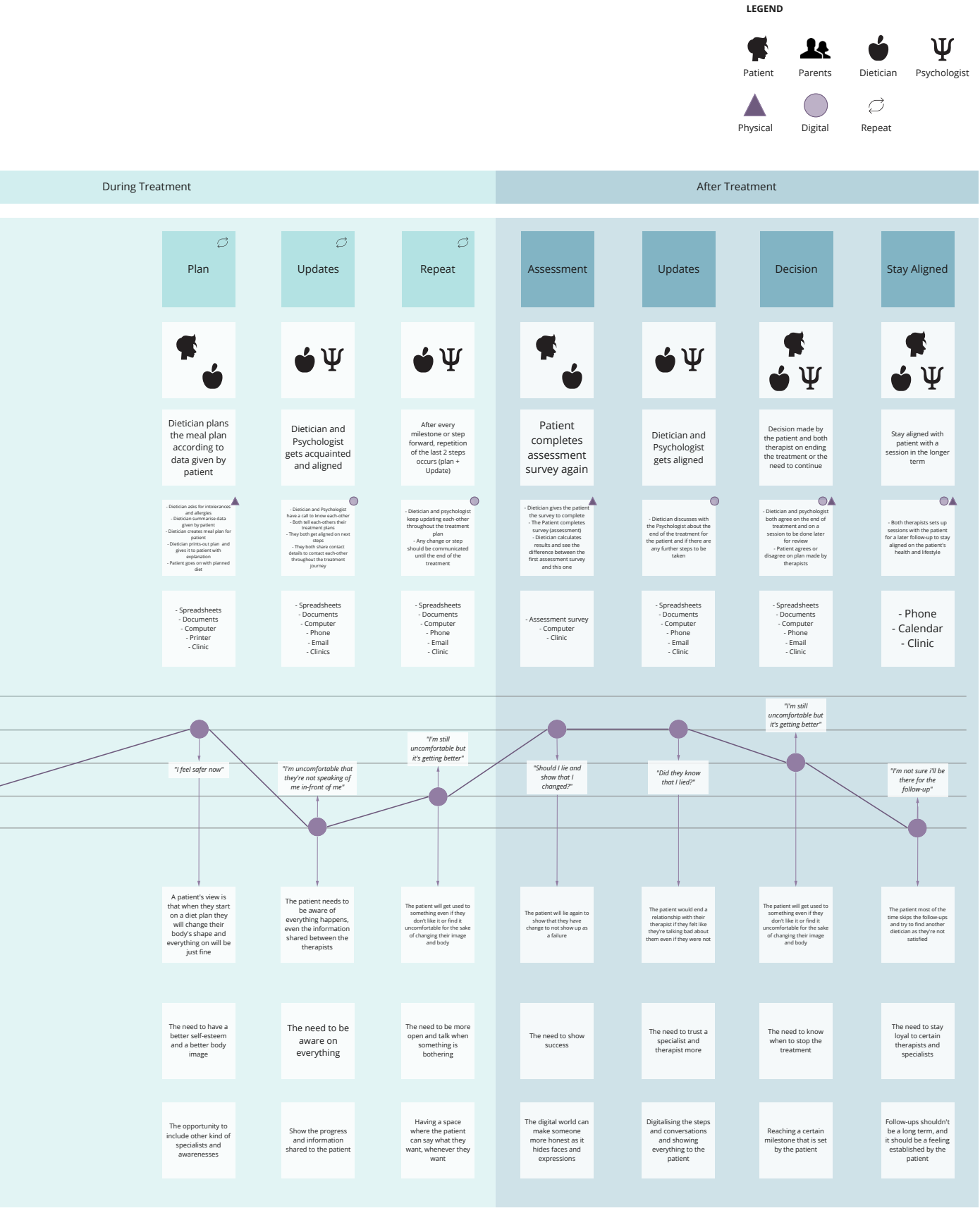
21 y.o
Lebanese
Living in Akkar (North of Lebanon)
family social class: low-medium

SCENARIO
This user journey map is made from the point of view of the **Patient** Maria Abboud, so that it's possible to see all the different stakeholders interacting with her throughout the treatment of her Eating Disorder, starting with going to a specialist and ending with when the treatment is over.

The Problem

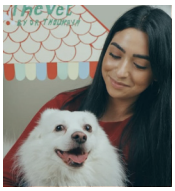
Stage	Traumatic Events	Impact	Realisation	Decision-making	Visit	Assessment	Recommendation **(Very critical stage)**
Stakeholders							
Goals	x	Talking to the patient about her eating behaviour	Realising that she needs help	Deciding it's time to seek help	Visiting a dietician for the first time	Patient completes assessment survey	Dietician recommends patient to visit a psychologist
Actions	- Remembering a traumatic event that happened to the patient	- Criticism about food intake - Criticism about clothes fitting - Criticism about weight change	- Searching the internet her symptoms - Trying her own diets - Failing more than once - Seeks for help	- Patient being influenced by external factors - Searching for the suitable dietician - Calculating payments and costs	- Patient emails the dietician and gets an appointment - patient goes to the appointment - Meets with the dietician - The dietician takes measures and weight of the patient - Dietician asks Patient questions about eating behaviours	- Dietician gives the patient a survey to complete - The Patient completes survey (assessment) - Dietician calculates results and find that the patient has an Eating Disorder	- Dietician explains Eating Disorder to patient - Dietician explains severity and consequences to patient - Dietician recommends the patient to visit a psychologist - Patient thinks about it and decide (it's all up to the patient)
Touchpoints	x	- Weight scale - Clothes - Food	- Food - Diet plan - Search engine - Computer - Phone	- Social media - Traditional media - Word of mouth - Computer - Phone	- Weight scale - Measuring tape - Computer - Clinic	- Assessment survey - Computer - Clinic	- Assessment survey results - Eating disorder explanatory charts and documents - Computer - Variety of psychologist contacts - Clinic
Patient's Point of View	*"This is the worst thing that ever happened to me ever"*	*"I hate it very much when they only look at the outside of me"*	*"I need to talk to someone about my eating behaviours"*	*"I'm going to find a dietician to help me through this"*	*"I'm a bit relieved"*	*"This is bringing up the worst in me, should I lie?"*	*"I'm not crazy!"*
Insights	Traumatic experiences cause more than just a memory in the brain that will last for-ever if not treated	Parents and who is around the patient can have a very negative impact on her/him	The patient usually search for their own symptoms before professional counselling	A patient's first reaction is to talk to a dietician and not a psychologist because of the stigma and the care of appearances more	A patient's first impression to a dietician is relief, as the dietician gives the ambient and environment of change (physical change)	A patient's first talk usually has a bit of lies in it as they are scared of judgment the way they had been judged before by others	A patient's impression on going to a psychologist is always thinking that they are "crazy" and that's because of the stigma
Needs	There is a need of talking about the traumatic experience to someone that could help ease the pain	The need to be isolated a bit mentally more than just physically	There is a need to know what is wrong with the patient and a need to dig deeper	There is a need to heal the traumatic experience before the eating behaviour	The need to change physically	The need to be honest	The need of psychological awareness
Opportunities	Talking to a psychologist or a group of people that went through the same trauma	Having a place without the negative impacts or make the impact positive in the eyes of the patient	Creating an assessment form that can detect an eating disorder from questions	Introducing a psychologist before a dietician or together	Changing just physically will conclude with a relapse, the change should be mentally first	Assessment questions that are done individually without pressure or supervision	A psychological therapist/specialist should be introduced with the dietician since the beginning

Figure 22 As-is Journey Map



AS-IS JOURNEY MAP

This journey map indicates the treatment journey of a patient as it is going on in reality.



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Patient's Point of View	*"This is the worst thing that ever happened to me ever"*	*"I hate it very much when they only look at the outside of me"*	*"I need to talk to someone about my eating behaviours"*	*"I'm going to find a dietician to help me through this"*	*"I'm a bit relieved"*	*"This is bringing up the worst in me, should I lie?"*	*"I'm not crazy!"*
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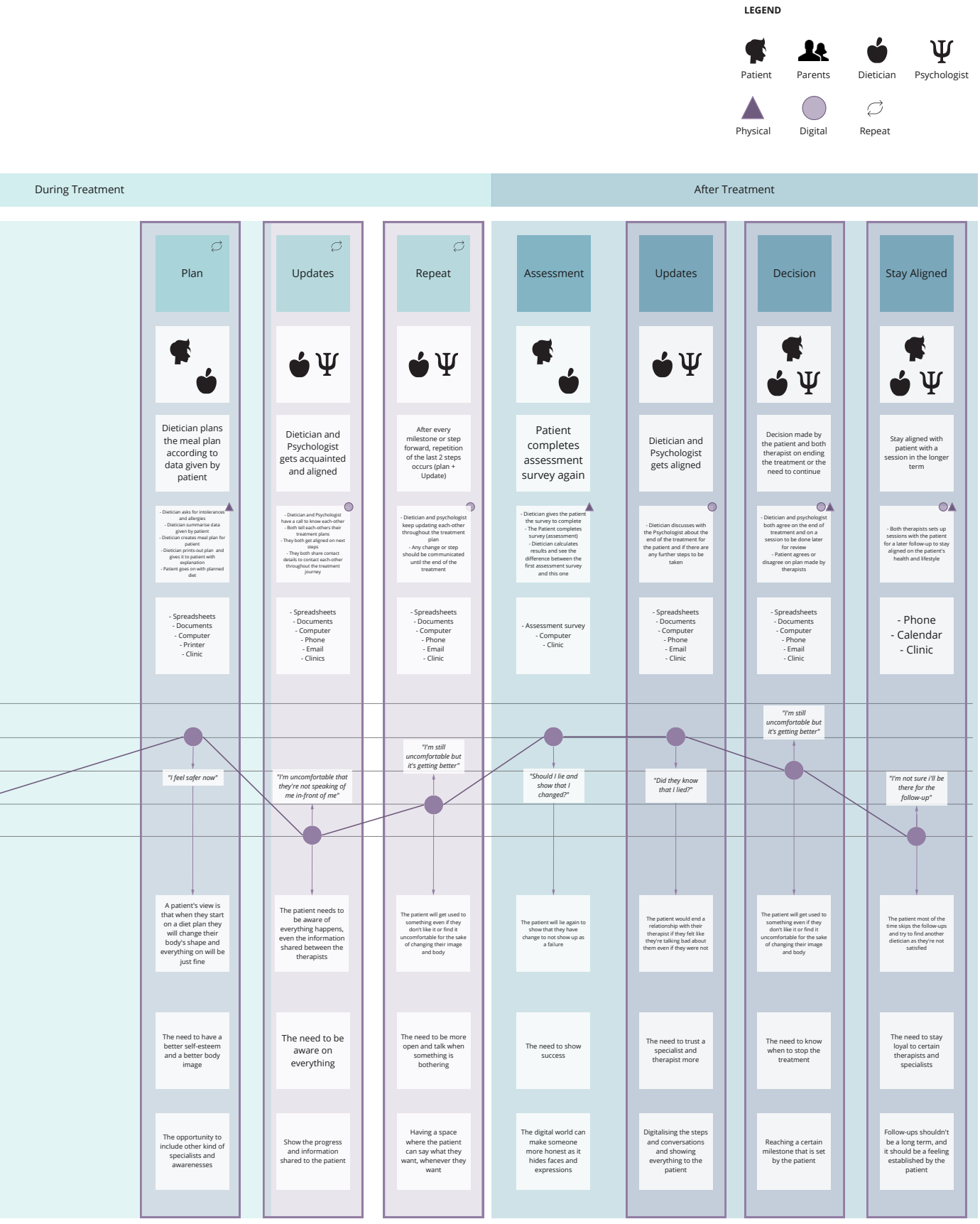
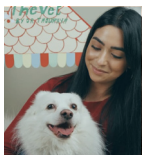
Needs	There is a need of talking about the traumatic experience to someone that could help ease the pain	The need to be isolated a bit mentally more than just physically	There is a need to know what is wrong with the patient and a need to dig deeper	There is a need to heal the traumatic experience before the eating behaviour	The need to change physically	The need to be honest	The need of psychological awareness
Opportunities	Talking to a psychologist or a group of people that went through the same trauma	Having a place without the negative impacts or make the impact positive in the eyes of the patient	Creating an assessment form that can detect an eating disorder from questions	Introducing a psychologist before a dietician or together	Changing just physically will conclude with a relapse, the change should be mentally first	Assessment questions that are done individually without pressure or supervision	A psychological therapist/specialist should be introduced with the dietician since the beginning

Figure 23 As-is Journey Map with highlighted crucial stages



AS-IS JOURNEY MAP WITH HIGHLIGHTED CRITICAL STAGES

This journey map indicates the treatment journey of a patient as it is going on in reality highlighting the most critical stages that are in deep need of improvement



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SCENARIO
This user journey map is made from the point of view of the **Patient** Maria Abboud, so that it's possible to see all the different stakeholders interacting with her throughout the treatment of her Eating Disorder, starting with going to a specialist and ending with when the treatment is over.

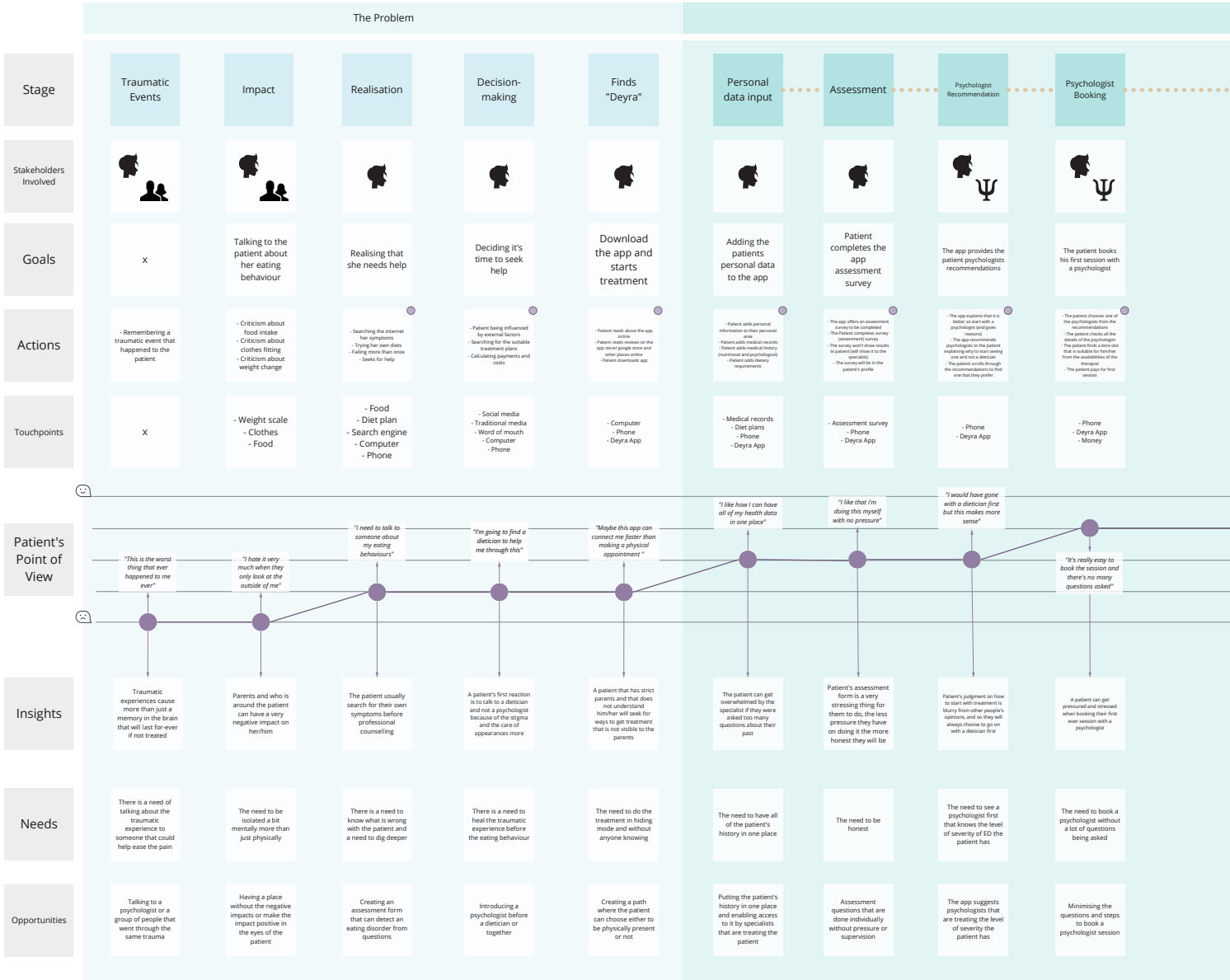
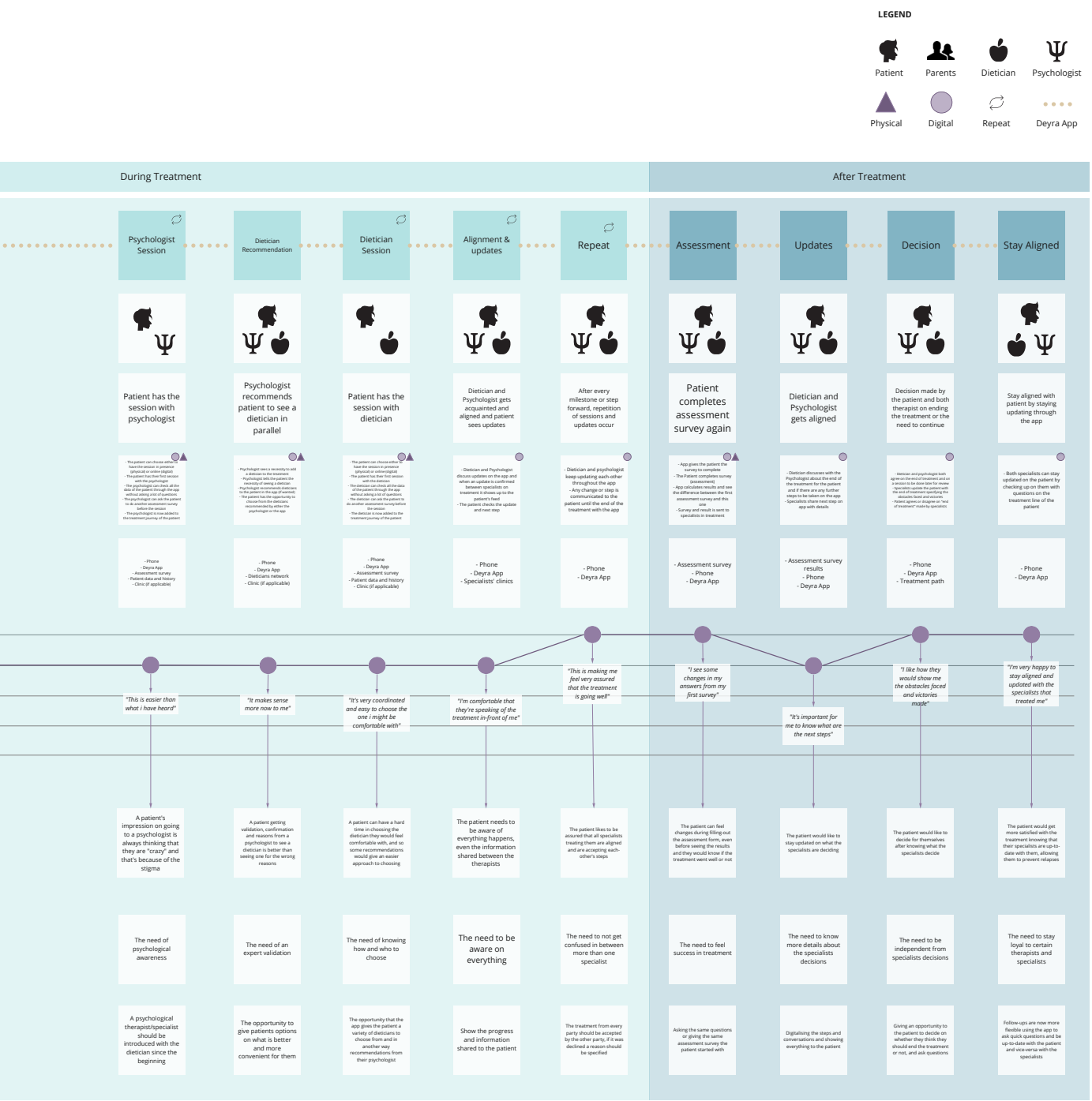


Figure 24 Deyra's Journey Map



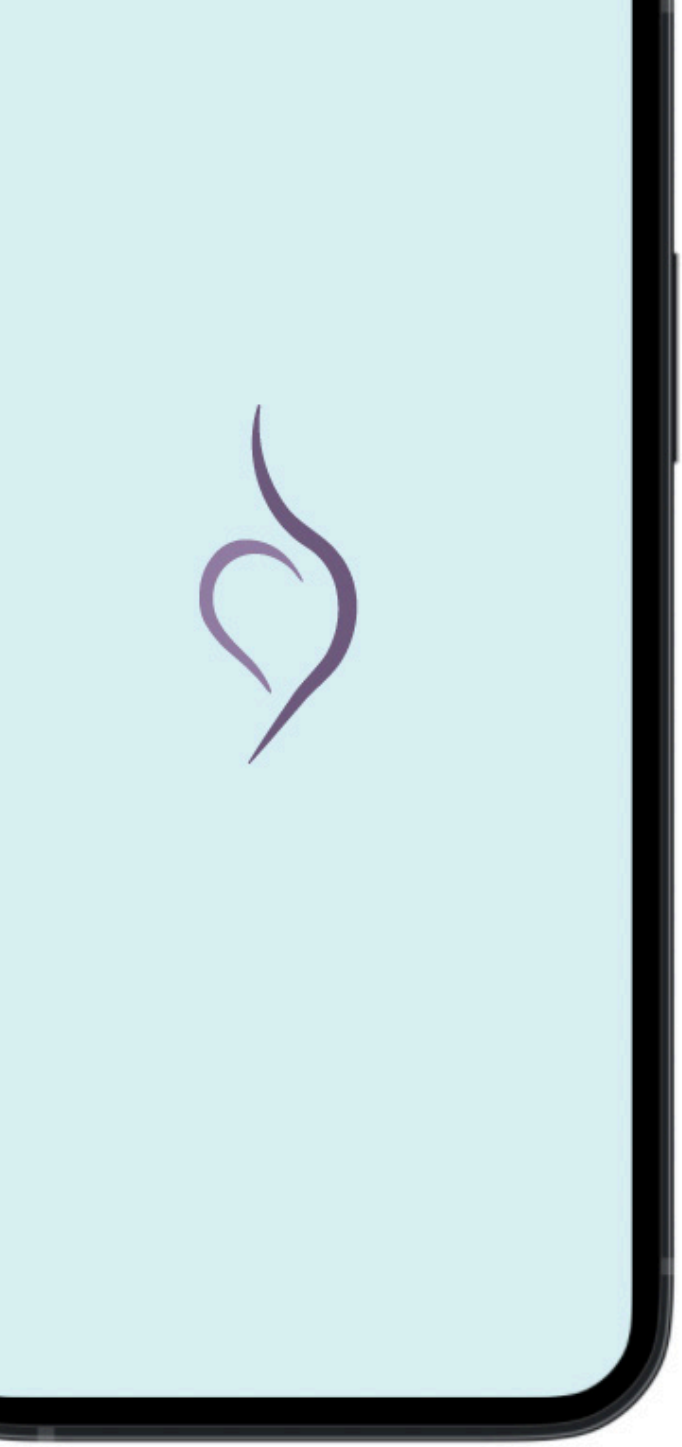
JOURNEY MAP OF A PATIENT USING DEYRA

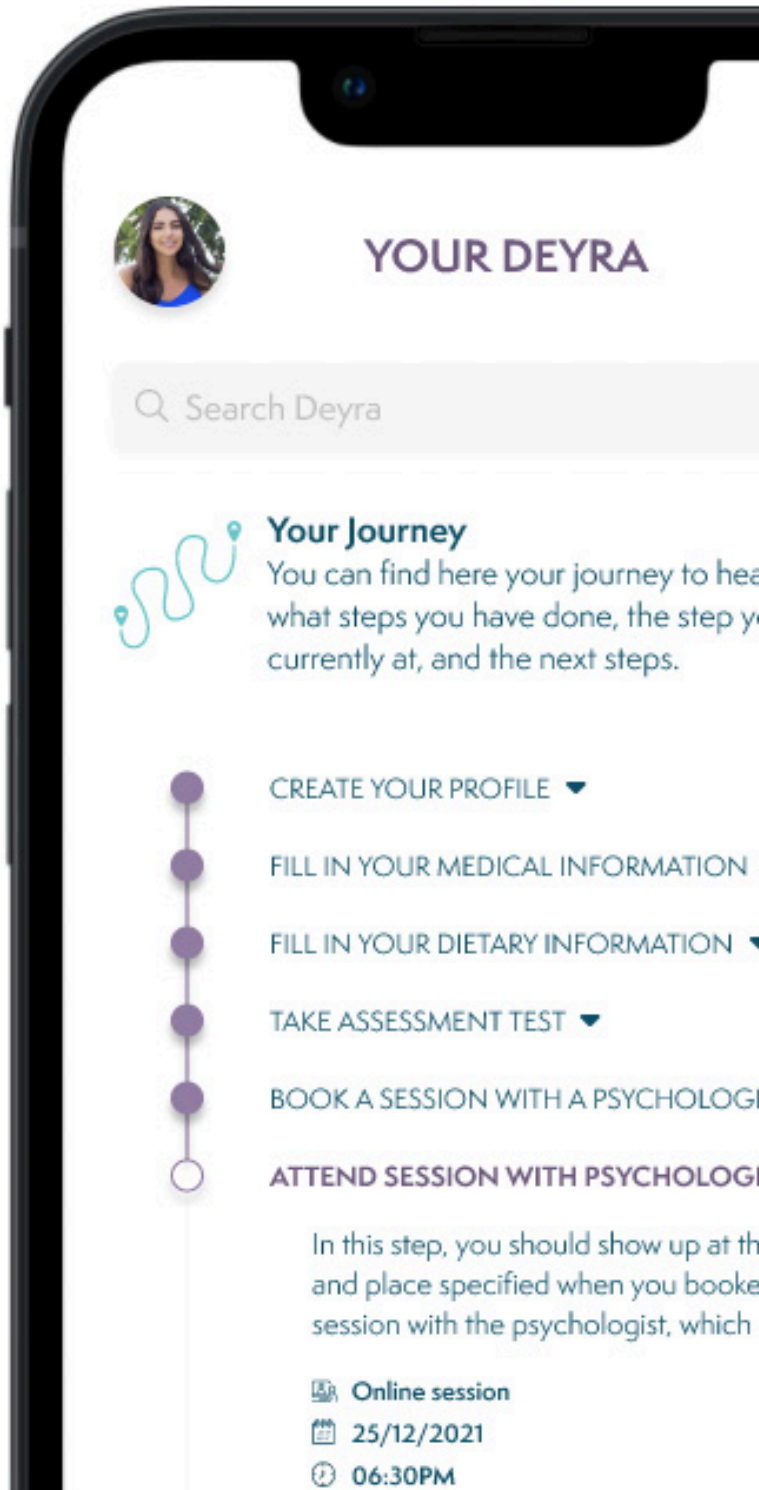
This journey map indicates the treatment journey of a patient using the service Deyra, showcasing steps of mentioned and other specialists during the stages

PART III

Product

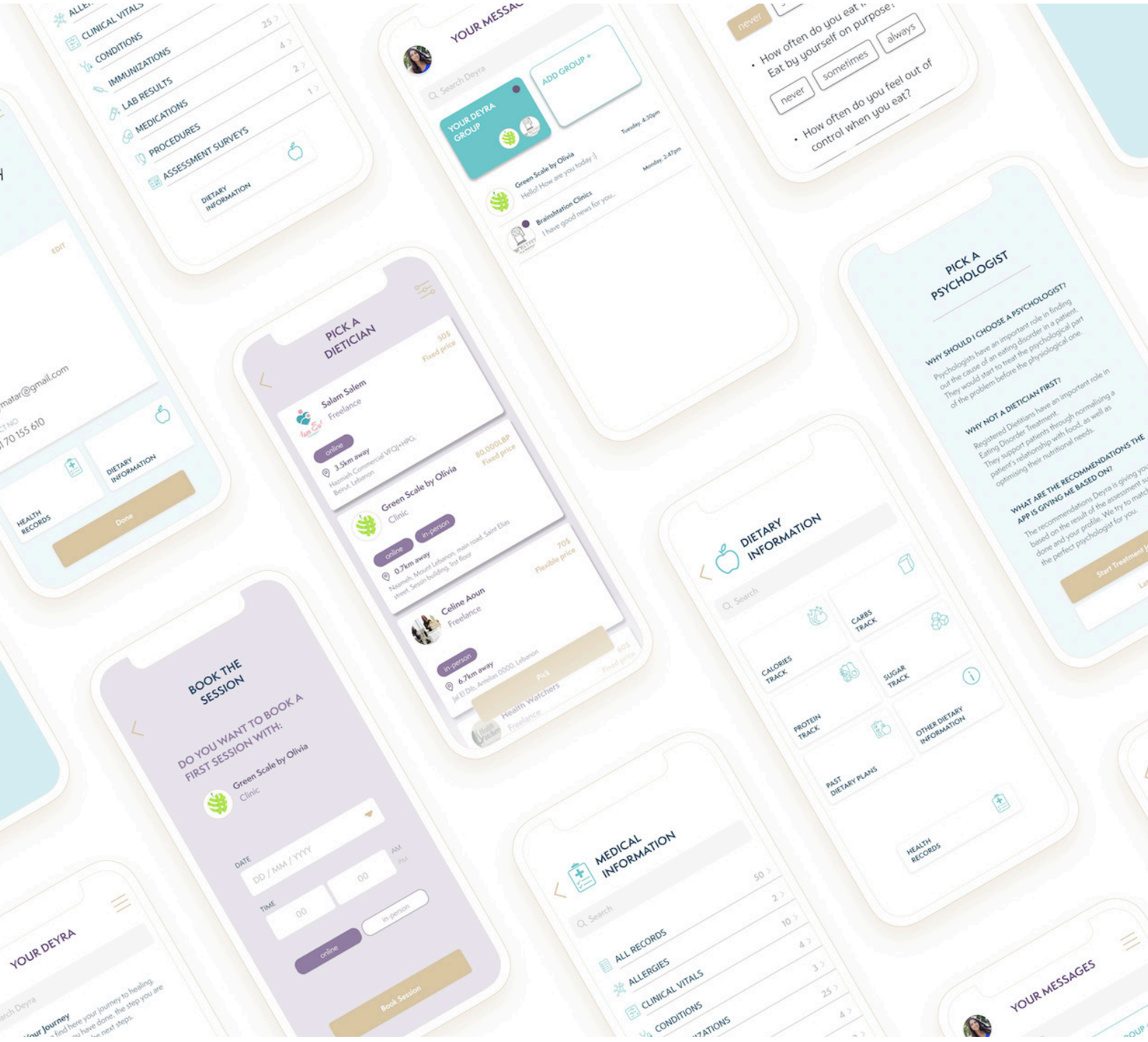
/8 Platform



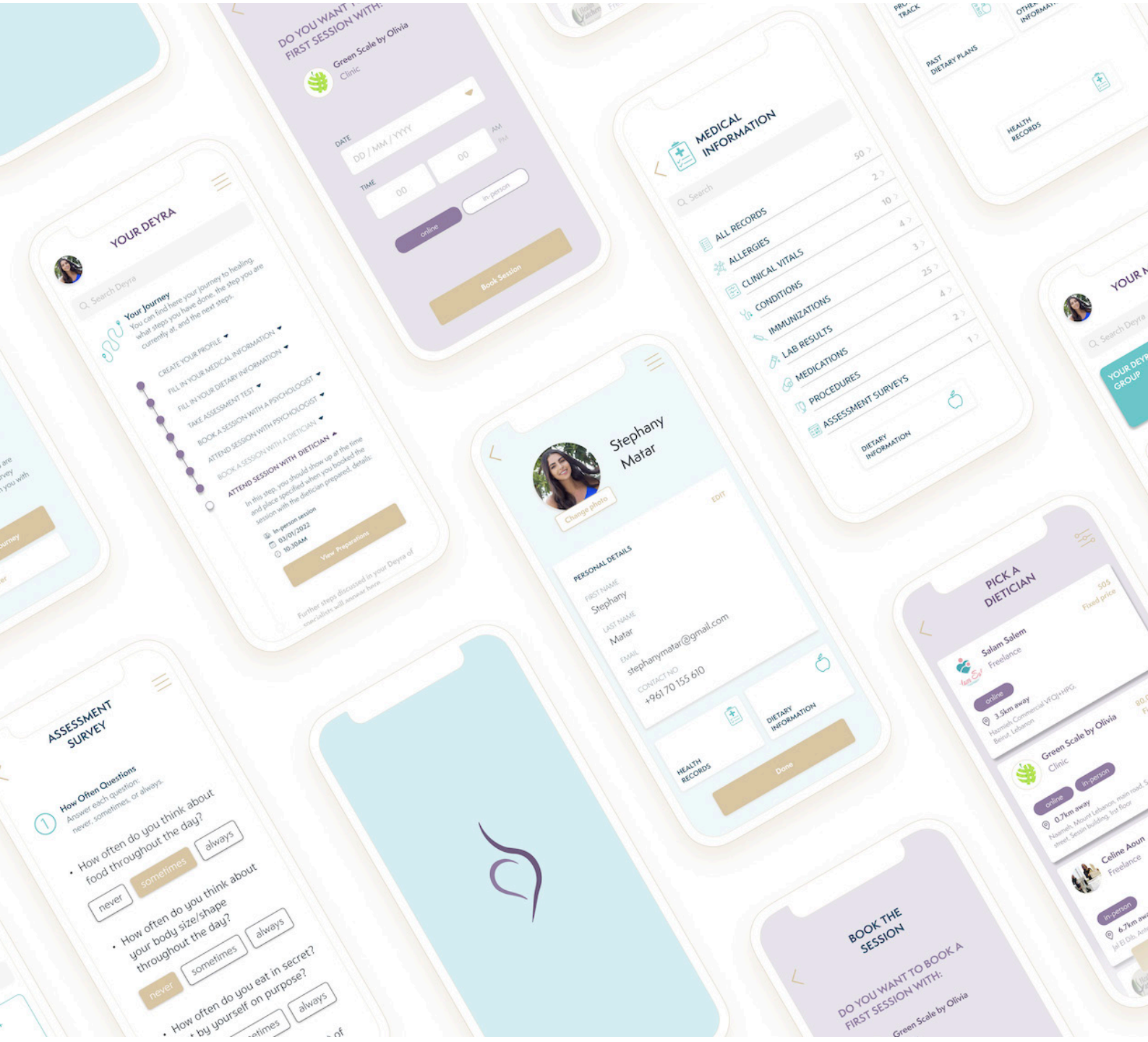

YOUR DEYRA
Search Deyra
Your Journey
You can find here your journey to hea
what steps you have done, the step y
currently at, and the next steps.
CREATE YOUR PROFILE
FILL IN YOUR MEDICAL INFORMATION
FILL IN YOUR DIETARY INFORMATION
TAKE ASSESSMENT TEST
BOOK A SESSION WITH A PSYCHOLOGI
ATTEND SESSION WITH PSYCHOLOGI
In this step, you should show up at th
and place specified when you booke
session with the psychologist, which
Online session
25/12/2021
06:30PM

APPLICATION FEATURES

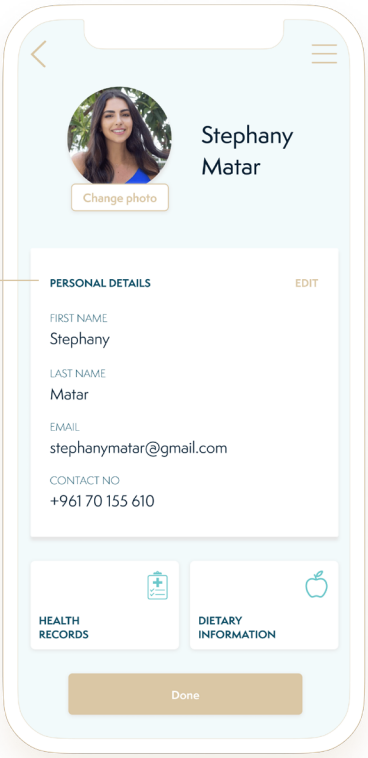
PATIENT	SPECIALIST
Can start their healing journey with **total privacy**	Build their **network** of specialists and **attract more clients**
Benefits from a **full treatment plan** created by more than a specialist	Easier **access to patient's health records**
Can choose their **preference of specialists** among the lists provided for every field	**Avoid conflict of treatment strategies** with another specialists
Has a choice between virtual or in-person therapy **(digital & physical)**	Has a choice between virtual or in-person therapy **(digital & physical)**
Can **apply for pro-bono** that is offered by a specialist or other external initiatives	**Specify the amount of time and effort** given to Deyra


CLINICAL VITALS
CONDITIONS
IMMUNIZATIONS
LAB RESULTS
MEDICATIONS
PROCEDURES
ASSESSMENT SURVEYS
DIETARY INFORMATION
YOUR MESSAGES
Search Deyra
YOUR DEYRA GROUP
ADD GROUP +
Green Scale by Olivia
Hello! How are you today :)
Tuesday, 4:30pm
Brainstation Clinics
I have good news for you..
Monday, 2:47pm
How often do you eat by yourself on purpose?
never
sometimes
always
How often do you feel out of control when you eat?
PICK A DIETICIAN
Salam Salem
Freelance
50$
Fixed price
online
3.5km away
Hasmieh Commercial VFQ+HPG, Beirut, Lebanon
Green Scale by Olivia
Clinic
80,000LBP
Fixed price
online
in-person
0.7km away
Naameh, Mount Lebanon main road, Saint Elias street, Sesati building 1st floor
Celine Aoun
Freelance
70$
Flexible price
in-person
6.7km away
Health Watchers
Freelance
60$
Fixed price
Pick
PICK A PSYCHOLOGIST
WHY SHOULD I CHOOSE A PSYCHOLOGIST?
WHY NOT A DIETICIAN FIRST?
WHAT ARE THE RECOMMENDATIONS THE APP IS GIVING ME BASED ON?
Start Treatment
DIETARY INFORMATION
Search
CALORIES TRACK
CARBS TRACK
PROTEIN TRACK
SUGAR TRACK
PAST DIETARY PLANS
OTHER DIETARY INFORMATION
HEALTH RECORDS
BOOK THE SESSION
DO YOU WANT TO BOOK A FIRST SESSION WITH:
Green Scale by Olivia
Clinic
DATE
DD / MM / YYYY
TIME
00
AM
PM
online
in-person
Book Session
MEDICAL INFORMATION
Search
ALL RECORDS
ALLERGIES
CLINICAL VITALS
CONDITIONS
YOUR DEYRA
YOUR MESSAGES
HEALTH RECORDS
DIETARY INFORMATION
Done
EDIT

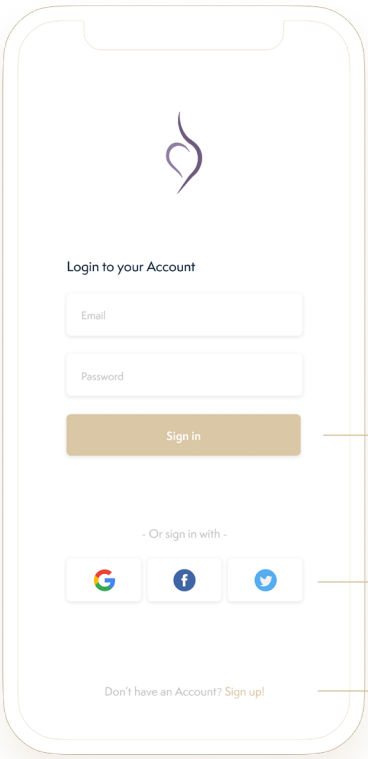
APPLICATION USER INTERFACE



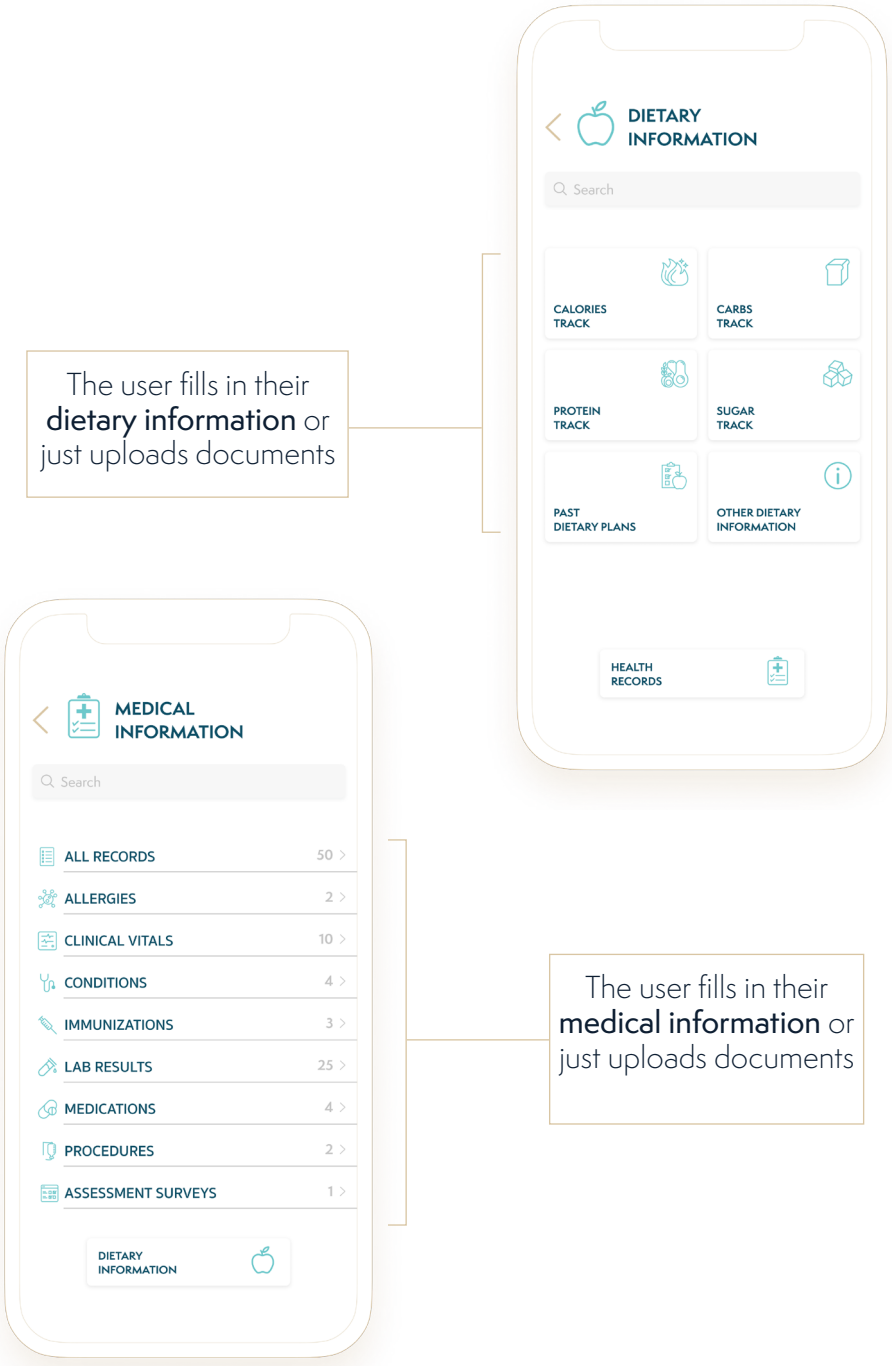
Profile Interface



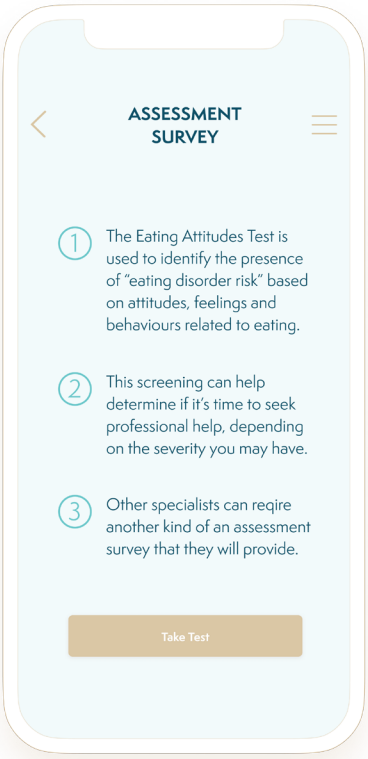
The user fills in their profile starting with their **personal details**



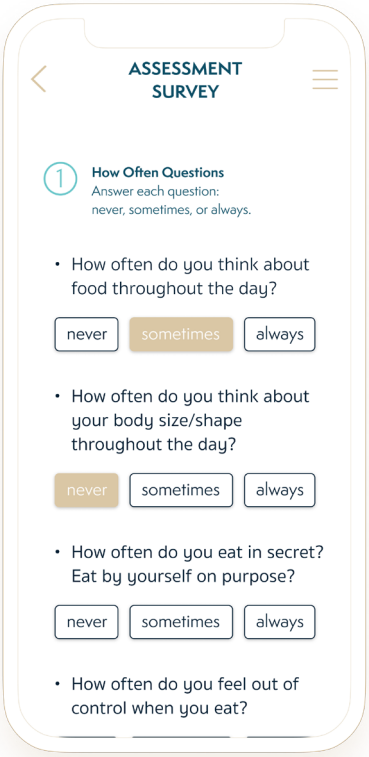
The user has more than one way of **signing in**, and he can **create an account** easily


DIETARY INFORMATION
Search
CALORIES TRACK
CARBS TRACK
PROTEIN TRACK
SUGAR TRACK
PAST DIETARY PLANS
OTHER DIETARY INFORMATION
HEALTH RECORDS
The user fills in their dietary information or just uploads documents
MEDICAL INFORMATION
Search
ALL RECORDS 50
ALLERGIES 2
CLINICAL VITALS 10
CONDITIONS 4
IMMUNIZATIONS 3
LAB RESULTS 25
MEDICATIONS 4
PROCEDURES 2
ASSESSMENT SURVEYS 1
DIETARY INFORMATION
The user fills in their medical information or just uploads documents

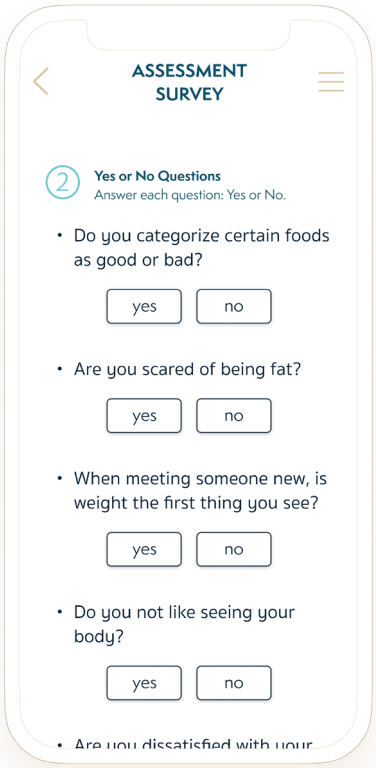
Assessment Interface



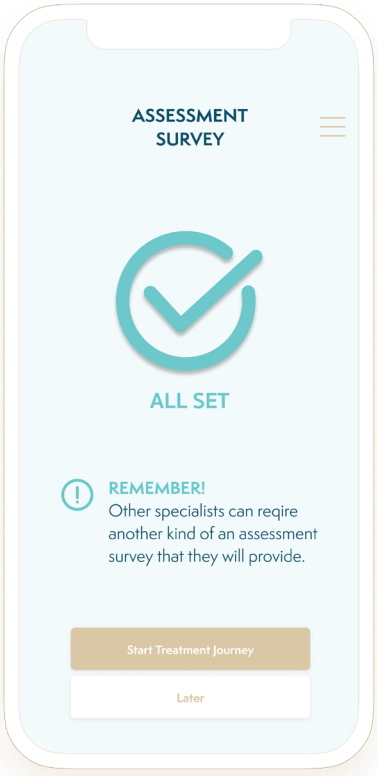
The application gives **indications and information** before the assessment begins



The user **chooses the answer easily** as the app offers multiple choices answers

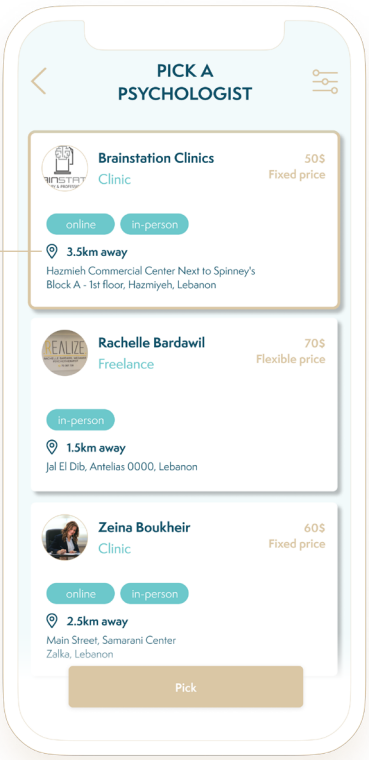


The user **chooses the answer easily** as the app offers yes/no questions

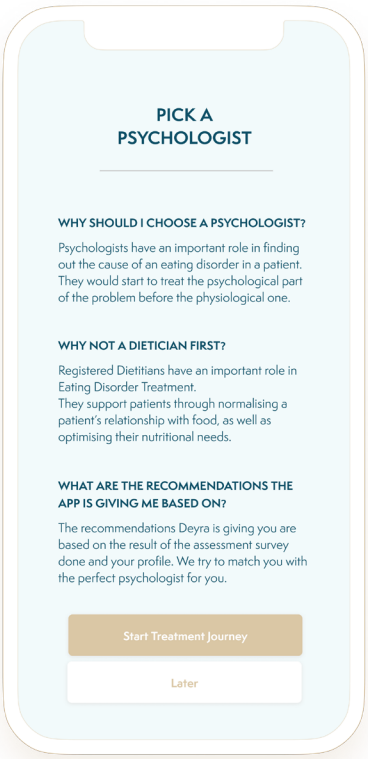


The app **indicates the success** of assessment filling & **reminds the user** with information

Choosing a Psychologist Interface



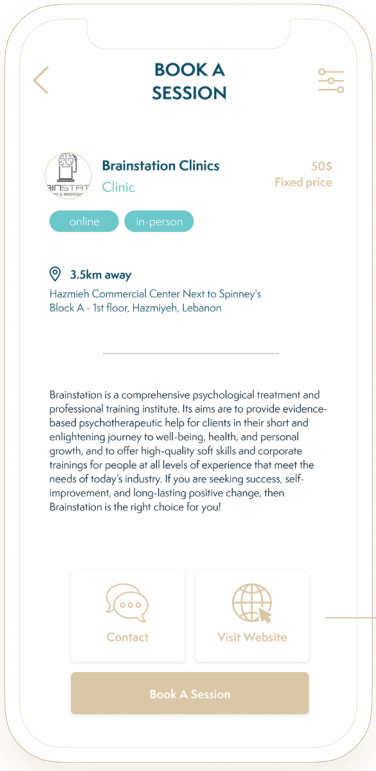
The user is offered a variety of **options** with **location approximately**

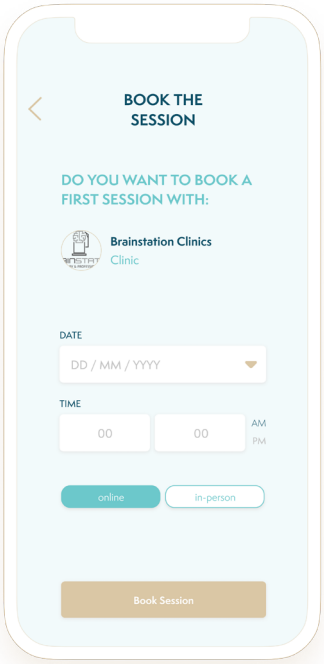


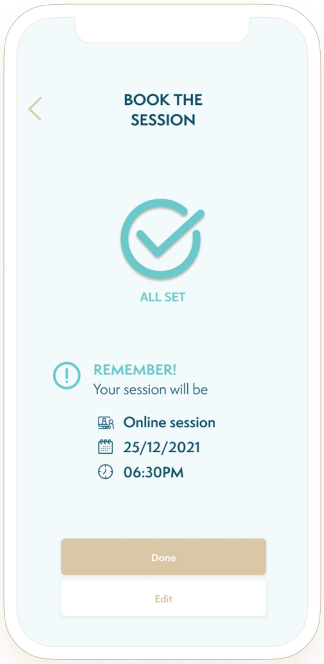
The user is **offered information** on why choosing a psychologist first is important

The user is offered a to **choose time and date** of the session, with a **confirmation message**

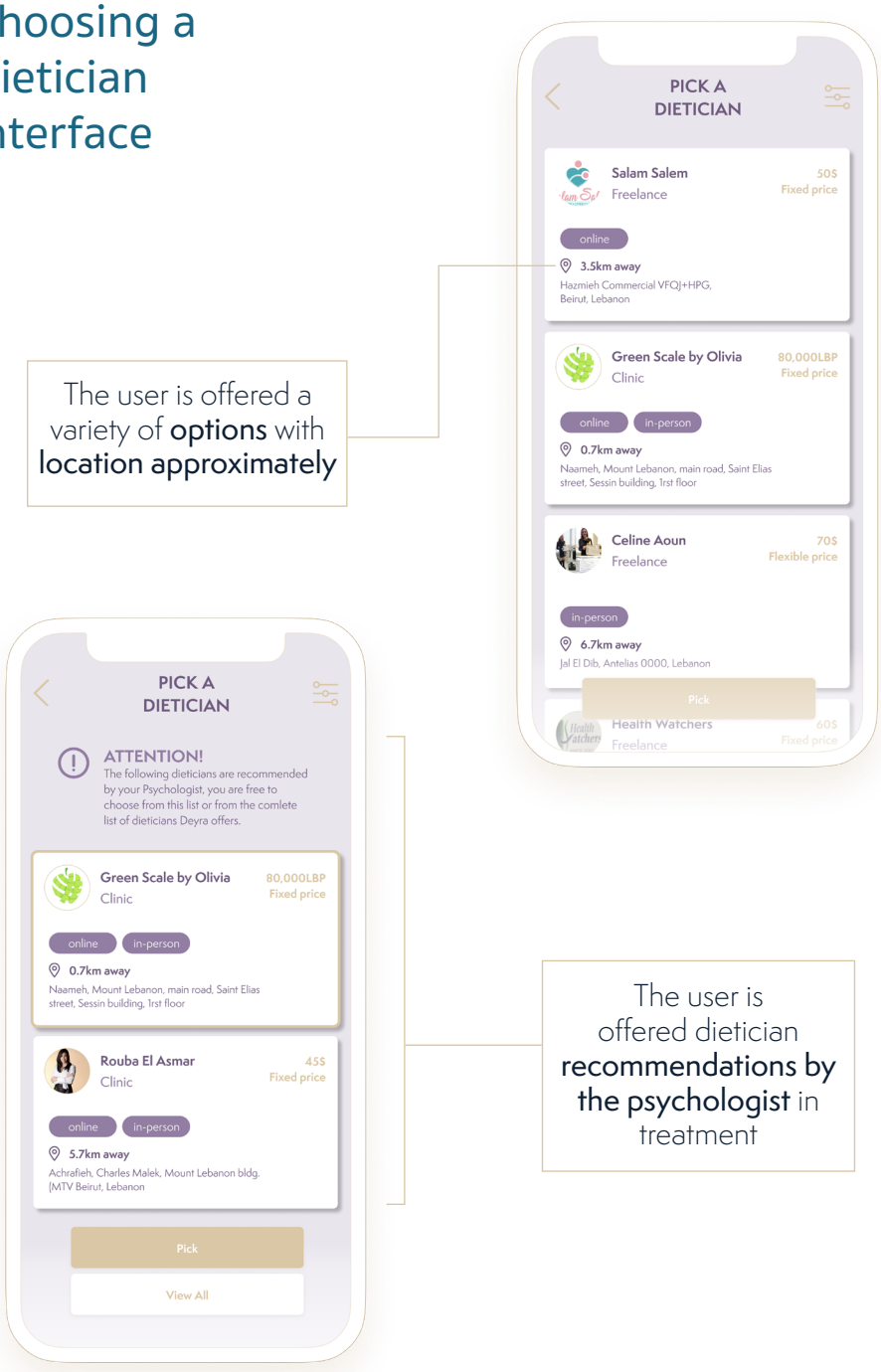
The user is offered to **contact or visit the psychologists' website** before booking a session







Choosing a Dietician Interface

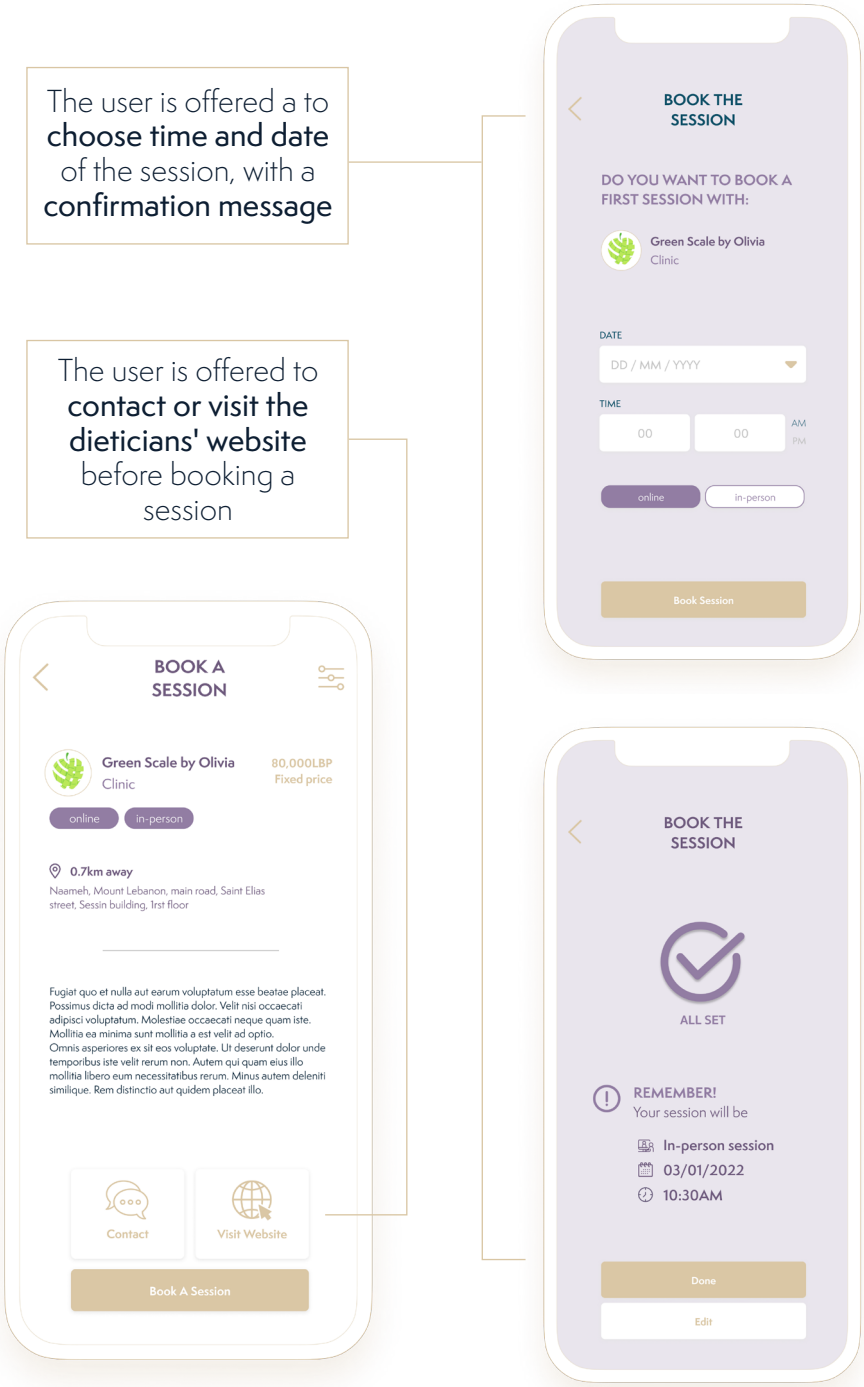


The user is offered a variety of **options** with **location approximately**

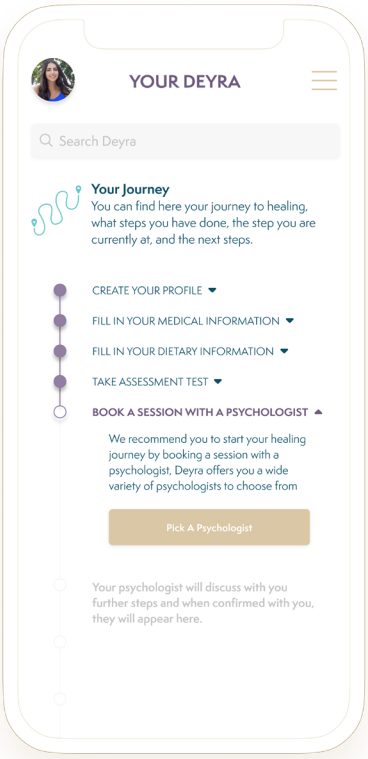
The user is offered dietician **recommendations by the psychologist** in treatment

The user is offered a to **choose time and date** of the session, with a **confirmation message**

The user is offered to **contact or visit the dieticians' website** before booking a session



"Your Deyra" Homepage/ Treatment Path



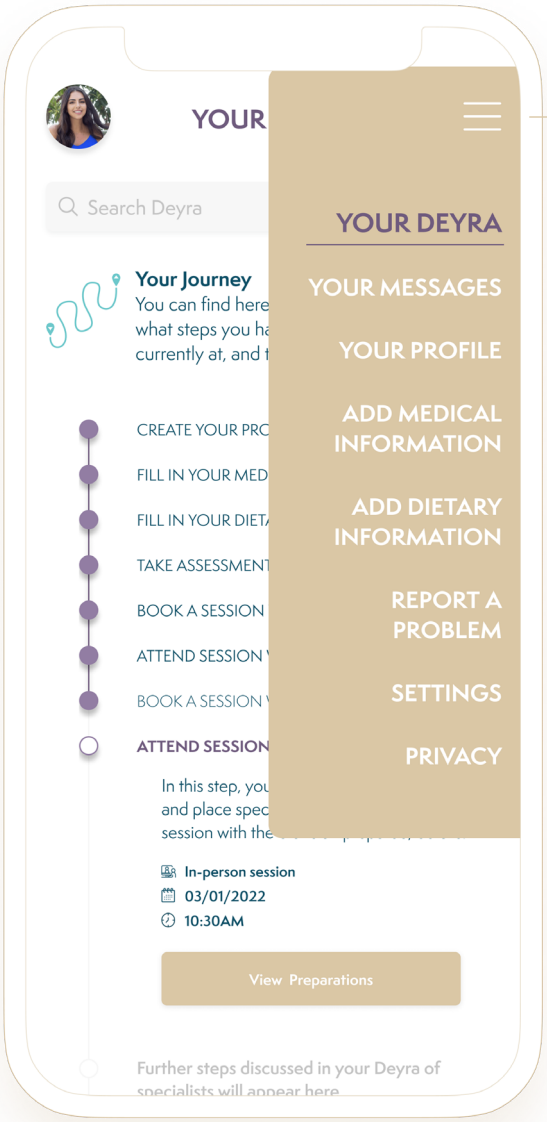
The user can **see their track** instantly upon opening the app

The user is **always reminded** by the app on the session's details

The user can **see their next step** upon opening the app

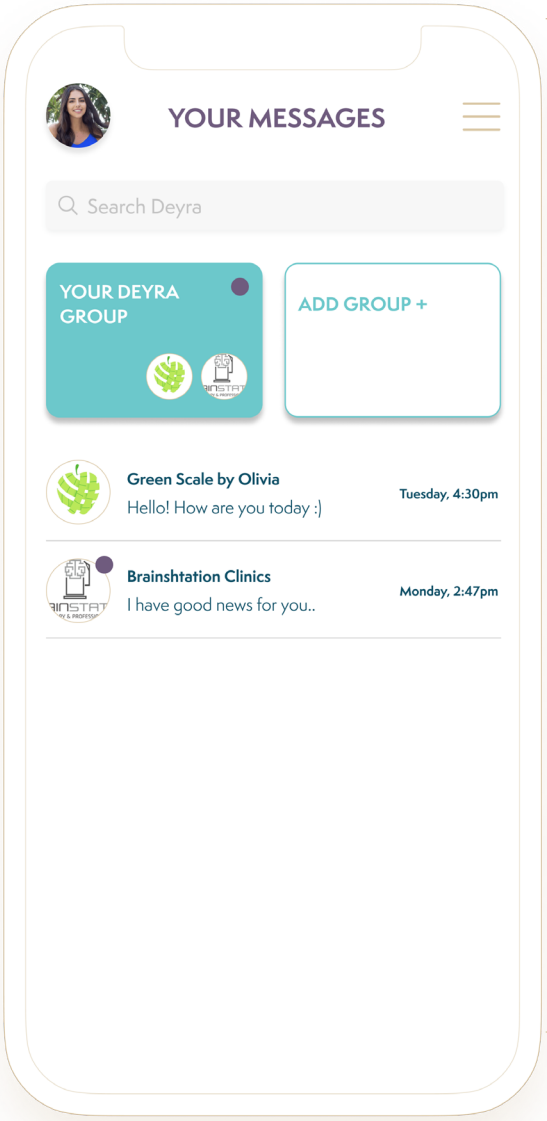
The user can **be prepared for a session** before attending

Drop-down Menu



The user can **navigate through the application** easily and fastly using the drop down menu

Your Messages



The user **send and recieve messages** to either one of their specialists or both of them grouped, for easier communications

/9 Testing & Validation

9.1 Concept validation

9.2 Deyra application testing

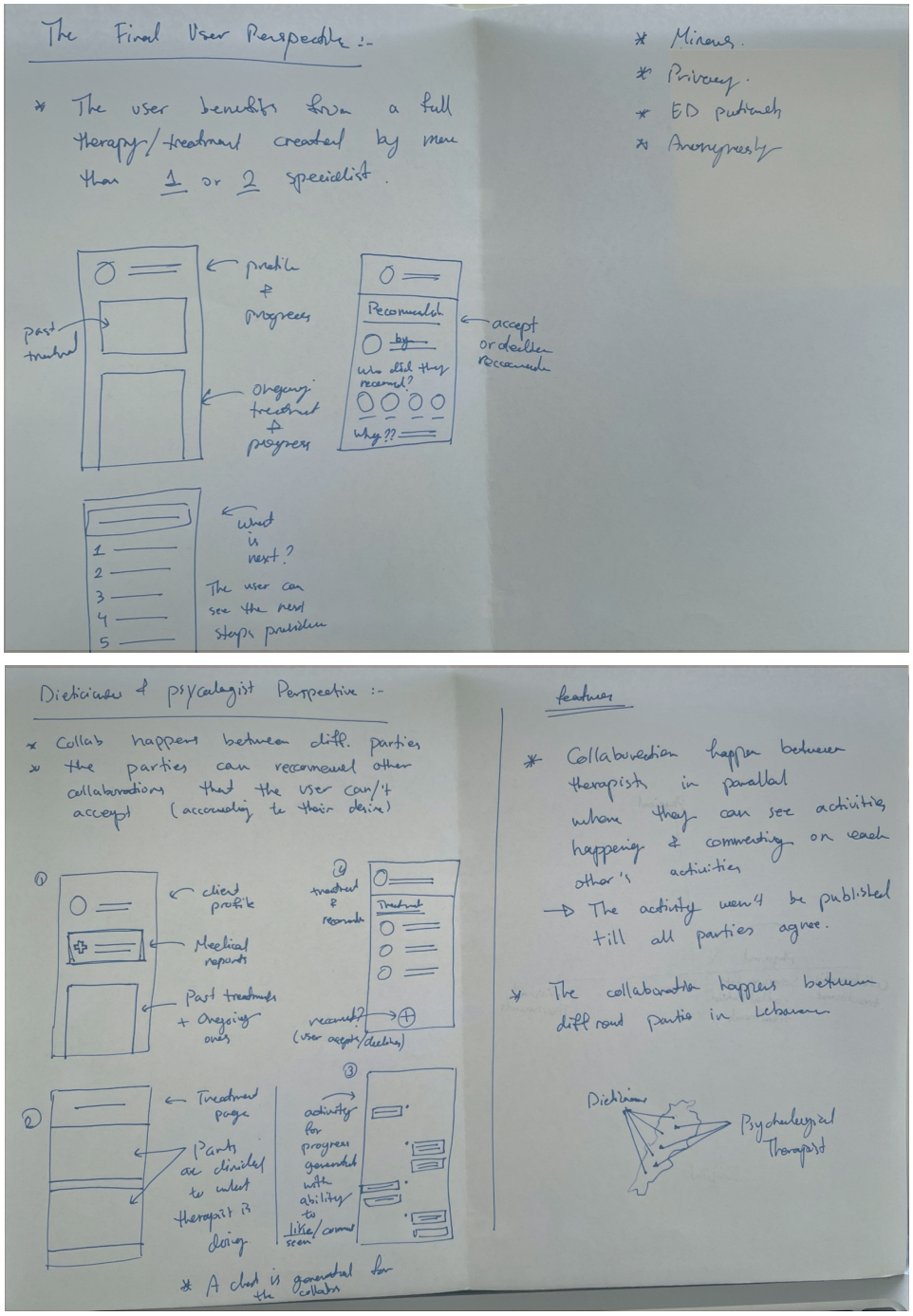


Figure 25 & 26 Concept drafts

CONCEPT VALIDATION

After the concept was established, I stayed in contact with the experts from the interviews and have got in contact with patients that are suffering from an eating disorder. I contacted the mentioned for a small talk about the concept and if they would think it could work or not, and what kind of issues I need to address.
Both experts and patients were very informative to me since they have told me to add stuff that I did not think about.

Their input has changed some of my design aspects and implementations. Some of these changes and add-on were:

- Filling an assessment form in the application before contacting a psychologist was important since it saves up the expert's time, and patients contacted have agreed to the assessments part since they wanted to do it privately and without the pressure of an expert or time, and they think doing it alone would have more honest results.

- Deyra lets the user upload their medical information and dietary information, dieticians have helped me into knowing the type of categories needed for them to know more about the person like calories track, carbs track, etc. and records for allergies, clinical vitals, etc.

- Before the session with the dietician, the mentioned expert would like to have the patient prepared before the session, and so I have added a reminder for the patient to fill the forms needed before the session.

- Some of the patient's inputs were about after the treatment, they have gave e information on that they would like to stay aligned even after the sessions have finished with the experts "just in case".

DEYRA APPLICATION TESTING

Draft and initial test

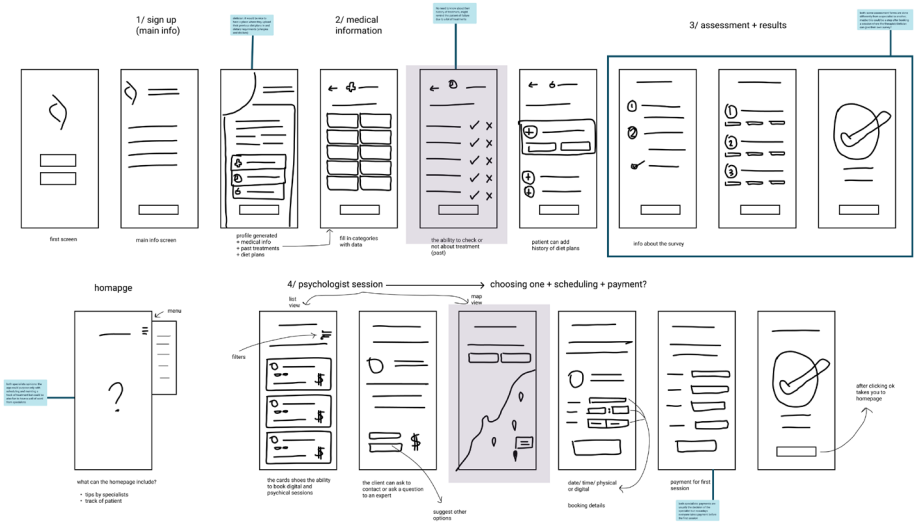


Figure 27 Deyra wireframe sketches

After wireframing the application and considering how to flow should go from the patient point of view, I have tested It again with experts (dieticians & psychologists) and patients.

The insights I got from experts were as following, and under each is what have I did to change the wireframe and application flow:

"It would be nice to have a place where they upload their previous diet plans in and dietary requirements (allergies and dislikes)"

I have added categories of dietary tracks so the patient can add in their track depending on the day, and I have created an upload button so they can upload formats like pdf, png, jpeg, etc.

"No need to know about their history of treatments, might remind the patient of failure due to a lot of treatments"
I have deleted the fact that the patient should fill in past treatment, if needed by the expert they could ask it during a session directly.

"Some assessment forms are done differently from a specialist to another, maybe this could be a step after booking a session where the therapist/ dietician can give their own survey?"
I have made the possibility for a psychologist or a dietician to upload and send their own forms of assessment, or just use the one provided by the app (assessment survey found in annex/01)

"The app could purpose only with scheduling and maintaining a track of treatment but could be also fun to have a wall of word from specialists"
Most patients and experts that were tested believed to keep the app for track without any distraction and making it a social media replica, and so the homepage was provided to show the patient's track of progress in the healing journey.

"Payments are usually the decision of the specialist but nowadays everyone takes payment before the first session"
Payment wall is provided by the application with options of payment for clients to pay the first session, it depends if the psychologist or dietician prefers payments before or after session.

These changes were before creating the application's user interface, so I did a final round of testing afterwards.

Final product test

After the design of the application user interface and applying the changes occurred when drafting the wireframes, the final application was tested among different dieticians, psychologists and patients.
Since the application's point of view that was designed is from the patient's point of view, what was more valuable in feedbacks were coming from them and so testing was focused on patients.
The feedbacks were very positive regarding to the application flow, the ease of usage, the interface design, the colors, and the value meeting application's goals.

The patients were given the scope of Deyra, what was it and how the process goes, and the order that was given to patients was "go through the application's steps while thinking loudly, and imagine it's your journey to recovery from an eating disorder"

The feedbacks I got from patients were as following, and under each, if applicable, the changes and additions ensued to the application:

"The application has a very smooth path, and the way that makes you go through the therapy makes it easier for you to not overthink the steps and what to do next"

"I found it very user friendly, and everything I had as for my history in medical records in is one place"

"The application gives you some sort of independency where it gives you recommendations but at the same time lets you be your own person and choose from the rest of the list"

"I like the way the application recommends psychologists and dieticians based on the assessment done and my profile, I find that very helpful since I always struggle to find the perfect fit for me"

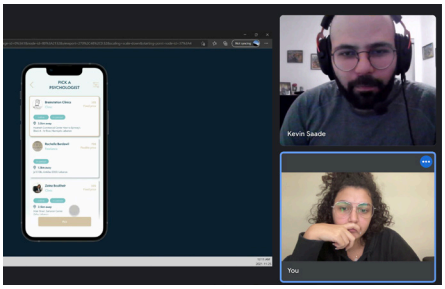
"I like it, but maybe It would be nice to contact my therapist and dietician each on their own"

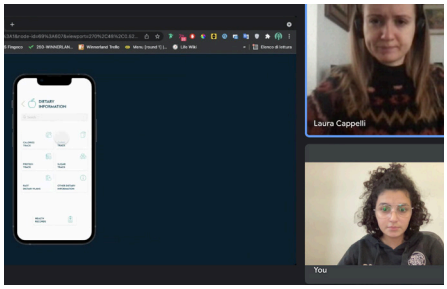
The messages part was changed to make the user be able to contact all specialists included in the treatment journey together in a group or to contact them individually.

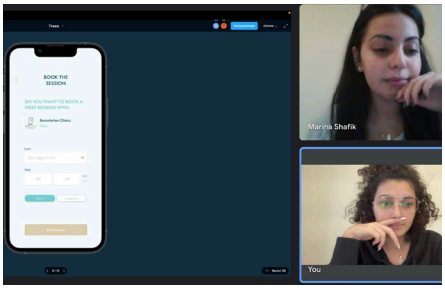
"Maybe the part of where psychologists recommend me dieticians could be a bit restrictive"

I have added a division in where the user/patient can either book a session with a recommendation or choose their own dietician from the list provided by the app, ascending order on the dietician that relates to the user more.

It was very helpful for me to have a final test with users in order to find further gaps and opportunities for growth.







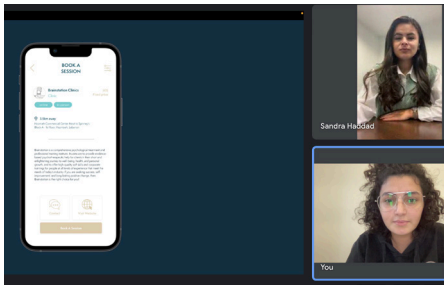


Figure 28, 29, 30, 31 Screenshots of patients undergoing the testing of Deyra application

CONCLUSION

Deyra's experience to patients, psychologists, and dieticians should be very easy as for experts it a very niche targeted patients of theirs, and for patients they should not think that their healing journey should be complex and complicated. The service and application do lack some aspects of complexity and the right amount of details.

First of all, the service does lack the business aspects of it, for a further developed service a business map would be generated with paying attention to the financial sides of it. The way the financial flows between the users of Deyra and between Deyra and the users, and to pay more attention to the activities provided.

Second, Deyra lacks an organization plan, as it's still unknown to what extent the company is going to grow, and whether it's a profitable or non-profitable organization. The number of employees and what are the type of employees needed to make the company run smoothly is also still unidentified.

Third, the Road Map of the application and objectives of the first year, three years, five years, and ten years is still unspecified yet. That can cause some problems to maintain the value of the application.

Fourth, the legal side of the service was not investigated furthermore, considering that there might be any obstacles regarding the patient's privacy, data collection and data sharing. Also, regarding the. Posting of private medical health with viewing of others on them.

Some of the obstacles that I came across while developing the thesis research were regarding the distance of investigating but fortunately was able to come through them, during some of the interviews an electricity cut off went through because of the status in Lebanon, where some others were not able to provide me an interview due to the lack of internet.

Concluding the thesis project, it is evident that in Lebanon a collaborative service between psychologists and dieticians is needed to act as a bridge between the specialists who needs constant communication and connection among each other and amongst them and patients with eating disorders. As a patient needs constant follow-ups and guidance through there psychological and nutrition healing journey from eating disorders.

This research and thesis aim to fill that exact gap in such a way that fulfils the needs of Lebanese people dealing with such issues in such times.

REFERENCES

"Archived copy". Archived from the original on 26 February 2020. Retrieved 12 January 2020.

"Beirut explosion: Lebanon's government resigns as public anger mounts". BBC News. August 10, 2020. Retrieved August 10, 2020.

"Coronavirus outbreak 'getting bigger' - WHO". BBC News. Retrieved 2020-02-28.

"Décès de Jocelyne Saab, réalisatrice libanaise pionnière au Proche-Orient". france24.com (in French). Retrieved 12 January 2019.

"i24NEWS". www.i24news.tv.

"Lebanese call for an uprising after protests rock Beirut". Reuters. Retrieved 9 August 2020.

"Lebanon explosion: Deadly fuel tank blast rocks Beirut". BBC News. October 9, 2020.

"Lebanon gripped by 'night of terror' as ISIS fighter attacks Tripoli". The National. 4 June 2019. Retrieved 14 September 2019.

"Lebanon protests: New government ends months of deadlock". BBC News. 22 Jan 2020. Retrieved 21 Apr 2020.

"Lebanon protests: University professor Hassan Diab nominated to be PM". BBC. 19 December 2019. Retrieved 25 February 2020.

"Lebanon turns to neighbours to douse forest fires". Gulf News. 15 October 2019. Retrieved 29 October 2019.

"Lebanon: Beirut fuel tank explodes in building basement, killing four". 10 October 2020.

"Lebanon: Two killed in armed clashes with Hezbollah supporters". The National. August 27, 2020. At least two people were killed and 10 wounded when clashes broke out between armed members of the militant group Hezbollah and tribal members south of Beirut on Thursday, local media reported. The clashes in Khaldeh, south of the Lebanese capital, reportedly erupted after a row over banners that had been hung.

"Lebanon's Hezbollah denies infiltration attempt or clashes near Lebanese frontier". Reuters. 27 July 2020 – via www.reuters.com.

"Netanyahu warns Hezbollah against playing with fire after frontier incident".

"Newcastle Herald". Five dead after Lebanon jailbreak chase. 22 Nov 2020. Retrieved 7 Dec 2020.

"Protesters block roads in Lebanon as anti-gov't rallies resume". Al Jazeera. 14 Jan 2020. Retrieved 21 Apr 2020.

"Talks begin to resolve disputed Lebanon-Israel maritime border". UN News. 2020-10-14. Retrieved 2020-10-16.

A. (2017, June 13). Eating Disorder Symbol. EatingDisorders.Com. https://eatingdisorders.com/articles/eating-disorders/eating-disorder-symbol

Abdul Reda, Nour (10 Mar 2020). "Breaking: First Person Dies From Coronavirus in Lebanon". the961.com. Retrieved 21 Apr 2020.

Admin, A. (2018, March 11). SCOFF Questionnaire. PsychTools. https://www.psychtools.info/scoff/

Afifi-Soweid, R. A., Najem Kteily, M. B., & Shediac-Rizkallah, M. C. (2002). Preoccupation with weight and disordered eating behaviors of entering students at a University in Lebanon. International Journal of Eating Disorders, 32(1), 52–57.

Afifi-Soweid, R. A., Najem Kteily, M. B., & Shediac-Rizkallah, M. C. (2002). Preoccupation with weight and disordered eating behaviors of entering students at a University in Lebanon. International Journal of Eating Disorders, 32(1), 52–57.

Al Rahbany, C., Sakr, S., & Al Khatib, A. Eating Habits and Lifestyle Behaviors During Covid-19 Lockdown in Lebanon.

American Psychological Association. (n.d.). Psychologists, helping people improve their lives. American Psychological Association. Retrieved November 21, 2021, from https://www.apa.org/education-career/guide/paths/improve-lives.

Aoun, A., Garcia, F. D., Mounzer, C., Hlais, S., Grigioni, S., Honein, K., & Déchelotte, P. (2013). War stress may be another risk factor for eating disorders in civilians: a study in Lebanese university students. General hospital psychiatry, 35(4), 393-397.

AUBMC. (2020). Treatment and Outreach Program for Eating Disorders (TOP-ED). http://www.aubmc.org/clinical/Psychiatry/Documents/EATINGDISORDERPROGRAMENG.pdf

Azar SA, Hanna K, Sabbagh R, et al. Cross-sectional study of Knowledge, Attitude and Practice (KAP) towards mental illnesses among university students in Lebanon. Int J Mental Health Psychiatry. 2016;96:100–105.

Azhari, Timour (21 Apr 2020). "Several dead in 'indiscriminate' Lebanon mass shooting". Al Jazeera. Retrieved 21 Apr 2020.

Azhari, Timour. "Lebanon's Hezbollah accuses Israel of fabricating border clash". www.aljazeera.com.

BC Place glows purple for Eating Disorder Awareness. (2019, February 1). BC Place. https://www.bcplace.com/news/2019-02-01/bc-place-glows-purple-for-eating-disorder-awareness1

Campion J, Nurse J. A dynamic model for wellbeing. Australas Psychiatry. 2007;15 Suppl 1:S24-8. doi: 10.1080/10398560701701106. PMID: 18027131.

Clement S, SchaumanO, Graham T, et al. What is the impact ofmental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies. PsycholMed. 2015;45(1):11–27.

Contributors, W. M. D. E. (n.d.). What is a psychologist? what they do, when to see one, and what to expect. WebMD. Retrieved November 21, 2021, from https://www.webmd.com/a-to-z-guides/what-is-psychologist.

Corrigan PW, Rao D. On the self-stigma of mental illness: Stages, disclosure, and strategies for change. Can J Psychiatry. 2012;57(8):464–469.

Eating Disorder Severity Test (Assessment survey). (2020). Progress Not Perfection Company. https://www.progressnotperfectioncompany.com/post/eating-disorder-severity-test

El Hajj, M. (2021). Prevalence and associated factors of post-traumatic stress disorder in Lebanon: a literature review. Asian journal of psychiatry, 102800.

El Othman, R., Touma, E., El Othman, R., Haddad, C., Hallit, R., Obeid, S., Salameh, P., & Hallit, S. (2021). COVID-19 pandemic and mental health in Lebanon: a cross-sectional study. International journal of psychiatry in clinical practice, 25(2), 152–163. https://doi.org/10.1080/13651501.2021.1879159

Elie G Karam et al. "Prevalence and treatment of mental disorders in Lebanon: a national epidemiological survey." Lancet (London, England), 367(9515), 1000-1006, 2006.

Farhood LF, Dimassi H. Prevalence and predictors for post-traumatic stress disorder, depression and general health in a population from six villages in South Lebanon. Soc Psychiatry Psychiatr Epidemiol. 2012;47(4):639–649.

Ferrer-Garcia, M., & Gutie´rrez-Maldonado, J. (2011). The use of virtual reality in the study, assessment, and treatment of body image in eating disorders and nonclinical samples: A review of the literature. Body Image, 9, 1–11.

Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. International Journal of eating disorders, 31(1), 1-16.

Haddad, C., Zakhour, M., Haddad, R., Al Hachach, M., Sacre, H., & Salameh, P. (2020). Association between eating behavior and quarantine/confinement stressors during the coronavirus disease 2019 outbreak. Journal of eating disorders, 8(1), 1-12.

Herek GM, Gillis JR, Cogan JC. Internalized stigma among sexual minority adults: Insights from a social psychological perspective, 1, 18–34, 2015. https://doi.org/10.1037/2376-6972.1.S.18

Hoek, H. W., & Van Hoeken, D. (2003). Review of the prevalence and incidence of eating disorders. International Journal of Eating Disorders, 34(4), 383–396.

How the Color Blue Impacts Moods, Feelings, and Behaviors. (2020, February 22). Verywell Mind. https://www.verywellmind.com/the-color-psychology-of-blue-2795815

Jump up to: a b "Lebanon president: Israel drone attack a declaration of war". Al Jazeera. 26 August 2019. Retrieved 14 September 2019.

Karam EG, Mneimneh ZN, Karam AN, et al. Prevalence and treatment of mental disorders in Lebanon: A national epidemiological survey. Lancet North AmEd. 2006;367(9515):1000–1006.

Kathryn Dumper, W. J. (n.d.). Introductory psychology. Retrieved November 21, 2021, from https://opentext.wsu.edu/psych105/chapter/12-2-what-are-psychological-disorders/.

Keel, P. K., & Klump, K. L. (2003). Are eating disorders culturebound syndromes? Implications for conceptualizing their etiology. Psychological Bulletin, 129(5), 747.

Keyes KM, Shmulewitz D, Greenstein E, et al. Exposure to the Lebanon War of 2006 and effects on alcohol use disorders: The moderating role of childhood maltreatment. Drug Alcohol Depend. 2014;134:296–303.

Khalil, R. B. (2019). The psychological wellbeing of the Lebanese society lies between incremental suicide rates and financial stress. Asian journal of psychiatry, 42, 85-86.

Khamis, V. (2012). Impact of war, religiosity and ideology on PTSD and psychiatric disorders in adolescents from Gaza Strip and South Lebanon. Social Science & Medicine, 74(12), 2005-2011.

Khawaja, M., & Afifi-Soweid, R. (2004). Images of body weight among young men and women: Evidence from Beirut, Lebanon. Journal of Epidemioogy and Community Health, 58, 352–353.

Lake AJ, Staiger PK, Glowinski H. Effect of Western culture on women's attitudes to eating and perceptions of body shape. Int J Eat Disord 2000; 27:83–89.

Lake, A. J., Staiger, P. K., & Glowinski, H. (2000). Effect of Western culture on women's attitudes to eating and perceptions of body shape. International Journal of Eating Disorders, 27(1), 83-89.

Littlewood R. Commentary: globalization, culture, body image, and eating disorders. Cult Med Psychiatry 2004; 28:597–602.

Madanat HN, Hawks SR, Campbell T, et al. Young urban women and thenutrition transition in China: a familiar pattern emerges. Glob Health Promotion 2010; 17:43–51.

Madanat HN, Lindsay R, Hawks SR, et al. A comparative study of the culture of thinness and nutrition transition in university females in four countries. Asia Pacific J Clin Nutr 2011; 20:102–108.

Makino, M., Tsuboi, K., & Dennerstein, L. (2004). Prevalence of eating disorders: A comparison of Western and Non-Western Countries. Medscape General Medicine, 6(3), 49.

Marcotullio PJ. Asian urban sustainability in the era of globalization. Habitat Int 2001; 25:577–598.

McGrane, M. K. S. (2021, January 8). Nutrition and mental health: Is there a link? Medical News Today. https://www.medicalnewstoday.com/articles/nutrition-and-mental-health-is-there-a-link#The-take-home-message

McLeod, S.A. (2019). What is psychology? Retrieved from https://www.simplypsychology.org/whatispsychology.html

Melisse, B., de Beurs, E., & van Furth, E. F. (2020). Eating disorders in the Arab world: a literature review. Journal of eating disorders, 8(1), 1-19.

Michaelson, J., Mahony, S., & Schifferes, J. (2012). Measuring wellbeing: A guide for practitioners. New Economics Foundation, London.

MoPH. "Mental health and substance use–prevention, promotion, and treatment: Situation analysis and strategy for Lebanon 2015–2020 Version 1.1." (2015).

Morgan, J., Reid, F. and Lacey, J. (1999). The SCOFF questionnaire: assessment of a new screening tool for eating disorders. BMJ, 319(7223), pp.1467-1468. Doi:10.1136/bmj.319.7223.1467.

Mourani, S. C., & Ghreichi, M. C. Mental Health Reforms in Lebanon During the Multifaceted Crisis.

Nasser, M. (1986). Comparative study of the prevalence of abnormal eating attitudes among Arab female students of both London and Cairo universities. Psychological Medicine, 16(3), 621–625.

Nasser, M. (1988). Culture and weight consciousness. Journal of Psychosomatic Research, 32(6), 573–577.

Perry, L., Morgan, J., Reid, F., Brunton, J., O'Brien, A., Luck, A. and Lacey, H. (2002). Screening for symptoms of eating disorders: Reliability of the SCOFF screening tool with written compared to oral delivery. International Journal of Eating Disorders, 32(4), pp.466-472. Doi:10.1002/eat.10093.

Philippe, R. (2009, February 5). The importance of psychology. Owlcation. Retrieved November 21, 2021, from https://owlcation.com/social-sciences/Psychology-and-its-Importance.

Pike KM, Borovoy A. The rise of eating disorders in Japan: issues of culture and limitations of the model of 'Westernization'. Cult Med Psychiatry 2004; 28:493–531.

Pike, K. M., Hoek, H. W., & Dunne, P. E. (2014). Cultural trends and eating disorders. Current opinion in psychiatry, 27(6), 436-442.

Pioneering Lebanese filmmaker Georges Nasser dies at 91

Politicians mourn death of former MP Robert Ghanem

Rahhal, N. (2018, August 7). Wellness and health in Lebanon: current status and potential for growth. Executive Magazine. https://www.executive-magazine.com/special-report/wellness-and-health-in-lebanon-current-status-and-potential-for-growth

Rayan A, Jaradat A. Stigma of mental illness and attitudes toward psychological help-seeking in Jordanian university students. Res Psychol Behav Sci. 2016;4(1):7–14.

Rayan A, Obiedate K. The correlates of quality of life among Jordanian patients with schizophrenia. J Am Psychiatr Nurses Assoc. 2017; 1078390317710498.

Rayan, A., & Fawaz, M. (2018). Cultural misconceptions and public stigma against mental illness among Lebanese university students. Perspectives in psychiatric care, 54(2), 258-265.

Reuters. 27 July 2020 – via www.reuters.com.

Salameh, P., Aline, H. A. J. J., Badro, D. A., Abou Selwan, C., Randa, A. O. U. N., & Sacre, H. (2020). Mental health outcomes of the COVID-19 pandemic and a collapsing economy: perspectives from a developing country. Psychiatry research, 294, 113520.

Shefer G, Rose D, Nellums L, ThornicroftG,Henderson C, Evans-Lacko S. 'Our community is the worst': The influence of cultural beliefs on stigma, relationships with family and help-seeking in three ethnic communities in London. Int J Soc Psychiatry. 2013;59(6):535–544.

Sibai AM, Nasreddine L, Mokdad AH, et al. Nutrition transition and cardiovascular disease risk factors in middle east and north Africa countries: Reviewing the evidence. Ann Nutr Metab 2010; 57:193–203.

Sniraite, A. (2021, July 24). Curves And Round Shapes - New Interior Trend For 2019 And 2020. AUTHENTIC INTERIOR. https://www.authenticinterior.com/design-trends/curves-and-round-shapes-new-interior-trend-for-2019-and-2020/

Soh NL, Walter G. Publications on cross-cultural aspects of eating disorders. J Eat Disord 2013; 1:1–4.

Sullivan, Oliver Holmes (now); Helen; Ratcliffe (earlier), Rebecca; Holmes, Oliver; Elgot, Jessica; Borger, Julian; Blackall, Molly; Bramley, Ellie Violet (2020-08-05). "Beirut explosion: death toll rises to 135 as about 5,000 people are wounded – as it happened". The Guardian. ISSN 0261-3077. Retrieved 2020-08-05.

Swami, V., Airs, N., Chouhan, B., Leon, M. A. P., & Towell, T. (2009). Are there ethnic differences in positive body image among female British undergraduates? European Psychologist, 14, 288–296.

Tamim, H., Dumit, N., Terro, A., Al-Hourany, R., Sinno, D., Seif, F., & Musharrafieh, U. (2004). Weight control measures among university students in a developing country: A cultural association or a risk behavior. Journal of the American College of Nutrition, 23(5), 391–396.

The Color Gold. (2021). Empowered By Color. https://www.empower-yourself-with-color-psychology.com/color-gold.html

Tributes flow for award-winning Lebanese author and journalist May Menassa

van Braam, H. (2020, September 9). Turquoise Color Psychology and Meaning. Color Psychology. https://www.colorpsychology.org/turquoise/

Velarde, O. (2020, February 6). Geometric Meanings: The Psychology of Shapes and How to Use Them in Your Designs. Visme Blog. https://visme.co/blog/geometric-meanings/

Who/NMH/MSD/mps/02.02 nations for Mental Health. (n.d.). Retrieved November 21, 2021, from https://www.who.int/mental_health/media/en/400.pdf.

Wikipedia contributors. (2020, December 4). 2019 in Lebanon. Wikipedia. https://en.wikipedia.org/wiki/2019_in_Lebanon

Wikipedia contributors. (2020, September 14). 2020 in Lebanon. Wikipedia. https://en.wikipedia.org/wiki/2020_in_Lebanon

Yahia, N., El-Ghazale, H., Achkar, A., & Rizk, S. (2011). Dieting practices and body image perception among Lebanese university students. Asia Pacific Journal of Clinical Nutrition, 20(1), 21–28.

Yang LH, Purdie-Vaughns V, Kotabe H, et al. Culture, threat, and mental illness stigma: Identifying culture-specific threat among Chinese-American groups. Soc Sci Med. 2013;88:56–67.

Yassine, Hussein (21 February 2020). "First Coronavirus Case Confirmed in Lebanon". the961.com. Retrieved 21 April 2020.

Yee, Vivian (Oct 29, 2019). "Lebanon's Prime Minister, Saad Hariri, Steps Down in Face of Protests". The New York Times. Retrieved 25 February 2020.

Yehia, Farah, and Fadi El Jardali. "Applying knowledge translation tools to inform policy: the case of mental health in Lebanon." Health research policy and systems 1(1), 1-11, 2015.

Zeeni, N., Gharibeh, N., & Katsounari, I. (2013). The influence of socio-cultural factors on the eating attitudes of Lebanese and Cypriot students: A cross-cultural study. Journal

Zeeni, N., Safieddine, H., & Doumit, R. (2017). Eating disorders in Lebanon: directions for public health action. Community mental health journal, 53(1), 117-125. Chicago

LIST OF FIGURES

ANNEX

How Often Questions

Answer each question: never, sometimes, or always.

How often do you think about food throughout the day?

How often do you think about your body size/shape throughout the day?

How often do you eat in secret? Eat by yourself on purpose?

How often do you feel out of control when you eat?

How often do you feel fat?

How often do you feel guilty about eating?

How often do you refuse outings that interfere with your eating habits?

How often do you think about your weight throughout the day?

How often do you compare your appearance to others?

How often have you used inappropriate methods (vomiting, laxatives, etc.) to lose weight?

How often do you wear clothes that don't fit to hide or deny your weight?

How often do you talk about weight or body image?

How often do you hide evidence of your eating habits (empty food containers, uneaten food, etc.)?

Yes or No Questions

Answer each question: yes or no.

Do you categorize certain foods as good or bad?

Are you scared of being fat?

When meeting someone new, is weight the first thing you see?

Do you not like seeing your body?

Are you dissatisfied with your body?
Are you dissatisfied with your weight?
Do you fear weight gain?
Have you made food rules for yourself to lose weight?
Does the scale scare you?
Does food scare you?
Have you changed your eating habits drastically to lose weight in the last six months?
Does thinking about your weight affect your mood?
Are you obsessed with calories and/or caloric density?
Do you feel like others are watching you eat?
Do you want to be thinner?
Do you exercise solely to lose weight?
Do you feel like food controls your life?
Do you hoard food?

Calculate score:
How often: Never = 0; Sometimes = 1; Always = 2
Yes or No: No = 0; Yes = 2

0 to 15: No ED
You have no problem with food, weight, or body image. The answers to the above questions were mostly no and never. No need to worry! Your relationship with food is healthy, and your body image is positive. Enjoy a piece of cake or a shopping trip without a second thought (or a guilty thought)!

16 to 30: Slight ED
You have a slight problem with food, weight, or body image. The answers to the above questions were a good mix of yes and no, never, sometimes and always, but a majority no and never. You may be on the verge of having an eating disorder or maybe recovering from one, but you might have some bad habits you need to kick.

31 to 45: Moderate ED
You have a moderate problem with food, weight, or body image. The answers to the above questions were a good mix of yes and no, never, sometimes and always, but a majority yes and always. You have an eating disorder, but the good news is admittance is the first step to recovery. Now we can start the healing journey.

46 to 62: Severe ED
You have a critical problem with food, weight, or body image. The answers to the above questions were mostly yes and always. You have an eating disorder and food rules every part of your life. The good news is, now you know, and you can start healing.

If you scored above 50, consider seeking professional help.