Exploring the sociodemographic and outcome variables of children and adolescents assessed by CAPES

By

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Abstract

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Background – Psychiatric emergency services offer urgent mental health assessments to prevent unnecessary inpatient psychiatric hospitalisation. The most prevalent mental health presenting complaints to a paediatric A&E in developed countries are self-harm behaviour, anxiety, low mood, behavioural problems, and substance abuse.

Aim – To examine the sociodemographic and outcome variable of children and adolescents assessed by the Children and Adolescent Psychiatric Emergency Service (CAPES) between July 2016 and October 2020.

Participants – All of the cases assessed by CAPES over a 4-year period were included in this study, in total there were 918 young people who made use of this service.

Design – A descriptive content analysis of available hospital documents was performed to identify possible promoters and risk factors associated with child psychiatric emergencies.

Setting – the study took place at CAPES, which is situated at the Accident and Emergency department at Mater Dei Hospital.

Results & Conclusion – There was no significant difference for the participants by gender, and most of the participants were aged between 10-13 years old. Many of the children and adolescents had no previous psychiatric history. Suicidal thoughts and behavioural problems were the two most predominant presenting complaints. 42.8% of the cases assessed by CAPES were classified as nonurgent. Most of the participants were referred from school. CAPES was most busy during the scholastic months. The rate of admissions following CAPES assessment was 11.4%, and most of the admissions were voluntary.

Keywords: Child Psychiatry, Psychiatric Emergency Services, CAPES, Quantitative

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List Of Abbreviations

A&E	Accident and Emergency
ADHD	Attention deficit hyperactivity disorder
ASD	Autism Spectrum Disorder
C-CASA	Columbia-Classification Algorithm for Suicide Assessment
C-SSRS	Columbia-Suicide Severity Rating Scale
CAMHS	Children and Adolescents Mental Health Services
CAPES	Children and Adolescent Psychiatric Emergency Service
CGAS	Children Global Assessment Scale
CHW	Children Hospital at Westmead
CIHT	Crisis Intervention and Home Treatment
CYPS	Child and Young People's Services
DAMA	Discharge Against Medical Advice
DSM-V	The Diagnostic and Statistical Manual of Mental Disorders (5th Editon)
FREC	Faculty Research Ethics Committee
LIJMC	Long Island Jewish Medical Centre
MDH	Mater Dei Hospital
MHA	Mental Health Act
N/n	Number of cases or respondents
NSO	National Statistics Office
ODD	Oppositional Defiant Disorder
P	Level of significance
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta Analyses
SPSS	Statistical Package for the Social Sciences

UMDNJ	University of Medicine and Dentistry of New Jersey
UREC	University Research Ethics Committee
WHO	World Health Organisation
χ^2	Chi-Square test Statistic
YPU	Young People's Unit

Chapter 1

Introduction

1.1 Background information

Childhood and adolescence are vital stages of a person's life when it comes to mental health and well-being. This is a crucial time when children gain self-control, social interaction, and learning skills. Negative experiences may hinder the production of these essential cognitive and emotional skills. The socioeconomic circumstances in which children grow up, may have an influence on their future.

Early life exposure to risk factors may have a huge impact on the individual's mental health for many years. At a population level, the effects of such sensitivity can be seen in high and rising rates of mental health and behavioural issues (WHO, 2018). Kessler et al. (2007) highlights that 50% of psychiatric problems in adults have their onset during or before the adolescence age. The WHO reports that one in five children and adolescents around the world have a psychiatric issue, with suicide being the second leading cause of death among 15-29 years old.

Brown (2005) expounds that psychiatric emergency services offer urgent mental health assessments to prevent unnecessary inpatient psychiatric hospitalisation. These assessments usually take place within the Accident & Emergency (A&E) department of a general hospital. The most prevalent mental health presenting complaints to a paediatric A&E in developed countries are self-harm behaviour, anxiety, low mood, behavioural problems, and substance abuse (Newton et al., 2009).

The main objectives when conducting a psychiatric emergency assessment in children and adolescents are:

- To determine whether there is an imminent risk of harm to self or others.
- To determine whether there is a mental health condition.
- To establish the triggering factors leading to the emergency

- To assess the client's normal level of functioning and the extent this has been affected by the current psychiatric emergency.
- To determine whether an inpatient psychiatric hospitalisation is warranted (Carandang et al., 2012).

1.2 Local Scenario

In Malta, the Children and Adolescent Psychiatric Emergency Services (CAPES) was set up in July 2016. CAPES is a nurse-led service, that offers crisis intervention and psychiatric support to children and adolescents, and their care givers at the A&E department at Mater Dei Hospital (MDH).

An initial psychiatric assessment and triage is carried out by a psychiatric nurse and afterwards, the case is discussed with a child psychiatrist or a psychiatrist trainee on call. The main aim of CAPES is to provide support by carrying out a psychiatric assessment and setting up a care plan with short term goals based on the needs identified. It also acts as a gatekeeper for admissions and provides other alternatives to psychiatric hospitalisation.

Furthermore, in June 2019 the Crisis Intervention and Home Treatment (CIHT) was introduced to the services provided by CAPES. The CIHT consists of a multidisciplinary team consisting of nurses, social worker and occupational therapists who provide an intensive and focused service to children and adolescents who require urgent follow-up and care due to being hindered by their illness and are at most risk of unsustainable community tenure. The duration of the CIHT service is usually four weeks.

Between July 2016 and October 2020, a total number of 918 children and adolescents were seen by CAPES at the A&E department.

1.3 The present study

Various studies highlight the main characteristics, trends and the general outcomes of children and adolescents who made use of psychiatric emergency services. Some researchers also highlighted the relationship between school and psychiatric emergency visits.

This study aims to first identify the demographic (gender, age, and locality), the socio-economic variables (care and custody), and the outcome on discharge of all the children and adolescents who were referred to CAPES. These variables will then be used to examine potential associations and trends related to the cases seen by CAPES.

The data for this study was gathered through a document analysis of the CAPES assessment sheet. It should be noted that the target population for this study included children and adolescents who were seen by CAPES between July 2016 and September 2020. The total number of participants was 918, and all variables from their reports were included in this study.

The data gathered was used to determine the main characteristics and outcomes of children and adolescents who used the psychiatric emergency services. Also, this was used to determine the following:

1. if any variables have a direct role on admitting a child or adolescent to a psychiatric hospital.
2. If cases presented at CAPES are indeed psychiatric emergencies.
3. If children and adolescents presenting with suicidal ideations or self-harming behaviour, are more likely to be admitted to a psychiatric hospital.
4. If there is an association between mental health emergencies and the school year.

1.4 Reason for undertaking this Research

The interest in carrying out this research, comes from the fact that the researcher currently works within the local child and adolescent mental health services, and has years of experience working in this field. The nature of the work has raised awareness about various demographic, socio-economic and clinical factors which seem to influence the rates of referrals and the outcome of the assessments conducted by CAPES. Nevertheless, there is a lack of research in this specific area, especially in the local scenario.

1.5 Structure of the Dissertation

A brief overview of the layout will be given to facilitate the reader's understanding of this dissertation. The different stages of this study will be displayed in the following chapters:

Chapter 1 presents the introduction of the topic, and the rationale for conducting this study.

Chapter 2 – a description of the theoretical framework used in this research study. Furthermore, the literature review provides a critique of previous research studies in this area.

Chapter 3 – delves into the study's methodology, describing the different stages of the research process. This includes the research design, sample population, data collection methods and analysis, research tools, and ethical concerns.

Chapter 4 – outline the findings of the study following analysis of the data collected.

Chapter 5 - offers a critical discussion of the study's results in the context of existing research studies.

Chapter 6 - brings this dissertation to its conclusion and provides recommendations for clinical practice and for future research.

Chapter 2

Literature

Review

2.1 Introduction

This chapter includes an overview of the search strategy used to define and analyse the latest applicable research in relation to the demographic and socio-economic variable of children and adolescents that were referred to the Children and Adolescents Psychiatric Emergency Service (CAPES). To achieve this objective, a comprehensive and systematic search was carried within electronic databases and bibliographies of relevant scientific journals. To guarantee that every phase of this process is systematically defined, the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) guidelines (Moher et al., 2009) was utilized. In this chapter, a four-phase flow diagram illustrating the flow of information through the various stages of the search for literature is included. This chapter also reviews the studies included in this analysis, along with a description of the key methodological issues that arose in relation to the study of these variables.

The following sections include details about the search strategy, the research question, a section explaining how the literature was identified and screened and the data selection of eligible studies.

2.2 Literature Search, Time Span, and Databases

The databases were accessed through the University of Malta (UOM) online library platform, which is known as HyDi. The following were the main databases that were used for the search: EBSCO Host, Academic Search Ultimate, Medline Complete and ProQuest Central. Furthermore, to ensure a thorough literature search, both the search engine Google Scholar and the reference list of the publications retrieved was reviewed for potential related literature.

The use of several databases has been used to eliminate the possibility of bias in the search for literature. The purpose of this search strategy was to locate both published and unpublished literature, and sources of grey literature. Since literature in this field is rather limited, the search covered a period from the year 2000 and November 2020 and only articles in the English language were considered.

The primary literature search yielded an overall restricted number of studies which focused on examining potential promoters and risk factors relating to the referral of children and adolescents to psychiatric emergency department.

2.3 The Research Question

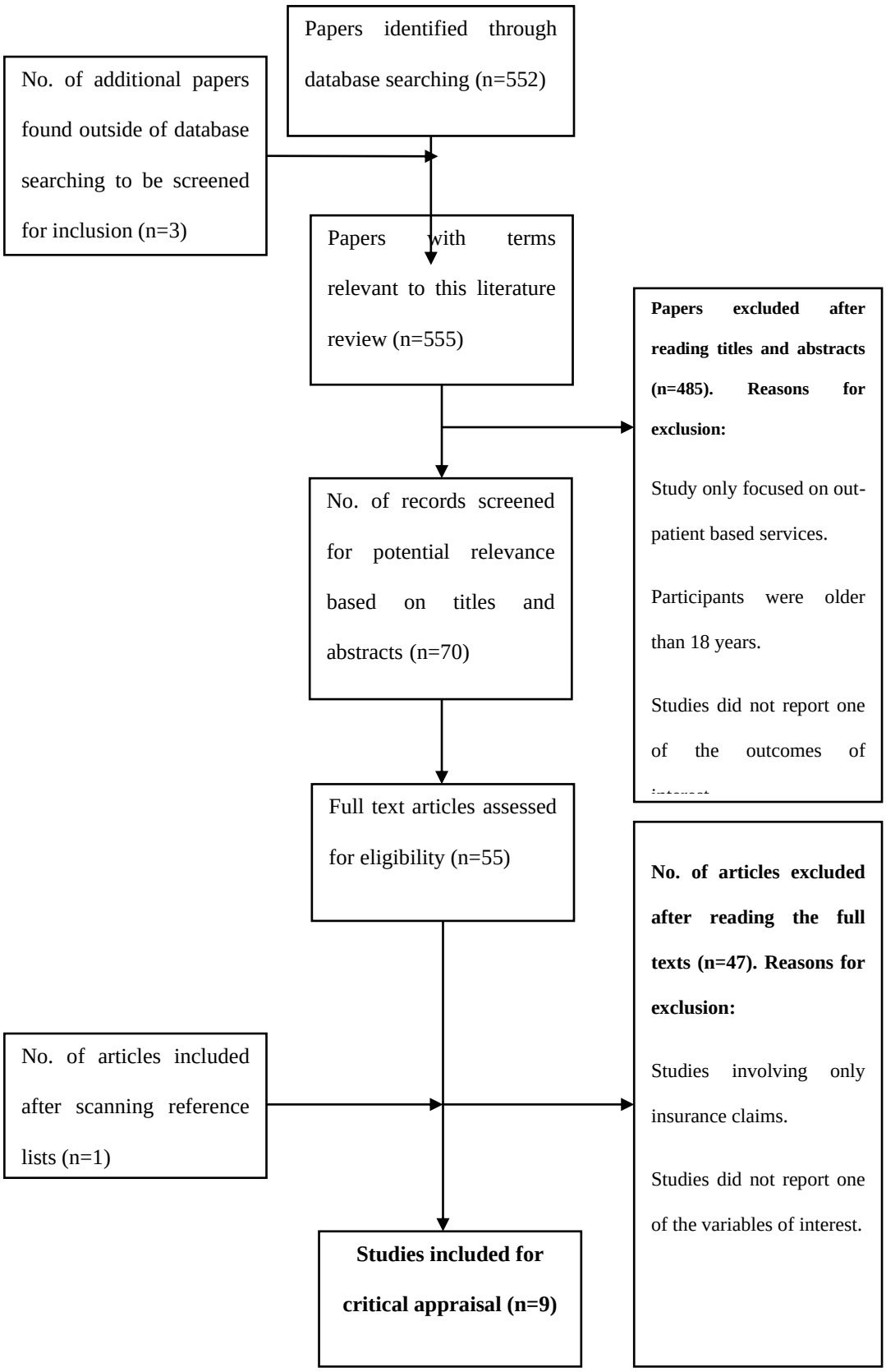
The main objective of this study is to explore the main characteristics and disposition of children and adolescents who made use of psychiatric emergency services. Also, this study explores the main outcomes of the psychiatric emergency's consultations. Additionally, this study aims to identify the potential trends and predictors of the CAPES clients over the period of July 2016 and October 2020. As part of the literature review, all the reviewed research analysed young people up to the age of 18 years. Furthermore, the reviewed papers stated the age group and the presenting complaint of the participants. It should be emphasized that the initial search focused on research where participants were seen at the emergency department after being referred with a psychiatric complaint.

The question addressed in this chapter is: What are the main characteristics, trends and outcomes of children and adolescents who were reviewed at a psychiatric emergency service?

2.4 Identification and Screening of Research Papers

Potentially important papers were classified by the quest as following the PRISMA guidelines; studies were identified at this point based on the titles of publications. Their abstracts were checked with respect to papers with ambiguous content and misleading names. Titles suggesting papers entirely unrelated to the research question were omitted from this review. To locate any additional studies which had not emerged from the search, the reference lists of each related study found were hand-searched.

Figure 2. 1 Flow diagram describing the screening process based in the PRISMA guidelines



2.5 Data Selection and Extraction of Studies for Eligibility

The Inclusion criteria set were:

- Studies that included children and adolescents up to the age of 18 years, who have been seen at the psychiatric emergency department.
- Articles published in a peer-reviewed journal.

Exclusion:

- Studies that included participants older than 18 years
- Studies published before the year 2000.

A review of the related papers found from a literature search is provided in the section.

2.6 Literature Review

The following table provides details regarding relevant studies targeting the characteristics of children and adolescents who made use of the paediatric psychiatric emergency.

Table 2. 1 Description of the studies included in the Literature Review

Author / Year / Country	Research design & data collection tools	Main Findings
Grudnikoff et al., (2014) USA	Retrospective Cohort Study Document analysis & C-CASA	• Suicidality in general and suicidal ideations and thoughts are more associated with females. • School referrals were associated with suicidal ideations and suicidal behaviours. • Peer conflict was associated with both suicidal ideations and behaviours. • Adjustment disorder was a predictor of suicidal ideation.
Grudnikoff, Taneli & Correll (2015) USA	Retrospective Cohort Study Document Analysis	• 44% of psychiatric emergency assessments were referred from school. • Minimal rate of evaluation from school professionals prior to referral. • Nearly half of the cases were discharged from A&E without any further follow up appointments. Most of the cases who were referred for suicidality in general, were deemed as inappropriate.
Edelsohn et al., (2003) USA	Retrospective Cohort Study Document Analysis & Rosenn's classification system	• 40% of the visits to the psychiatric emergency service were for nonurgent reason. • Children and adolescent with a diagnosis of ADHD were evenly distributed between urgent and nonurgent visits

Author / Year / Country	Research design & data collection tools	Main Findings
Dil & Vuijk (2012) Netherlands	Retrospective Cohort Study Document Analysis	• 24.7% of the cases were referred to the crisis team with aggressive behaviour. • 66% of the visits referred for aggressive behaviour were attributed to males ($p<0.001$ • 1.9% of the cases were admitted to an inpatient psychiatric hospital
Boyer et al., (2013) France	Retrospective Cohort Study Document Analysis	• 34.4% of the participants were referred from the medical emergency department. • A high percentage rate of admissions to a psychiatric hospital • 22.7% had no previous psychiatric diagnosis.
Mutlu et al., (2015) Turkey	Retrospective Cohort Study Document Analysis	• Suicidal ideations (21%, mostly attributed to females) and aggressive behaviour (20.7%, mostly attributed to males) were the most presenting complaints. • 51.7% of the participants never used any mental health service prior to the assessment. • There was a high percentage who were admitted to an inpatient hospital after being seen at the paediatric psychiatric emergency.

Author / Year / Country	Research design & data collection tools	Main Findings
Starling, Bridgland, & Rose (2006) Australia	Descriptive Study Document Analysis	• 49% of the participants were reviewed by the psychiatric team after presenting to the A&E with a physical presentation with coexisting psychological factor. • The most common presenting complaints were acute emotional distress and behavioural problems. • The admission rate to a psychiatric hospital was that of 24%
Holder, Rogers, Peterson, & Ochonma, (2017) USA	Retrospective Cohort Study Document Analysis	• most common presenting complaints were behavioural problems and thoughts or actions of self-harm. • 21.7% of the cases were admitted to an inpatient psychiatric hospital. the months of September through November and March through May were the highest frequency of visits.
Goldstein, Silverman, Phillips, & Lichenstein (2005) USA	Retrospective Cohort Study Document Analysis	• consultations were more likely to occur on weekdays (school days) than on weekends. • frequency of consultations performed at the A&E decreased during the summer months.

2.6.1 General Characteristic, Trends and Outcomes of Children and Adolescents seen by a psychiatric emergency service.

Mutlu et al., (2015) conducted a retrospective study to explore the characteristics of young people who made use of a psychiatric emergency service in a Turkish hospital. The population studied included all children and adolescents under the age of 18 who were assessed by the psychiatric emergency team over a one-year period. The total number of cases seen in a year was 1380., however 21.7% were repeated visits. The researched population in the study by Mutlu et al., (2015) was that of 1080, this sample size is a relatively large general sample when compared to the previous studies, and it was not limited to specific diagnosis or presenting complaint. Being a retrospective design, there was no need for it to be approved by an ethics committee.

The data was extracted from the hospital's standardised emergency forms. Only data from the initial psychiatric emergency visit of the patients were included for the study by Mutlu et al., (2015). The collected data included demographic data and other important information about the participant's mental health. The participants were then categorized according to their presenting complaint.

When compared to other studies (Grudnikoff et al., 2015 & Grudnikoff et al., 2014) the mean age of the participants included study by Mutlu et al., (2015) was slightly greater (15.82±1.32). Intriguingly, nearly all the participants were adolescents (99.1%). Different from other studies (Edelsohn et al., 2003; Grudnikoff, et al., 2015; Grudnikoff, et al., 2014) most of the participants were female (65.8%). The two most presenting complaints were suicidal ideations (21%) and aggressive behaviour (20.7%). These figures are remarkably like other studies carried out by Grudnikoff et al., (2014) and Dil & Vuijk (2012) respectively. As with other studies, males were more likely to

be referred with aggressive behaviour when compared to females. Substance abuse and psychotic symptoms were also presenting complaints that were more attributed to males than females. On the other hand, females were more likely to be referred for suicide ideations or thoughts, anxiety and low mood ($p<0.05$).

The most common diagnoses in the participants were Conduct disorder (16.7%), conversion disorder (15.5%), and depression (10.8%). In males, conduct disorder, psychotic disorders, bipolar disorders, and drug abuse were much more prevalent ($p<0.001$), while in females, conversion disorder and depression were more prevalent ($p<0.001$ & $p<0.05$ respectively).

51.7% of the participants had never made use of any mental health service prior to the psychiatric emergency service. On the other hand, 47.5% had previously made use of the same service, 9% had prior outpatient mental health services while7.1% had a history of an inpatient psychiatric hospitalisation, with males more likely to have been hospitalised when compared with females.

The research by Mutlu et al., (2015) also analysed the participants' psychiatric family history, with 27% having a family history. Out of these, 79.5% had psychiatric illness in first-degree relatives.

The study by Mutlu et al., (2015) reported that 27% of the participants were discharged from the psychiatric emergency service without any need for follow up, thus this shows that there are many cases that are referred to the psychiatric emergency service for a non-urgent reason. Contrary to other studies (Dil & Vuijk, 2012; Grudnikoff et al., 2015), the number of admissions to a psychiatric hospital after the intervention were high (25.1%). The researchers argued that this number is justifiable as there were

limited options where the participants could have been discharged and receive further treatment in the community.

By being a retrospective study, and conducted at one hospital, the limitations of the findings of the study by Mutlu et al., (2015) may not be generalised to all paediatric psychiatric emergency care settings. Secondly, the data extracted from the client's file was subjective to the assessor.

Dil & Vuijk (2012) performed a retrospective study to provide an overview of the number and types of presentations made by children and adolescents who made use of the Crisis Team service, in part of Amsterdam with a catchment area of 1,400,000 people. The researchers also examined variations in terms of age and gender in relation to the presenting complaints.

The population in the study by Dil & Vuijk (2012) included children and adolescents under the age of 18, who made use of the psychiatric crisis team over a one-year period. The total number of consultations were 466 cases, of which 27.7% were repeated visits. The number of repeated visits is greater than that of other studies (Edelsohn et al., 2003; Grudnikoff et al., 2015). The sample size is relatively large general sample, and it was not limited to specific diagnosis or presenting complaint.

The researchers collected the data by analysing the assessment sheet used by the crisis team to collect the socio-demographic data. The cases were then divided into three different groups according to age. When compared to other studies (Edelsohn et al., 2003); Grudnikoff et al., 2015; Grudnikoff et al., 2014) the population of the study by Dil & Vuijk (2012) had more female participants than male (52.3% vs 47.7%). Most of the participants (41.4%) were 12-16 years of age, with more males in the younger age group and more females in the two older age groups.

24.7% of the cases were referred to the crisis team with aggressive behaviour, this figure is comparable to the study by Grudnikoff et al. (2015). On the other hand, only 5.6% and 2.4% were referred with suicidal ideation and anxiety or mood complaints, respectively. In the older age groups, the main presenting complaints were aggressive behaviour, suicidal ideations, and homelessness. Remarkably, 66% of the visits referred for aggressive behaviour were attributed to males ($p<0.001$). There were no major variations between males and females in the other main presenting complaints.

Only 1.9% of the cases had to be admitted to a psychiatric inpatient hospital, while 16.5% were referred to psychiatric outpatient care. On the other hand, 23.8% were referred to social service, this number is relatively high, however it is justifiable as there were 35% of cases which involved parental neglect and abuse. Consultations were most often referred to the mental health system when the presenting complaint was suicidal ideation. No significant differences in referral were found for the other main presenting complaints.

The study by Dil & Vuijk (2012) had some limitations, the data collected was extracted from an assessment sheet where some information was not always available. The study did not provide information about the past psychiatric history of the participants, neither did they provide family psychiatric history. Also, no follow up of the cases were performed after the crisis intervention.

Another retrospective study which was conducted by Boyer et al. (2013), aimed to describe the characteristics of children and adolescents who made use of the psychiatric emergency department of a French hospital in the region of Marseille, with a catchment area of one million inhabitants.

The population included in the study were all children and adolescents under the age of 18 years, over a six-year period (2001-2006). The sample size totalled to 335 cases. This number is relatively low when compared to other studies that had a larger sample over a smaller period (Dil & Vuijk, 2012; Grudnikoff et al., 2014; Mutlu et al., 2015). The number of repeated visits was like that of Mutlu et al. (2015) & Dil & Vuijk (2012) 21%. Boyer et al. (2013) highlighted that the number of clients seen at the psychiatric emergency department amounted to 2% of cases seen in the general emergency department.

The data collection consisted of the researchers collecting subjective and collective data about the patients from administrative and medical databases. The data collected consisted of the patient's demographic data, clinical, and were available the management characteristics. The study was approved by the French National Commission for Data Protection, and to ensure confidentiality, the participant's names were replaced by a unique identification number.

To reduce the duplication of results, the researchers analysed two different sets of data. The first set was that of episodes of emergency visits and the second set was that of individual participants.

For the episodes of emergency visits, Boyer et al. (2013) reported that 34.4% of the participants were referred from the medical emergency department, 30.2% were referred from the family, 12.3% were self-referred, 11.4% were referred from a health care professionals and 11.7% were referred from non-health care professionals. The most frequent reason for referrals were suicide attempts (24.5%), anxiety (22.7%), and disruptive behaviour (21.8%). A high percentage (41.3%) of the cases seen were admitted to an inpatient psychiatric hospital. This number contrasts with other studies

that reported a lower percentage of hospital admission. However, this number can be justifiable due to the high amount of suicide attempts cases.

For the individual patients, similar to the study by Mutlu et al. (2015), the majority of the participants were females (62.1%). The average age was 16.5 ±1.6, with most of the clients aged 16 year and over (78%). 22.7% had no psychiatric diagnosis, while the most common diagnosis included, anxiety and related disorders (25.4%), depression and other mood disorder (14%), and schizophrenia (10.6%).

Starling, Bridgland, & Rose (2006) conducted a descriptive design study with the aim to portray a group of children and adolescents who presented to an Australian paediatric emergency department with a mental health problem. Starling et al. (2006) included all youngsters under the age of 18 years old, who visited the emergency department of the Children Hospital at Westmead, in a ten-month period (July 2001 – May 2002).

The sample population of the study by Starling et al. (2006) included 291 visits made by 239 participants. The repeated visits rate was that of 22%, this number is consistent with other studies conducted (Boyer et al., 2013; Dil & Vuijk 2012; Mutlu et al., 2015). The researchers decided to only include the first presentation to the A&E of the participants. When compared to the study of Boyer et al. (2013) the number of mental health emergencies compared to the number of other medical emergencies occurred during the study period was a bit lower. (0.8% vs 2%)

The researchers collected the data from the hospital records, which was compiled by different physicians working at the emergency department. This may have led to inconsistency in the way the data may have been recorded. The data collected included the participants' demographic data and other important information related to the psychiatric history.

The study by Boyer et al. (2013) did not include any information related to who referred the participants to the emergency department. However, they included information on who brought them. 75% were brought to hospital by a relative or a friend, 20% were brought either by ambulance or police, while 3% were brought by other professional service. 49% of the participants were reviewed by the psychiatric team after presenting to the A&E with a physical presentation with coexisting psychological factor. 32% were referred in view of acute emotional distress this included overdose (9%), self-harm (5%), suicidal ideations (6%) and psychosis (2%). Behavioural problems amounted to 18% of the sample this is within the same range of other studies (Boyer et al., 2013; Dil & Vuijk, 2012; Grudnikoff et al., 2015; Mutlu et al., 2015).

The mean age of the participants was 11.8 ±3.2 years, this is nearly identical with the study of Grudnikoff et al., (2015). As with other various studies, Starling et al. (2006) found that males were more likely to present to A&E with a behavioural disorder and that females were more likely to present with emotional disorders.

The admission rate to a psychiatric hospital after the assessment at the A&E was that of 24%. In congruence with other studies, participants with acute emotional disorders were significantly more likely to be admitted. The rate of admissions for behavioural problems was that of 16%.

Past psychiatric history documentation was very inconsistent, as 25% of the participants were not asked about previous psychiatric history. Of the participants asked, 31% had history of mental health issues, with 26% of them having past history of self-harm or suicide attempts.

As mentioned above, one of the limitations of the study was that the history taken was sometimes inconsistent and some psychosocial information was missing. However, this

is normal in a setting where the history is taken by the A&E doctor. Also, the period of the study was that of ten months rather than that of a whole year, with the researcher giving no explanation about the choice of the period studied.

A retrospective study was carried out by Holder et al. (2017) to examine the socio-demographic and diagnostic patterns of the paediatric population in the emergency department. The population studied consisted of all children and adolescents between the ages of 5-18 years, who visited the Greenville Memorial Hospital (US) emergency department with a psychiatric referral in a five-year period (January 2010-December 2014).

The data was collected by analysing the medical and administrative data from the psychiatric emergency visits. The data extracted included socio-demographic and psychiatric data of the participants. The participants were then categorised into three groups according to their age.

Over the five-year period of the study there were a total of 2700 referred cases to the A&E with a mental health referral. The researchers did not cite how many of these cases were made by repeated participants. The sample size of the study size is a relatively large general sample, especially when compared to a similar study conducted over a six-year period which had a low sample (Boyer et al., 2013). The study by Holder et al. (2017) was not limited to a specific diagnosis or presenting complaint, consequently this shows that the researchers did all they could to minimise bias. When compared to the general population referred to the A&E with a mental health referral, the paediatric population amounted to approximately 11%.

Overall, the proportion of visits made to the emergency department by young people was slightly higher for females than for males ($p<0.001$), with the most notable

difference in the 5-10 age group. Of the 2700 cases, almost half of the cases (49%) were referred by their family or were self-referred, 21% were referred by the youngsters' school, 21% by their general practitioner, while 3% were referred from a social welfare agency.

The most common presenting complaints were behavioural problems (68%) and thoughts or actions of self-harm (27%). The rate of behavioural problems was higher than that of other similar studies (Boyer et al., 2013; Dil & Vuijk, 2012; Mutlu et al., 2015; Starling et al., 2006). Holder et al. (2017) reported that the most common psychiatric diagnosis of the participants, were anxiety disorders (28.4%), development disorders (26.5%) and mood disorders (18.6%).

As for the outcome of the emergency visits, 63.7% were discharged back home, however the researchers did not specify if any of these were given a psychiatric outpatient follow up appointment. In similarity with the studies of Mutlu et al., (2015) and Starling et al. (2006) the admission rate to an inpatient psychiatric hospital was reported to be 21.7%. 1.8% of the participants were discharged against medical advice, however the researchers did not highlight the reason why.

Holder et al. (2017) reported that the months of September through November, and March through May were characterised by the highest frequency of visits. This is consistent with the stressful periods in the lives of children and adolescents, as during these months they will be at school, and having stressors such as exams. While from June to August (holiday periods), there was also a substantial decrease in the number of referrals to A&E for psychiatric issues. One of the limitations of the study was that the researchers assumed that all the participants attended school but had no means to verify this.

2.6.2 Predictors of young people presenting to a psychiatric emergency with suicidality.

Grudnikoff et al. (2014) conducted a retrospective study to identify predictors of suicidality in children and adolescent attendinga paediatric psychiatric emergency room. The study had no selection bias as the population studied included all young people under the age of 18 years old who have visited the LIJMC psychiatric emergency room, over a one-year period (2002).

A total number of 1062 cases were included in this study, while 17 cases were excluded because the clients were older than 18 years old. Grudnikoff et al. (2014) found that 797 youngsters (75%) presented to the psychiatric emergency room with a non-suicidal complaint, while 265 (25%) presented with a suicidal complaint. Out of these 25%, 172 (16.2%) presented with suicidal ideation and 93 (8.8%) presented with suicidal behaviour.

The initial data was collected by analysing the registration document, which consisted of the demographic information and a 12-page semi-structured institutional clinical evaluation intake form. After this process, the cases were classified by an unbiased rater, using the Columbia-Classification Algorithm for Suicide Assessment (C-CASA). When a client presented with a multiple complaints, they were coded according to the most clinically severe complaint. Finally, the authors rated each case for severity, acuity, and harm potential on a 7-point scale modelled after the Clinical Global Impressions (CGI) scale.

Due to the retrospective nature of the study, it has some limitations. One limitation was that after the visit to the paediatric psychiatric emergency room, it does not allow for

review of the effects of these individuals outside the disposition plan. Another limitation was that the research was restricted to the information collected in the psychiatric emergency room by the assessors.

51.1% of the participants were male, and the mean age was 13.5 ±3.1 years. As previously mentioned above, 75% of the cases presented with a non-suicidal complaint. Out of these cases, 42% were assessed because of behavioural problems, 11.8% due to depression or anxiety, 4.9% for psychosis and 3.8% had other chief complaints.

Patients who reported suicidality as their main complaint to A&E, were more likely to be female when compared to children and adolescents whose main complaint did not include suicidality. They are still more likely to be diagnosed with anxiety and adjustment disorder, but still, they had less psychiatric diagnoses overall.

Young people with suicidality were less likely to be admitted to an inpatient psychiatric facility or to have an outpatient service follow-up appointment but were more likely to attend counselling sessions at school. The authors found no difference in the use of antidepressant medications between the clients whose main complaint was suicidality and those who presented for other reasons. Clients with suicidality were more likely to be referred from school and assessed on a school day.

This study highlights many features of suicidality in children and adolescents, this information can guide local school clinicians and mental health professionals as to how and where to focus resources and advise the implementation of preventive programs. Children and adolescents participating in peer disputes who are suspected of having an adjustment disorder should be detected early on and adequate care should be given.

2.6.3 The impact of School on Paediatric Psychiatric Emergencies

Grudnikoff et al. (2015) conducted a retrospective study to identify the main attributes and disposition of children and adolescents who were referred from school for a psychiatric evaluation at the emergency department. The population studied in this group were young people under the age of 18 years old who were referred from their school for a psychiatric review at the emergency department at the UMDNJ hospital over a one-year period.

44.1% of the total number cases seen by the children and adolescent psychiatric team at the A&E in a year were referred from school. This amounted to 243 cases, and these were included in the study by Grudnikoff et al. (2015). 25 of cases (10.3%) were repeated visits by the service users. These cases were not excluded from the study, and this could lead to inaccurate results.

The study by Grudnikoff et al. (2015) collected the data using both subjective and objective measurements. The initial data was collected from a standard assessment report sheet which consisted of the general demographic data of the clients and other important psychiatric history, such as the presenting compliant, past psychiatric history, and treatment. Other data was collected using the CGAS and C-CASA assessment tools. After, the cases were categorized into five different groups corresponding to the presenting compliant. The outcome results were also categorized into three groups. These were: discharge without any psychiatric follow up, discharged with psychiatric follow up and admission to an inpatient psychiatric hospital.

Over the one-year period of the study by Grudnikoff et al. (2015) all the school referrals occurred during the US scholastic period (September to June). It was noted that during

this period, the number of psychiatric emergency visits increased significantly. 60.9% of the service users were male, while the mean age was 11.3 ± 3.3 years old. In the younger age group, a male predominance was observed, while in the older age group, there was a minor female predominance.

45.8% of the children and adolescents referred from school had previous psychiatric history. The most common diagnoses were ADHD (42.2%), disruptive behaviour disorder (16.5%), bipolar or mood disorder (7.3%), ASD (5.5%) and depression (4.6%).

The study by Grudnikoff et al. (2015) highlights that most of the clients (81.5%) referred for psychiatric emergencies were not evaluated by the school nurse, counsellor, or social worker prior to the referral.

The prevalent presenting complaint was suicidality in general, this amounted to 44.9% of the visits. Other referrals were for disruptive behaviour (21%), aggressive threats and behaviours (20.6%), non-suicidal self-harm behaviour (6.6%), psychosis (4.1%), anxiety (0.8%), depression (0.8%) medical reasons or suspected abuse (1.2%).

The outcomes of the psychiatric emergency assessment following school referrals were the following: 47.7% were discharged from A&E without the need for any specific psychiatric follow up, 44.4% were discharged with an outpatient psychiatric follow up and 7.8% needed an inpatient admission in a psychiatric hospital. Gridnikoff et al. (2015) noted that youngsters with a past psychiatric history in general were more likely to be given an outpatient follow up or admission, rather than discharge without any follow up plan. Interestingly, the study revealed that amongst the 44.9% (109) of the cases that presented to the A&E with suicidality in general 56% of them were discharged without any follow up, 35.8% were given an outpatient follow up and only 8.3% were hospitalised. Furthermore, after a comparison of the referrals defined as

inappropriate or appropriate based on the results of the assessment visit, it was found that youths referred for suicidality as the presenting complaint were more likely to be referred inappropriately compared to other youths referred with other chief complaints (56% vs 41%, p=0.021).

The study of Grudnikoff et al. (2015) had a good-sized sample, however it was limited to youngsters who were referred from school. Additionally, the study did not include a prospective follow-up data on the outcome of children and adolescents discharged from A&E and so the results need to be interpreted within this limitation. However, the study highlighted the lack of psychological assessment by the school counsellors prior to referring young people to a psychiatric emergency assessment.

2.6.4 Urgency level of the cases of children and adolescents seen at the psychiatric emergency.

The study by Edelsohn et al. (2003) sought to test a hypothesis that 25% of young people that make use of the psychiatric emergency service do so for a nonurgent reason. The research also focused on analysing demographic features that differentiate between urgent and non-urgent visits, and on developing a model for urgency prediction. The population studied included all the children and adolescents, under the age of 18 who visited the psychiatric emergency service at the Albert Eistein Medical Centre, in a one-year period. Out of the total number of 1,524 visits included in the study, of which 11% were repeated visits, more visits were made by males than by females (58% vs 42%). The sample size is a relatively large general sample, and it was not limited to specific diagnosis or presenting complaint.

The visits were then categorised using the Rosenn's (1984) classification of emergencies in children and adolescents, which consists of four different groups based on the urgencies of the visits, ranging from class 1 "potentially life-threatening emergencies" to class 4 "situations in which intervention is demanded but not necessarily psychiatrically warranted". For the study by Edelsohn et al. (2003) class 1 and 2 were considered as urgent and class 3 and 4 as nonurgent.

Edelsohn et al. (2003) found that 40% of the visits to the psychiatric emergency service were for a nonurgent presenting complaint, thus supporting the primary hypothesis of their study. The study also found that 70% of the adolescents older than 13 years old were classified as urgent compared to 48% of children and adolescent under 13 years old. This may be because as children grow older, they are more susceptible to serious emotional disorders. 64% of female visits were classified as urgent, whereas for males there were 57% who were deemed as urgent ($p=0.01$).

As anticipated by the researchers, a significant number of patients with psychosis (86%) and affective disorders (69%) have been identified as urgent visits. Interestingly, Edelsohn et al. (2003) found that young people with an ADHD diagnosis were divided almost equally between non-urgent and urgent (52% vs 48%).

Goldstein et al. (2005) conducted a retrospective study with the aim to examine whether there is a correlation between mental health emergencies in children and adolescents and the school year. The population studied included all children and adolescents up to the age of 18 who made use of the psychiatric consultation service at paediatric emergency department of a large Baltimore hospital over a one-year period. The number of consultations included in the study by Goldstein et al., (2005) was that of 719. This number amounted 4.8% of the 13555 emergency visits of the hospital.

The data collection consisted of document analysis of the included consultations. The data was obtained from the participants' medical file. The consultation visits were performed and documented by a child psychiatrist. The data extracted included socio-demographic, and educational involvement. The research was ethically approved by the hospital's review board.

60% of the sample population were males, and the mean age was 12.1±3.6 years old. Goldstein et al. (2005) reported that the consultations were more likely to occur on weekdays (school days) than on weekends, with 21.4% of the visits taking place on Wednesday. The months of February, March, October, and November were the busiest, this was also indicated in another study (Holder et al., 2017) that the frequency of psychiatric consultations performed at the A&E decreased during the summer months.

A limitation of the study of Goldstein et al. (2005) was that data abstracted regarding the presenting complaint of the participants was not coded and reported in the results. Having this valuable data would have provided crucial information in determining a potential correlation between the presenting complaint and the time of year.

2.7 Conclusion

Originally intended for the treatment of acute and life-threatening illnesses, emergency departments are increasingly becoming the leading provider of psychiatric emergency care to individuals.

The critical discussion pointed out some of the main characteristics, trends and the general outcomes of children and adolescents who made use of psychiatric emergency services.

In most of the studies included in this literature review the most common presenting complaints were behavioural problems and suicidal ideations. In general, behavioural problems were more associated with males, while suicidal ideations were more attributed with females.

Grudnikoff et al. (2015) highlighted a high number of participants who were referred from school, with suicidality being the main reason of referral. Most of these cases were not evaluated by the school counsellor prior referral. Studies conducted by Edelsohn et al. (2003) and Grudnikoff et al. (2015) showed a high percentage of cases who were considered as inappropriate.

In the studies included in this review, the rate of admission to a psychiatric hospital following a psychiatric emergency assessment was between 1.9% and 41.3%

Most of the literature review involved studies conducted in the USA, and nearly all of them were retrospective studies, consequently some studies had limitations due to the nature of the design.

Chapter 3

Methodology

3.1 Introduction

The methodology used in undertaking this research study is highlighted in this chapter. To conduct this study a descriptive content analysis was performed, the first stage of the study involved the creation of a data base. This data base included data on all the children and adolescents who were reviewed by the CAPES team following a psychiatric complaint at the A&E department. All the cases seen by CAPES between July 2016 and October 2020 were included in the study. In the section below, the goals and objectives of this research are outlined, in which the researcher identifies the key research issues and explains the methodological design used in the study, a document analysis.

The advantages and disadvantages of using a descriptive content analysis, as well as a description of the study population, research environment, and research document used, are also discussed. This Chapter also includes information about the data collection and data processing.

3.2 Aims, objectives, and research question.

Within the local scenario there is limited research which addresses the variables and outcomes of children and adolescents who use the local psychiatric emergency services, and this is the first kind of study in this field. Therefore, the main aim of this study is to investigate the demographic variables, trends, and the outcome on discharge, of young people who made use of CAPES over a four-year period (July 2016-October 2020).

The objectives of this study include the following:

1. To determine the characteristics of children and adolescents who used the emergency psychiatric services.

2. To determine whether cases seen by CAPES are influenced by the demographic and socioeconomic variables.
3. To determine if any variables have a direct role on admitting children and adolescents to a psychiatric hospital.
4. To determine whether cases presented at CAPES are indeed psychiatric emergencies.
5. To determine whether children and adolescents presenting with suicidal ideations or self-harming behaviour, are more likely to be admitted to a psychiatric hospital.
6. To determine whether there is an association between mental health emergencies and the school year.

To determine the above objectives, the data collected will be thoroughly analysed using cross tabulation available on the SPSS software. Cross tabulation provides an in-depth information about the relationship between variables.

The following section provides a description of the research design and the rationale behind its choice of selection.

3.3 Research Design

Research design is important because it helps the various research operations run smoothly, resulting in research that is as effective as possible, yielding maximum knowledge with the least amount of effort, and time. The reliability of the results obtained, is influenced by the research design. As a result, it serves as a solid foundation for the entire study.

Lacey (2006) and Polit & Hungler (1999) emphasized that when conducting research, the researcher's most crucial methodological decision is the research design, since this phase influences all other stages of the process. This section informs the reader about the scientific reasoning for the decisions made about the study design's outline.

To attain the objectives of this study, it was determined to carry out a descriptive content analysis. Various researchers described content analysis as cost-effective, unobtrusive, and inconspicuous, meaning that it has no direct impact on the participants (Abbott & McKinney 2013; Duriau et al., 2007; Neuendorf, 2017). Moreover, descriptive content analysis is a highly relevant design in applied health and social science. It has even been used to decipher patterns in an agency's operations through analysing organization documents. This makes it applicable to the current research study which aims to examine the demographic variables, trends, and the outcome on discharge, of children and adolescent who were reviewed by CAPES. Additionally, since the necessary documentation is readily available, the text can be easily coded and analysed directly from the source.

Descriptive content analysis entails the systematic and analytical compilation of quantitative data. Vaismorardi et al. (2013) suggests that before beginning data collection, the researcher must determine the following criteria:

- which materials should be used in the analysis.
- what information material is available.
- the sample size to be used.
- the time frames.

In order to focus on the research question of this study, the researcher decided to target all the children and adolescents who were reviewed by CAPES since July 2016 (commencement of the service). Throughout this process, the researcher kept in mind the study's research question and objectives. Furthermore, prior to the data collection process, patient files were searched to confirm which meaningful variables could be derived from patient documents. This is crucial in content analysis since the creation of the analysis is based on the content to be examined.

The next phase was to choose the coding units. It was determined to look for key terms that are readily recognizable in the reports and can be accurately classified by various content analysts. One drawback of using words as a coding unit, according to the literature, is that the term itself can have different meanings in different contexts. The terms listed for coding in this research, on the other hand, were considered in the context of CAPES.

Coding categories were established after the coding unit was identified. This was achieved with the study's goals in mind, as well as the fact that the categories assigned were mutually exclusive and independent. The information gathered was then analysed to determine response frequency by category. The frequency data was then provided in the form of tables and graphs, which are included in Chapter 4 of this dissertation.

Bowling (2002) highlighted that in contrast to other research approaches, descriptive content analysis has the advantages of greater partiality, ease of use, and is low cost. Another benefit that is critical to the current study, is the ability to examine whole collections of recorded content, which included records covering all cases reviewed throughout the four-year period.

However, despite its popularity and widespread use, content analysis has its own limitations. Krippendorff (2018) points out that content analysis is restricted to the study of reported messages, as well as the fact that the meanings of variable classifications vary over time. As a result, comparisons will be difficult. Bowling (2002) also cautions that no document can be considered completely reliable, but that records can be useful sources of information about society.

3.4 Sample Size and Method

Over the four-year period, there were a total of 918 cases assessed by CAPES at the paediatric psychiatric emergency. Most of the participants were new to the service, however a small number of participants were seen more than once.

In this study, the data was gathered through a document analysis of the CAPES case record file. These files were available at the CAMHS charge nurse office. Additional information was gathered by means of a database that was available prior to the start of the study. This database included basic information of some of the cases seen by CAPES. This data was transferred into a digital format using an excel sheet to facilitate the process.

The following section provides a brief explanation of the data collection and the data input sheet that the researcher created for this purpose.

3.5 The Data input sheet

Charles & Mertler (2002) highlighted that the quantitative data generated allows for the calculation of the occurrence of various aspects in a chosen sample. The data was

collected from the case records over a period of 15 weeks, namely between August and November 2020.

Thus, the first step was to create a data sheet which included socioeconomic, demographic, and clinical variables. As the researcher works in the local children and adolescent mental health services, namely the YPU and CIHT, he has ample knowledge of the type of data records used and available by CAPES. Moreover, the evaluation of literature also supported the researcher in deciding which variables should be included in the list. The following sociodemographic and clinical data were collected from records; the type of data collected included demographics such as gender, year of birth, age, locality and the care and custody. Other clinical records such as presenting complaint, referring agent, month of review, past psychiatric history, family psychiatric history and the outcome on discharge from CAPES were documented from record files. The Data input sheet can be found in Appendix D.

Since there was no existing database available, the researcher created one that specifically covers the maximum number of years in order to analyse the largest cohort available for this study.

Issues of reliability and validity, as well as factors that have positively or negatively influenced validity and reliability in this study, will be addressed in the following section.

3.6 Reliability and Validity

Roberts et al. (2006) highlights that one of the significant aspects of a research study is ensuring that important logistic elements in the protocol have been properly checked before the trial begins. Various researchers argue that significant issues for evaluating

quality include focusing on reliability and validity issues in relation to the research study (Cormack, 2000; Polit et al., 2001; Roberts et al., 2006).

Roberts et al. (2006) described the term reliability as the degree to which a test, procedure, or tool can yield identical results under different conditions, assuming nothing else has changed. Krippendorff (2007) describes how it is critical that both the coding instructions and the coding categories be adequately specified in order to minimize uncertainty about what they are supposed to describe. In addition, reliability tests in content analysis are used to assess whether coding instructions can be replicated elsewhere, at different times, and by different coders.

In the current study, during the pilot phase (as described in the section below) this was ensured by asking the charge nurses and a senior staff nurse working at CAPES to review five patient cases and complete the data input sheet, the researcher also independently reviewed and inputted the data input sheet of the same five cases. To assess the reliability of the study, the completed data input sheets were compared. Moreover, all the coding in the current study was completed by one person, specifically the researcher.

Nevertheless, Krippendorf (2018) poses another concern in terms of reliability: that of ensuring the data collected is large enough to provide the required assurance. In this study, this was ensured by including all cases who have ever been seen by CAPES since the beginning of the service (July 2016). Therefore, this study will give a clear and complete picture of all the cases seen by CAPES.

Roberts et al. (2006) defined the term validity as the closeness of what we think we are measuring to what we want to measure. The researcher was unable to return to the source of the data to confirm any misconceptions due to the retrospective nature of the

study; however, content validation was performed. The latter was done by showing the data input sheet to various professionals working in the children and adolescent psychiatric field for any feedback and suggestions. They were also asked whether more important details should be included, as well as their thoughts on the coding categories listed on the data sheet. According to Shi (2020), expert proficiency, prior literature, and current instruments are all useful resources for identifying various aspects or components of a given dimension. An issue that was reported by the professionals who were consulted, was that related to cases which had some missing information about the family psychiatric history. Consequently, the researcher decided to first collect the presence or absence of family history, then those cases which had family history were grouped according to the different criteria, such as relation to the client and the diagnosis.

The use of a pilot study for this research study is described in the section below.

3.6.1 Pilot Study

Prior to the main research selection process, a pilot study was conducted to test the research design on a smaller scale. The pilot study is an important phase in the research process as it helps to identify potential issues in the subsequent research protocol (Malmqvist et al., 2019). The main objective of this pilot study was to ensure that the collection data sheet which the researcher produced, was consistent and reliable. As a result, the pilot phase was used to gather data in order to develop a data collection strategy and assess its feasibility.

The tool was piloted by asking the two charge nurses and a senior staff nurse working at CAPES to input relevant data in the data collection sheet of five CAPES cases. The

same five cases were then reviewed independently by the researcher, where the appropriate data was also inputted in a separate collection sheet. When the collected data of the charge nurses and the senior staff nurse were then compared with the data collected by the researcher, the data was found to be identical. Another aim of the pilot project was to evaluate the tool's internal consistency reliability, so that any issues that arose during the pilot could be avoided in the main study.

The section below contains a discussion of the techniques used to analyse the data collected as part of the database developed specifically for this analysis.

3.7 Data Analyses

During the data collection phase, the researcher inputted the different variables involved into an excel sheet using Microsoft Excel software. After the data was collected, a data analysis was conducted out of using the Statistical Package for the Social Sciences (SPSS) software. Mertens et al. (2016) described data analysis as an iterative method of manipulating and analyzing numbers in order to draw meaning from them, consequently answering research questions, testing theories, or exploring inductively derived meanings.

The findings of the document analysis are shown in the following chapter (Results) as frequencies or computed percentages. Tables and figures are also included to assist in visualizing the information. Furthermore, the chi square test or Fisher's exact test were used for computations on nominal results. The null hypothesis states that the mean subscale score differs just slightly between groups and is agreed if the p-value is greater than 0.05.

The following section goes into the specifics of the current study's ethical issues.

3.8 Ethical Issues

When conducting a study of such nature some ethical issues arise; the main ethical issues in this study were self-determination and protection from harm. Burns & Grove (2003) emphasised that, researchers must always adhere to the professional, legal, and social obligations, with regards to the research subjects involved in the study

In order to conduct the study, the researcher requested and was granted ethical approval from the Faculty Research Ethics Committee (FREC) as well as the University Research Ethics Committee (UREC). (FREC approval number: UREC FORM V_11022020 5583)

Various researchers describe ethics as a set of moral principles dealing with how thoroughly research methods conform to professional, legal, and social obligations to study participants (Burns & Grove, 2003; Cormack, 2000; Lacey, 2006; Polit & Hungler, 1999).

The aim of the study was to ensure that anonymity, beneficence, confidentiality, privacy, and justice were all respected throughout the research process.

Confidentiality was retained because no unnecessary data was obtained, and a coding scheme was implemented in which each patient was assigned a random number by the CAPES charge nurse, while the identification details of the participants were redacted. Therefore, the researcher never came across the names of patients who made use of the service.

Moreover, the researcher only extracted the appropriate data; demographic, socioeconomic, and clinical data, as described in the Data input sheet created by the author.

Since the documents used to gather data belonged to the hospital, no form of participant consent was deemed necessary, however the Data Protection Act was adhered to when retrieving data from the medical files. The Data Protection Officer at the local psychiatric hospital also gave his approval prior the data collection.

3.9 Conclusion

This chapter provided an overview of the study's goals and objectives, as well as the research questions. The primary aim of this study is to focus on to the demographic variables, trends, and the outcome on discharge, of young people who made use of CAPES over a four-year period.

This study's research design includes a document analysis that focuses on examining the characteristics of children and adolescents who used the emergency psychiatric services. The other objectives of the study included, to determine whether the cases seen by CAPES are influenced by the demographic and socioeconomic variables, to determine if any variables have a direct role on admitting a child and adolescent to a psychiatric hospital and to determine whether children and adolescents presenting with suicidal ideations or self-harming behaviour, are more likely to be admitted to a psychiatric hospital.

The researcher also outlined the data collection process. This included the extraction of various socio-demographic and clinical data that was collected into an Excel sheet for data analysis using SPSS software.

This chapter also covered the reliability and validity of the data collection document and analysis. The full use of data was cited as the study's strength; this method allowed the

researcher to study the largest cohort possible; however, the retrospective nature of the study was cited as one of the study's drawbacks, limiting the results.

Finally, the ethical issues were addressed, as well as the safeguards put in place to protect the study's participants.

Chapter 4

Results

4.1 Introduction

This chapter presents socio-demographic and clinical data obtained for children and adolescents who were reviewed by CAPES over the four-year period study. 'Microsoft Access' and SPSS were used to compile and process all of the collected data.

The findings of this study are presented into three sections. Section 4.2 presents the socio-demographic data of all the participants seen by CAPES over the four-year period of this study. In section 4.3 the clinical details of all the participants are presented. Hence, sections 4.2 and 4.3 provide information about the sample from which the data was gathered. The following section (section 4.4) highlights different associations and trends according to relevant socio-demographic and clinical variables related to the participants of this study.

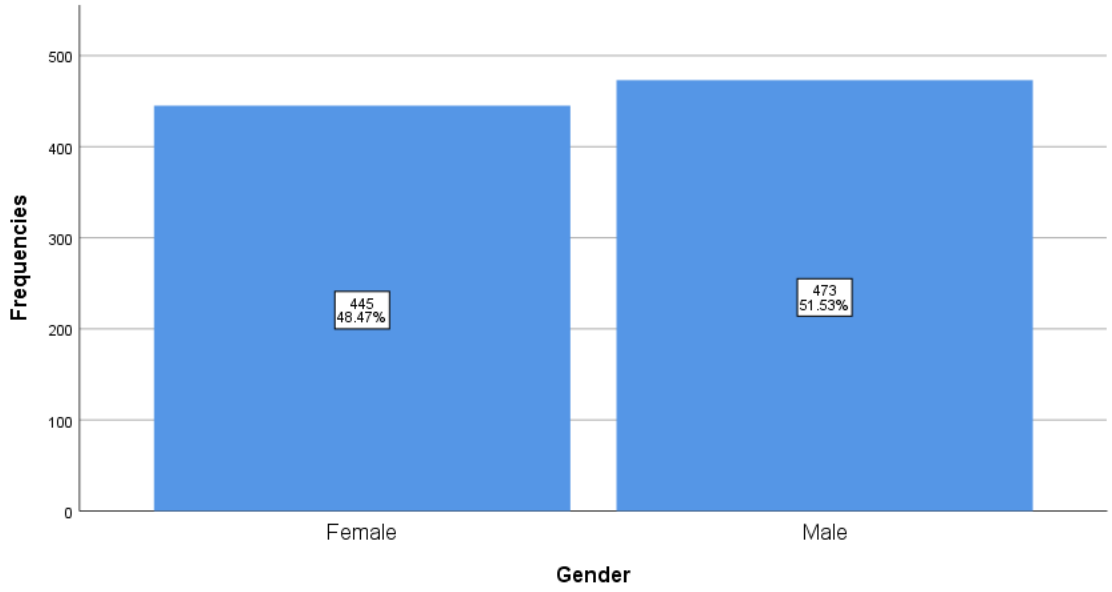
4.2 Demographic data of participants reviewed by CAPES

The following section contains information on the socio-demographic data of the 918 young people who were seen by CAPES over the four-year period of this study. The data is displayed in the form of frequencies.

4.2.1 Number of CAPES cases by Gender

As presented in Figure 4.1 a slightly greater number of males (n= 473, 51.5%) than females (n=445, 48.5%) who were seen by CAPES between June 2016 and October 2020, however this did not reach statistical significance [($\chi 2$ (1, N=918) = 445, p=0.373)].

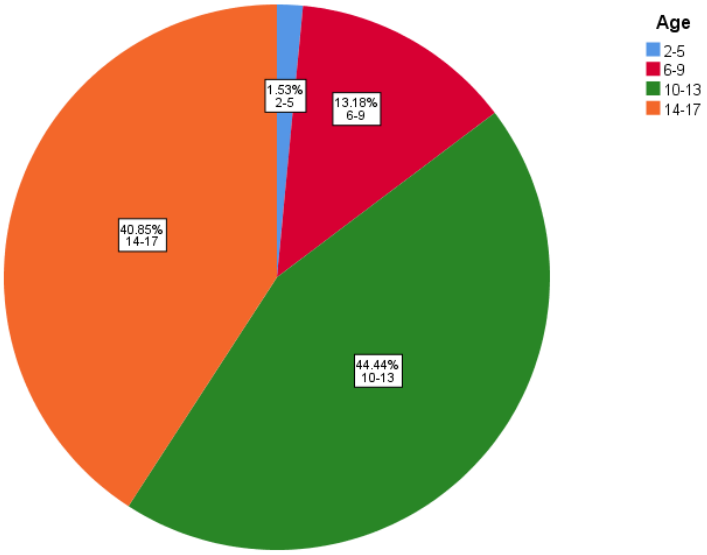
Figure 4. 1 CAPES cases according to gender



4.2.2 Age of the children and adolescents seen by CAPES

The mean age of the children and adolescents seen at capes was that 12.5 years of age. For data analysis purposes, the age of the clients was categorized into four different age groups (i.e., 2-5 years, 6-9 years, 10-13 years, and 14-17 years). A significant difference by age group [$\chi 2$ (3, N=918) = 484.7, p<0.001] was identified, with 44.4% of the participants being aged between 10-13 years (n=408), followed by the age group of 14-17 years (n=375, 40.8%), 121 participant were aged between the age of 6-9 years (13.2%) and only 14 children were aged between 2-5 years (1.5%).

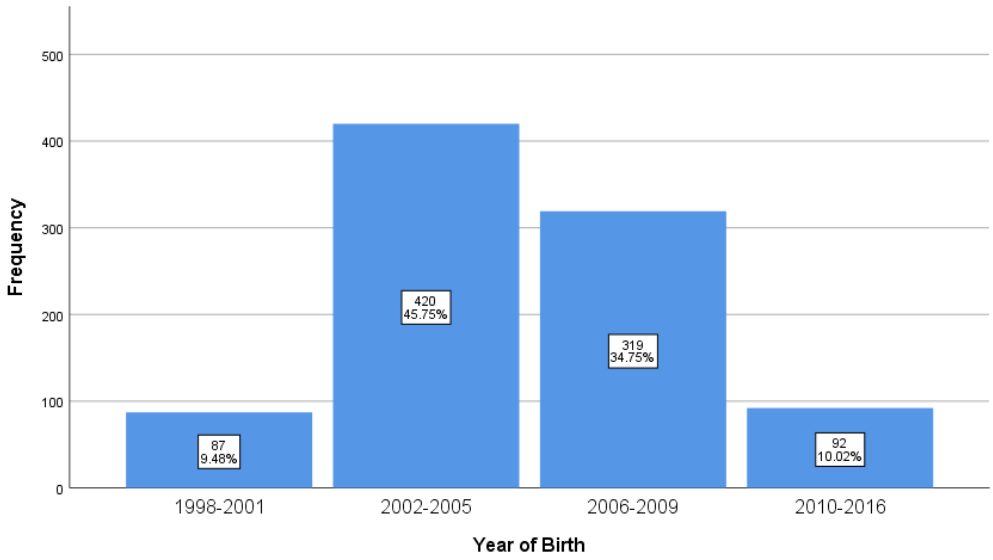
Figure 4. 2 Percentage of participants by age range



4.2.3 Year of Birth of the participants by subgroups

A significant difference was also identified for study participants by year of birth [$\chi 2$ (3, N=918) = 363.9, $p<0.001$] with most of the participants being born between the year 2002-2005 (n=420, 45.8%), followed by 34.7% who were born between the year 2006-2009 (n=319). Participants who were born between the year 2010-2016 were 92 (10%), while those born between 1998-2001 were 87 (9.5%).

Figure 4. 3 Year of birth of the participants by subgroups

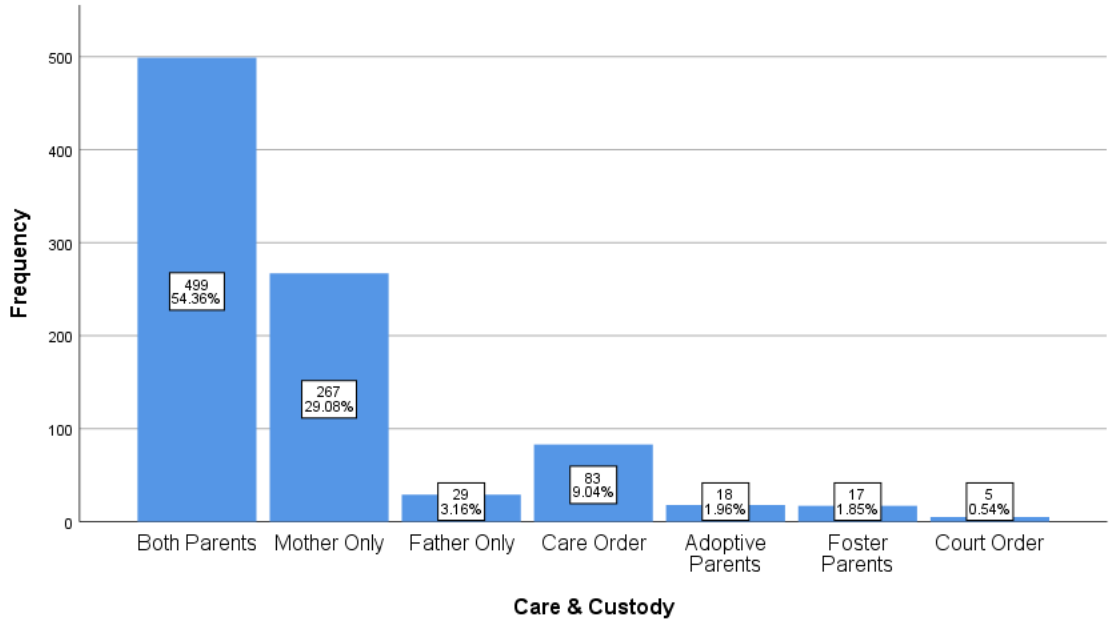


4.2.4 Care and Custody of the children and adolescents seen at CAPES

A significant difference was also identified for study participants by their care and custody [χ^2 (6, N=918) = 1588.1, p<0.001.]. Most of the participants who were assessed by CAPES were under the care and custody responsibility of both parents (n=499, 54.4%), followed by mothers only (n=267, 29%) and fathers only (n=29, 3.2%) respectively. 9% of the participants were under a care order (n=83). 1.96% had their care and custody entrusted to an adoptive family (n=18), similarly 17 (1.85%) cases had their care and custody given to a foster parent. 5 of the cases seen at CAPES were temporarily under a court order (0.54%)

The care and custody of the participants is represented in the following bar chart (Figure 4.7).

Figure 4. 4 Care & Custody of the youngsters seen at CAPES

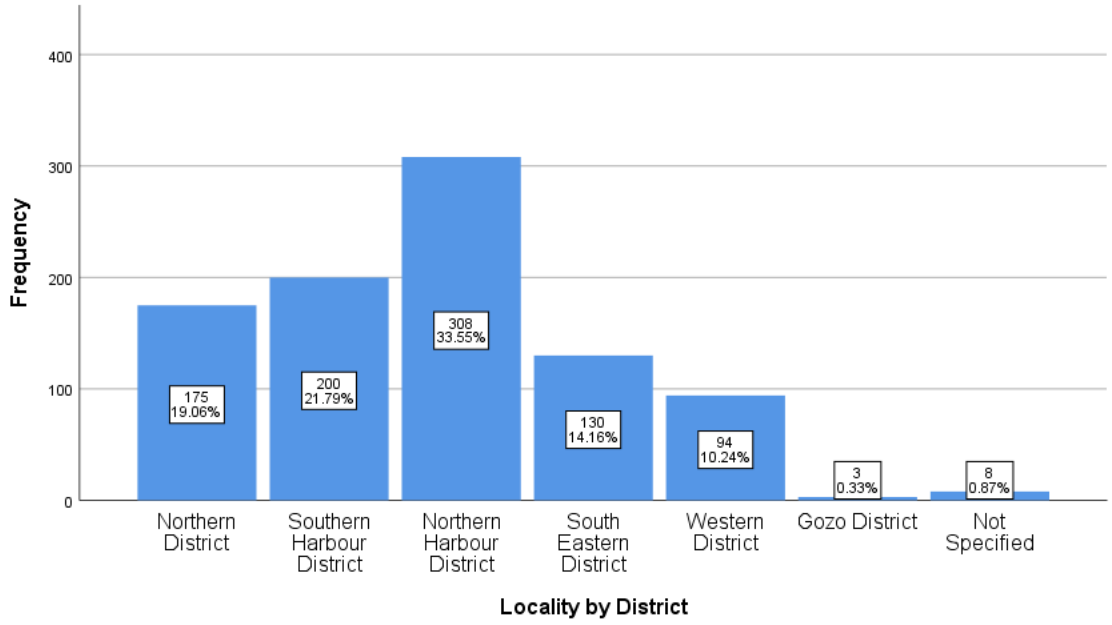


4.2.5 Location by districts of the participants reviewed by CAPES

For the purpose of this study, the location of the participants was divided into 6 districts corresponding to the Maltese islands census districts. These are the Southern harbour district (district 1), Northern harbour district (district 2), South eastern district (district 3), Western district (district 4), Northern district (district 5) and the islands of Gozo and Comino (district 6). Further information about the towns and the cities that make up each district can be found in Appendix A.

A significant difference by the location of the participants [χ^2 (6, N=918) = 540.7, p<0.001] was identified Most cases seen by CAPES were from the Northern Harbour District (n=308, 33.5%), followed by the Southern Harbour District (n=200, 21.8%), Northern District (n=175, 19%), South Eastern District (n=130, 14.2%) and the Western District (n=94, 10.2%) respectively. While the least number of participants, were from the Gozo District (n=3, 0.3%). While 8 (0.9%) cases had their location information missing or otherwise not specified.

Figure 4. 5 Location by districts of the participants



4.3 Clinical data of the children and adolescents seen by CAPES

The following section contains information on the clinical data of all the cases seen by CAPES over the four-year period of this study. The data is displayed in the form of frequencies.

4.3.1 The presenting complaint of the young people reviewed by CAPES

As portrayed in Table 4.1, there were a number of different reasons for which young people presented to the psychiatric emergency services. A significant difference was also identified for the presenting complaint of the study participants [χ^2 (8, N=918) = 690.0, p<0.001]. The most prevalent reasons recorded were suicidal thoughts (n=250, 27.2%) and behavioural problems (n=242, 26.4%), followed by self-harm behaviour (n=135, 14.7%) and anxiety (n=134, 14.6%) respectively.

For the purpose of this study, self-harm behaviour included the following: 96 cases of deliberate self-harm, 24 cases of overdoses, two suicide attempts, and 13 cases of threatening harm to self. Other presenting complaints were grouped together under the term "Others", this included nine cases of substance abuse, seven cases of eating disorder, seven cases of obsessive-compulsive disorder, three cases of sexualised behaviour, three cases of sleep disorder, three cases of noncompliance to treatment, and one case of adverse reaction to psychiatric treatment.

Table 4. 1 Presenting Complaint of young people reviewed by CAPES

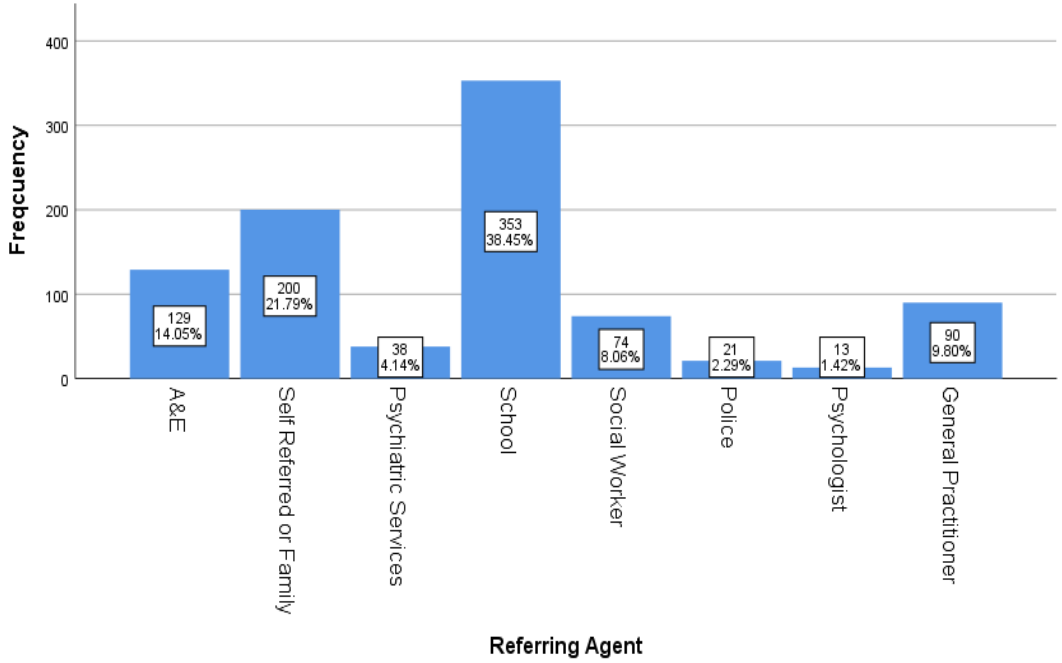
Presenting Complaint	Frequency	Percent
Suicidal thoughts	250	27.2
Self-harm behaviour	135	14.7
Anxiety	134	14.6
Behavioural Problems	242	26.4
Low mood	67	7.3
PTSD	11	1.2
Psychosis	26	2.8
Change in Behaviour	20	2.2
Others	33	3.6
Total	918	100.0

4.3.2 Referrals to CAPES

A significant difference was also identified for the referrals to CAPES [χ^2 (7, N=918) = 797.7, p<0.001], with the majority of the cases seen by CAPES were referred from school (n=353, 38.5%). 21.8% of the cases were either self-referred or referred by a family member (n=200). 129 (14%) cases were referred from Mater Dei Hospital

emergency department after the participants were discharged from the medical point of view. The least number of referrals received were from the police (n=21, 2.3%) and psychologist (n=13, 1.4%) respectively.

Figure 4. 6 Referring agents for a CAPES assessment



4.3.3 Number of cases seen by CAPES per month

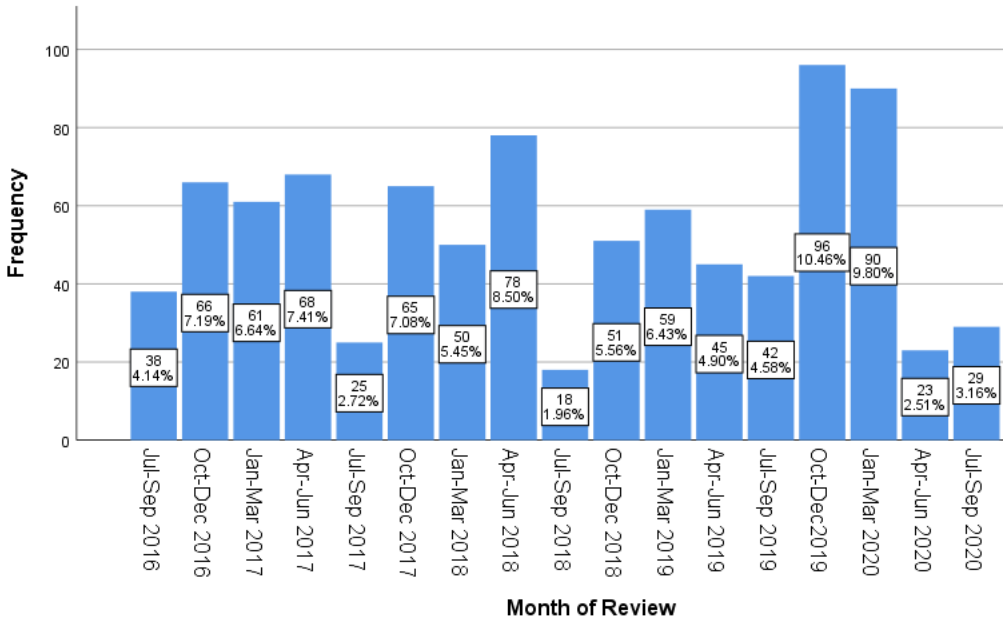
To enable this analysis, the month of the review performed by CAPES was noted for each participant. These months were then categorized into four groups per year of review (i.e., July- September 2016, October-December 2016, January-March 2017, April-June 2017, these time frames were repeated for each following year).

The busiest year within the four-year period of this study was the year 2019 with a total of 242 (26.3%) cases, followed by the years 2017 (n=219, 23.9%), 2018 (n= 197, 21.5%), 2020 (January-October, n=156, 17%) and 2016 (July-December, n=104, 11.3%) respectively.

While the busiest month was that of October 2017 with 43 cases, followed by January 2021 with 41 cases seen in a month. Whilst, on average the busiest month during the year was October with an average of 25.2 cases per month, followed by the months of May (24.25 cases per month) and January, March, and November with 23.25 cases per month. The months with the least cases per month on average were August and September with 9.6 cases per month.

As illustrated in Figure 4.7, 10.5% of all the cases during the four-year period of this study were reviewed during the months of October -December 2019 (n=96) and between January and March 2020 (n=90 cases). The month of October 2020 was not included in Figure 4.7, as it could not be categorised in the pre-determined yearly categories, however the number of cases seen during that month were 14 (1.5%).

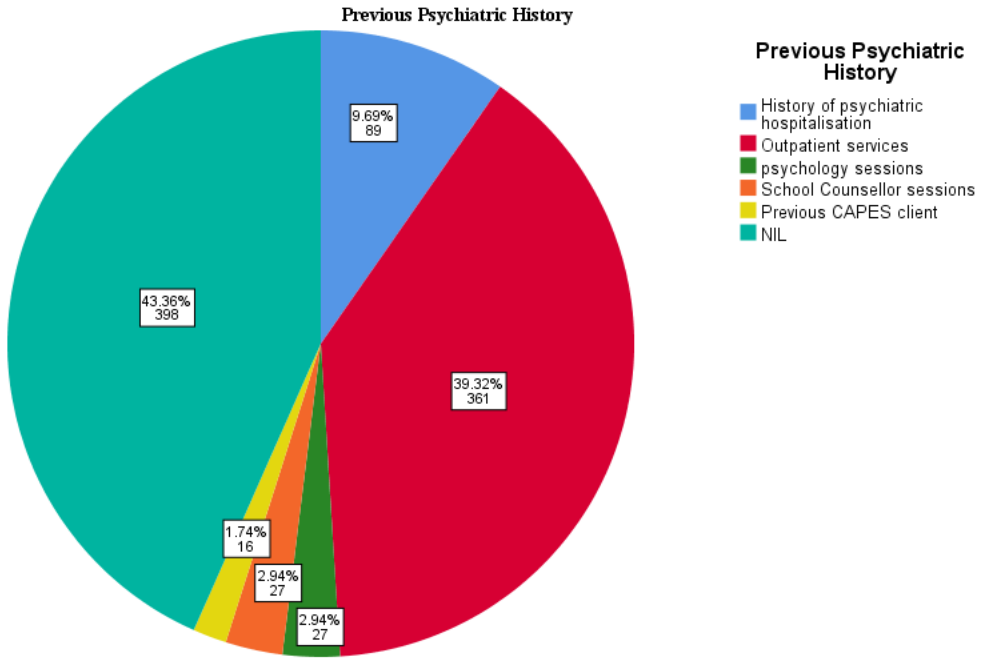
Figure 4. 7 Cases seen by CAPES by monthly *quarters* per year



4.3.4 Previous psychiatric history and primary psychiatric diagnosis of the participants

A significant difference was identified in the participants previous psychiatric history [$\chi^2(5, N=918) = 1032.1, p<0.001$], with most of the clients having no previous psychiatric history (n=398, 43.4%). On the other hand, 361 participants (39.3%) had previously attended or were receiving psychiatric care at the children and adolescent's psychiatric outpatient services (CYPS). 89 participants had a past history of an inpatient psychiatric hospitalisation. 2.9% (n=27) of the participants were receiving sessions with their school counsellor at the time of their assessment, similarly 2.9% were attending psychology sessions (n=27). Only 16 clients were seen more than once by CAPES without having availed themselves of any other further services.

Figure 4. 8 Previous psychiatric history of the participants

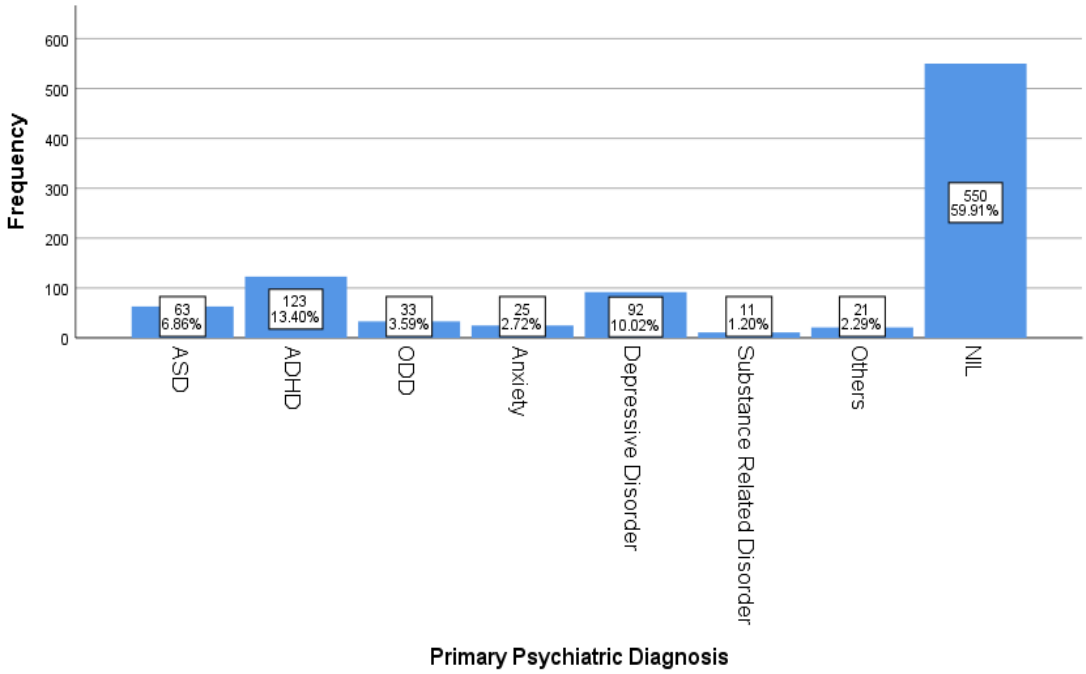


A significant difference was identified in the psychiatric diagnosis of the participants [$\chi2(7, N=918) = 1978.2, p<0.001.$]. As illustrated in Figure 4.9, 59.9% (n=550) of the

participants seen by CAPES had no formal psychiatric diagnosis. In the remaining participants, the most prevalent psychiatric diagnoses were ADHD (n=123, 13.4%), depression (n=92, 10%) and autism (n=63, 6.9%) respectively.

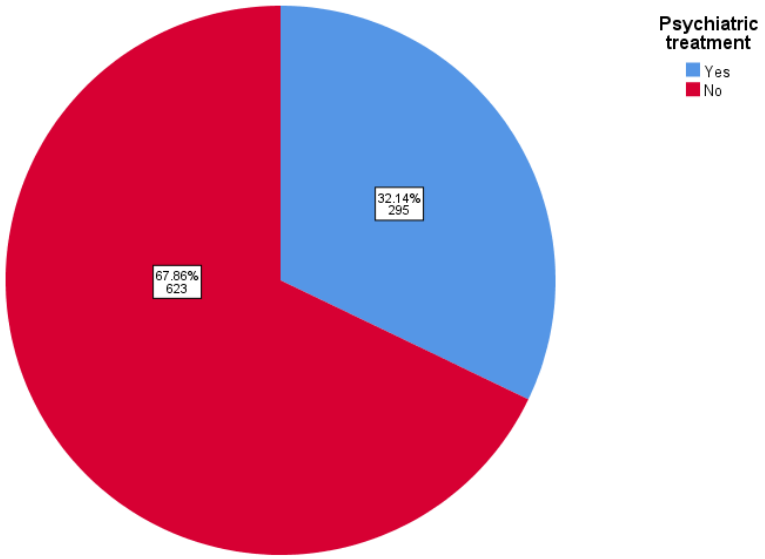
For the purpose of this study, in this section the term 'others' included seven cases of Eating Disorder, seven cases of Learning Disability, four cases of OCD, and three cases of PTSD.

Figure 4. 9 Psychiatric diagnosis of the participants



A significant difference was found in the psychiatric pharmacological treatment of the clients [χ^2 (1, N=918) = 623, p<0.001] with most of the participants (Figure 4.10) were not taking any prescribed psychiatric pharmacological treatment (n= 623, 67.9%), and the remainder 32.1% were on psychiatric treatment (n=295).

Figure 4. 10 Psychiatric pharmacological treatment

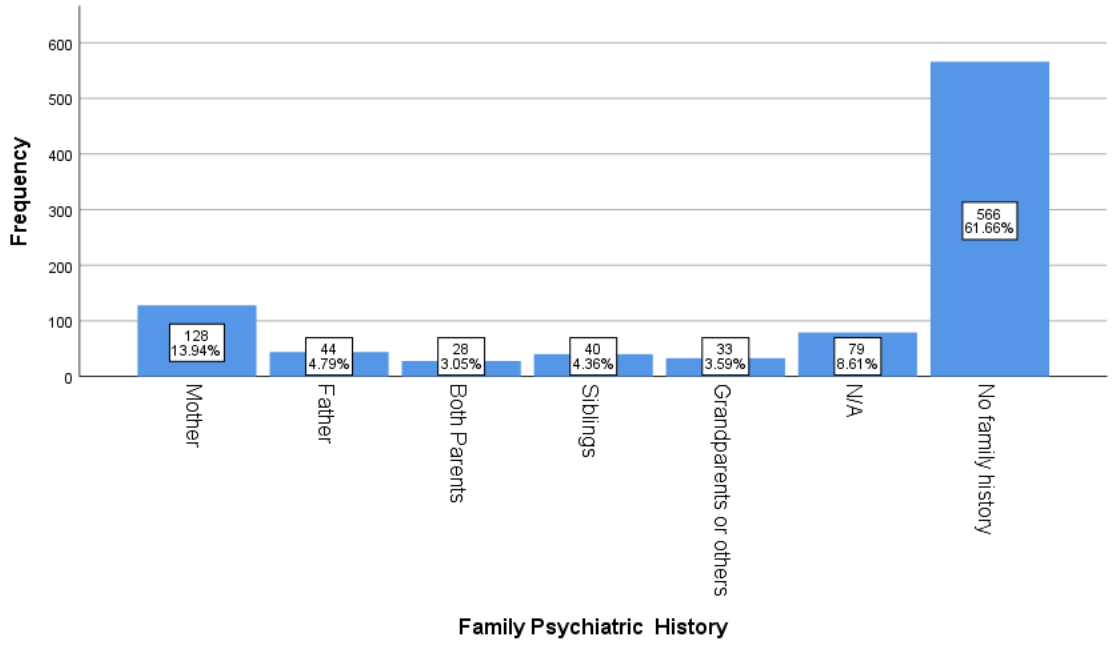


4.3.5 Family psychiatric history of the children and adolescents seen by CAPES

A significant difference was also identified in the participants' family psychiatric history [χ^2 (6, N=918) = 1738.6, p<0.001], with most of the children and adolescents seen by CAPES did not have any family psychiatric history (n=566, 61.7%). However, 273 (26.7%) of the participants had a family history of psychiatric problems of at least one family member. 200 (21.8%) of the participants reported that at least one of their parents had psychiatric issues. 8.6% of the cases seen during the period of this study had missing information about the family psychiatric history.

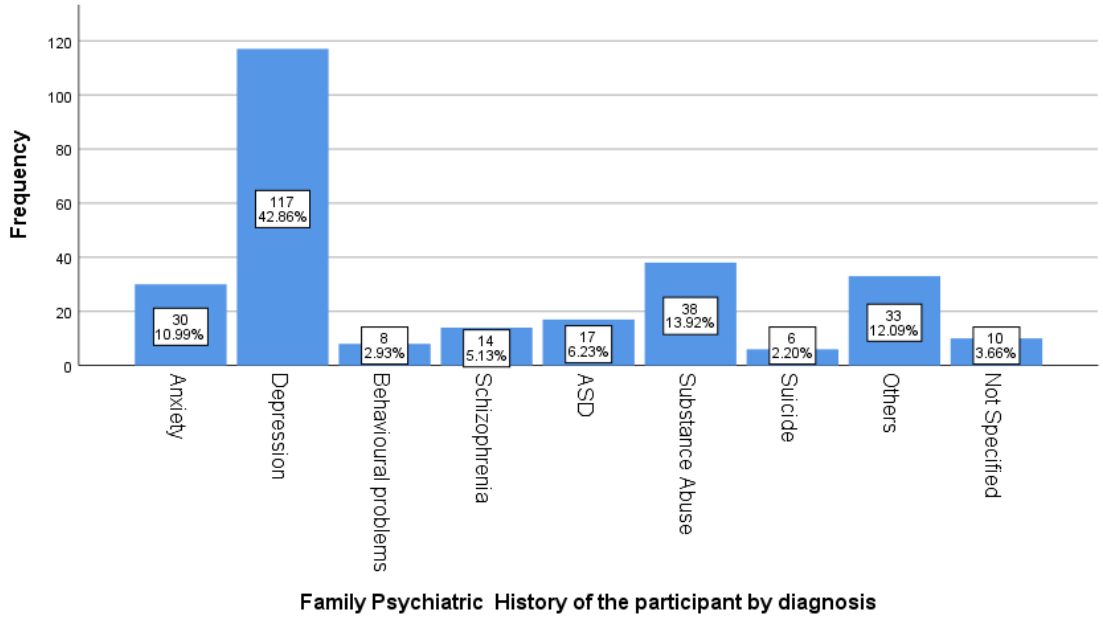
The family history of the participants reviewed by CAPES is portrayed in Figure 4.11.

Figure 4. 11 Family psychiatric history of the participants



From the 273 participants who had a family psychiatric history, the most reported psychiatric issue was depression (n=117, 42.9%), followed by substance misuse (n=38, 13.9%) and anxiety (n=30, 11%) respectively. 10 cases had their family history diagnosis missing. The family history of the participants reviewed by CAPES according to diagnosis is illustrated below in Figure 4.12.

Figure 4. 12 Family psychiatric history of the participants by diagnosis



[NB: Others- ADHD (14), Bipolar Disorder (7), Learning Disability (3), Obsessive Compulsive Disorder (6), Post Traumatic Stress Disorder (2), Emotional Unstable Personality Disorder (1)].

4.3.6 Outcome on discharge from the CAPES

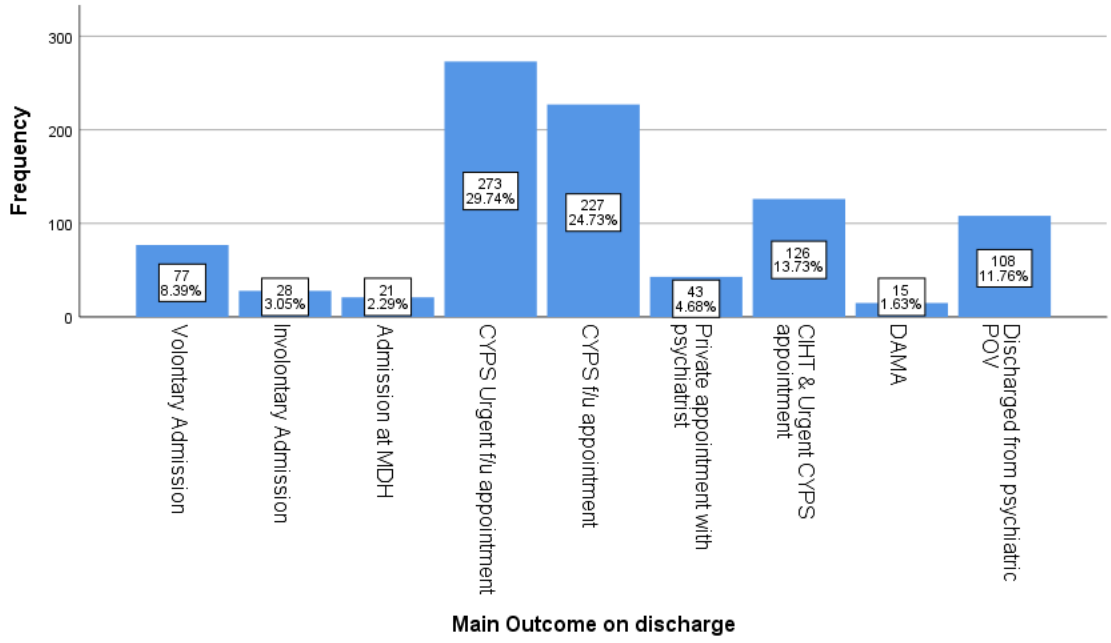
For the purpose of this study, the outcome on discharge following CAPES assessment of the participants was divided into two sections: the primary outcome and then when available, the secondary outcome on discharge.

A significant difference was reported for the primary outcome on discharge of the participants [χ^2 (8, N=918) = 678.3, p<0.001]. After being seen by CAPES, 105 of the participants (11.4%), were admitted to the child and adolescent mental health inpatient service at Mount Carmel Hospital (MCH), namely the Young Peoples Unit (YPU). Out of these 105, 28 of them were admitted involuntarily under the Maltese Mental Health Act (MHA), and the other 77 were admitted voluntarily. Whilst 21 clients (2.3%) were admitted to Mater Dei Hospital for further medical examination.

29.7% of participants (n=273) were given an urgent follow up appointment at the Child and Young People's Services (CYPS) after they were discharged from CAPES. 227 clients were given a non-urgent follow up appointment at CYPS. After being discharged from CAPES 13.7% of the participants (n=126) were followed up by the CIHT service and were given also an urgent follow-up appointment at the CYPS. 43 clients (4.7%) opted to have to a psychiatric follow-up appointment with a psychiatrist of their choice in the private practice.

11.8% of the children and adolescents seen by CAPES (n=108), were discharged with no need of any other psychiatric follow up appointment. Only 15 clients (1.6%) decided together with their legal guardian to discharge themselves against medical advice, after not agreeing with the plan drawn up by the professionals.

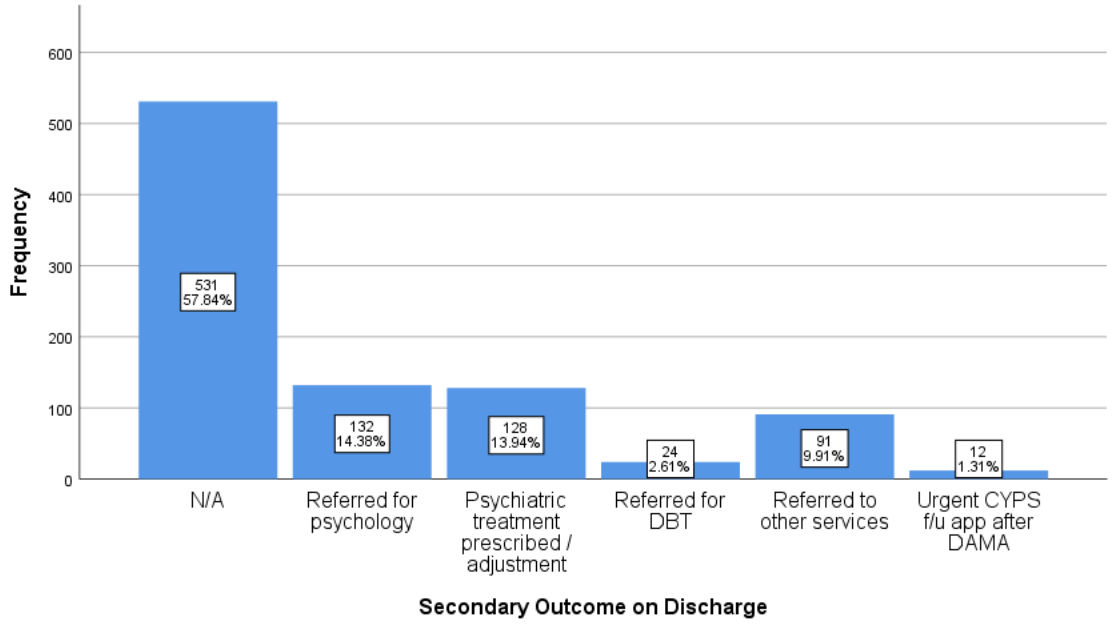
Figure 4. 13 Primary outcome on discharge of the participants



Most of the participant were discharged following CAPES assessment with one outcome (n=531, 57.8%). Whilst the rest of the clients had a secondary outcome as

follows, 132 participants were referred for psychology sessions or assessments (14.4%), 128 had their psychiatric treatment prescribed or adjusted by CAPES (13.9%), 91 cases were referred to other agencies or services; such as antibullying service and Sedqa, 24 clients were referred for the Dialectical Behaviour Therapy (DBT), and 12 of the 15 cases who discharged themselves against medical advice were given an urgent appointment at CYPS.

Figure 4. 14 Secondary outcome on discharge of the participants seen by CAPES



4.4 Trends in children and adolescents seen by CAPES by socio-demographic and clinical variables

The following section examines trends and associations in socio-demographic and clinical variables of the participants seen by CAPES over the four-year period of this study. Thus, this section explores the trends for all the 918 participants reviewed by CAPES.

Results for the observed and expected frequencies are presented with the abbreviation 'O' representing the observed count, whilst the abbreviation 'E' represents the expected count.

4.4.1 Trends in cases seen by CAPES by gender and the age of the participants

Table 4.2 illustrates a cross tabulation by gender (i.e., male or female) and age of the participants according to the age category. A significant difference ($\chi 2$ (3, N=918) =46.3, $p<0.001$) for the participants by gender and age category was identified. It was observed that in the adolescents age category for 14–17-year-olds, there was a significantly greater number of females when compared to males (Females: O=225 and E=181.8; Males: O=150 and E=193.2), whilst in the 6–9-year-old age category there are significantly more males than females (Males: O=87 and E=62.3: Females: O=34 and E= 58.7).

Table 4. 2 Trends by Gender of participant and age Category

			Age Category (years)				
			2-5	6-9	10-13	14-17	Total
Gender	Female	Count	3	34	183	225	445
		Expected Count	6.8	58.7	197.8	181.8	445.0
		% within Gender	0.7%	7.6%	41.1%	50.6%	100.0%
		% within Age	21.4%	28.1%	44.9%	60.0%	48.5%
	Male	Count	11	87	225	150	473
		Expected Count	7.2	62.3	210.2	193.2	473.0
		% within Gender	2.3%	18.4%	47.6%	31.7%	100.0%
		% within Age	78.6%	71.9%	55.1%	40.0%	51.5%
Total		Count	14	121	408	375	918
		Expected Count	14.0	121.0	408.0	375.0	918.0
		% within Gender	1.5%	13.2%	44.4%	40.8%	100.0%
		% within Age	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.2 Association between gender of the participants and the presenting complaint

As portrayed in Table 4.3 there was a significant difference in the gender of the participants by presenting complaint (χ^2 (8, N=918) =116.8, p<0.001). More Females presented with self-harm behaviour (Females: O=94 and E=65.4, Males: O=41 and E=69.6), anxiety (Females: O=95 and E=65, Males: O=39 and E=69) and low mood (Females: O=44 and E=32.5, Males: O=23 and E=34.5) when compared to males. On the other hand, more males presented with behavioural problems (Males: O=181 and E=124.7, Females: O=61 and E=117.3), psychosis (Males: O=16 and E=13.4, Females: O=10 and E=12.6) and change in behaviour (Males: O=12 and E=10.3, Females: O=8 and E=9.7). No significant difference was found in gender by suicidal thoughts and PTSD.

Table 4. 3 Association between gender and presenting complaint

			Gender		
			Female	Male	Total
Presenting complaint	Suicidal thoughts	Count	116	134	250
		Expected Count	121.2	128.8	250.0
		% within Presenting complaint	46.4%	53.6%	100.0%
		% within Gender	26.1%	28.3%	27.2%
	Self harm behaviour	Count	94	41	135
		Expected Count	65.4	69.6	135.0
		% within Presenting complaint	69.6%	30.4%	100.0%
		% within Gender	21.1%	8.7%	14.7%
	Anxiety	Count	95	39	134
		Expected Count	65.0	69.0	134.0
		% within Presenting complaint	70.9%	29.1%	100.0%
		% within Gender	21.3%	8.2%	14.6%
	Behavioural Problems	Count	61	181	242
		Expected Count	117.3	124.7	242.0
		% within Presenting complaint	25.2%	74.8%	100.0%
		% within Gender	13.7%	38.3%	26.4%
	Low mood	Count	44	23	67
		Expected Count	32.5	34.5	67.0
		% within Presenting complaint	65.7%	34.3%	100.0%
		% within Gender	9.9%	4.9%	7.3%
	PTSD	Count	6	5	11
		Expected Count	5.3	5.7	11.0
		% within Presenting complaint	54.5%	45.5%	100.0%
		% within Gender	1.3%	1.1%	1.2%
	Psychosis	Count	10	16	26
		Expected Count	12.6	13.4	26.0
		% within Presenting complaint	38.5%	61.5%	100.0%
		% within Gender	2.2%	3.4%	2.8%
	Change in Behaviour	Count	8	12	20
		Expected Count	9.7	10.3	20.0
		% within Presenting complaint	40.0%	60.0%	100.0%
		% within Gender	1.8%	2.5%	2.2%
	Others	Count	11	22	33
		Expected Count	16.0	17.0	33.0
		% within Presenting complaint	33.3%	66.7%	100.0%
		% within Gender	2.5%	4.7%	3.6%
Total		Count	445	473	918
		Expected Count	445.0	473.0	918.0
		% within Presenting complaint	48.5%	51.5%	100.0%
		% within Gender	100.0%	100.0%	100.0%

4.4.3 Trends in the presenting complaints and the age category of the participants

As shown in Table 4.4 there was a significant difference ($\chi 2$ (24, N=918) =163.5, $p<0.001$) in the presenting complaints by age category of the participants

Participants within the younger age groups (i.e., 2-5 years and 6-9 years) were more likely to present with behavioural problems and changes in behaviour. Participants in the 10-13 age category were more likely to present with suicidal thoughts (O=133 and E=111.1) and behavioural problems (O=113 and E=107.6). Whereas participants in the older age category were more likely to present with suicidal thoughts (O=100 and E=102.1), self-harm behaviour (O=70 and E=55.1) and anxiety (O=78 and E=54.7).

Participants presenting with the following presenting complaints; psychosis, anxiety, and others were more likely to be in the 14-17 years age category (61.5%, 58.2% and 60.6% respectively).

Table 4. 4 Association between presenting complaint and age category of the participants

			Age Category				Total
			2-5	6-9	10-13	14-17	
Presenting complaint	Suicidal thoughts	Count	1	16	133	100	250
		Expected Count	3.8	33.0	111.1	102.1	250.0
		% within Presenting complaint	0.4%	6.4%	53.2%	40.0%	100.0%
		% within Age	7.1%	13.2%	32.6%	26.7%	27.2%
	Self harm behaviour	Count	1	9	55	70	135
		Expected Count	2.1	17.8	60.0	55.1	135.0
		% within Presenting complaint	0.7%	6.7%	40.7%	51.9%	100.0%
		% within Age	7.1%	7.4%	13.5%	18.7%	14.7%
	Anxiety	Count	0	8	48	78	134
		Expected Count	2.0	17.7	59.6	54.7	134.0
		% within Presenting complaint	0.0%	6.0%	35.8%	58.2%	100.0%
		% within Age	0.0%	6.6%	11.8%	20.8%	14.6%
	Behavioural Problems	Count	8	65	113	56	242
		Expected Count	3.7	31.9	107.6	98.9	242.0
		% within Presenting complaint	3.3%	26.9%	46.7%	23.1%	100.0%
		% within Age	57.1%	53.7%	27.7%	14.9%	26.4%
	Low mood	Count	1	3	32	31	67
		Expected Count	1.0	8.8	29.8	27.4	67.0
		% within Presenting complaint	1.5%	4.5%	47.8%	46.3%	100.0%
		% within Age	7.1%	2.5%	7.8%	8.3%	7.3%
	PTSD	Count	0	3	5	3	11
		Expected Count	.2	1.4	4.9	4.5	11.0
		% within Presenting complaint	0.0%	27.3%	45.5%	27.3%	100.0%
		% within Age	0.0%	2.5%	1.2%	0.8%	1.2%
	Psychosis	Count	0	5	5	16	26
		Expected Count	.4	3.4	11.6	10.6	26.0
		% within Presenting complaint	0.0%	19.2%	19.2%	61.5%	100.0%
		% within Age	0.0%	4.1%	1.2%	4.3%	2.8%
	Change in Behaviour	Count	3	8	8	1	20
		Expected Count	.3	2.6	8.9	8.2	20.0
		% within Presenting complaint	15.0%	40.0%	40.0%	5.0%	100.0%
		% within Age	21.4%	6.6%	2.0%	0.3%	2.2%
	Others	Count	0	4	9	20	33
		Expected Count	.5	4.3	14.7	13.5	33.0
		% within Presenting complaint	0.0%	12.1%	27.3%	60.6%	100.0%
		% within Age	0.0%	3.3%	2.2%	5.3%	3.6%
Total		Count	14	121	408	375	918
		Expected Count	14.0	121.0	408.0	375.0	918.0
		% within Presenting complaint	1.5%	13.2%	44.4%	40.8%	100.0%
		% within Age	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.4 Association between the presenting complaints and the locality by district of the participants

Table 4.5 presents the results for trends in presenting complaints by the locality of the participants. As previously explained, the locality of the participants was categorised into six different districts according to the census districts. No significant difference for the presenting complaint by their locality χ^2 (48, N=918) =59.5, p=.123.

Participants from the Northern District presented mostly with suicidal thoughts and behavioural problems (25.7% and 23.4% respectively). One-third of the participants living in the Southern-Harbour District presented to CAPES with suicidal thoughts (32.5%). For participants living in the South Eastern District and the Western District, the most common presenting complaints were behavioural problems (32.3% & 20.2% respectively) and suicidal thoughts (27.7% & 29.8% respectively).

Most of the cases who presented with behavioural problems at CAPES were from the Northern Harbour District (n=101, 41.7%). Most youngsters who presented with Anxiety were also from the Northern Harbour District (n=49, 36.6%). The majority of the cases who presented with self-harm behaviour were from the following three districts: Northern, Southern Harbour and Northern Harbour (25.9%, 23.7% & 30.4% respectively). Nearly half of the participants who presented with PTSD as their presenting complaint were from the Northern District (n=5, 45.5%). Whereas 42.3% of the cases who presented with psychosis were from the Northern Harbour District (n=11).

Table 4. 5 Presenting complaints and the locality by district of the participants

			Locality by District							
			Northern District	Southern Harbour District	Northern Harbour District	South Eastern District	Western District	Gozo District	Not Specified	Total
Presenting complaint	Suicidal thoughts	Count	45	65	71	36	28	2	3	250
		Expected Count	47.7	54.5	83.9	35.4	25.6	.8	2.2	250.0
		% within Presenting complaint	18.0%	26.0%	28.4%	14.4%	11.2%	0.8%	1.2%	100.0%
		% within Locality by District	25.7%	32.5%	23.1%	27.7%	29.8%	66.7%	37.5%	27.2%
	Self harm behaviour	Count	35	32	41	10	13	1	3	135
		Expected Count	25.7	29.4	45.3	19.1	13.8	.4	1.2	135.0
		% within Presenting complaint	25.9%	23.7%	30.4%	7.4%	9.6%	0.7%	2.2%	100.0%
		% within Locality by District	20.0%	16.0%	13.3%	7.7%	13.8%	33.3%	37.5%	14.7%
	Anxiety	Count	21	29	49	19	14	0	2	134
		Expected Count	25.5	29.2	45.0	19.0	13.7	.4	1.2	134.0
		% within Presenting complaint	15.7%	21.6%	36.6%	14.2%	10.4%	0.0%	1.5%	100.0%
		% within Locality by District	12.0%	14.5%	15.9%	14.6%	14.9%	0.0%	25.0%	14.6%
	Behavioural Problems	Count	41	39	101	42	19	0	0	242
		Expected Count	46.1	52.7	81.2	34.3	24.8	.8	2.1	242.0
		% within Presenting complaint	16.9%	16.1%	41.7%	17.4%	7.9%	0.0%	0.0%	100.0%
		% within Locality by District	23.4%	19.5%	32.8%	32.3%	20.2%	0.0%	0.0%	26.4%
	Low mood	Count	15	13	20	10	9	0	0	67
		Expected Count	12.8	14.6	22.5	9.5	6.9	.2	.6	67.0
		% within Presenting complaint	22.4%	19.4%	29.9%	14.9%	13.4%	0.0%	0.0%	100.0%
		% within Locality by District	8.6%	6.5%	6.5%	7.7%	9.6%	0.0%	0.0%	7.3%
	PTSD	Count	5	1	2	1	2	0	0	11
		Expected Count	2.1	2.4	3.7	1.6	1.1	.0	.1	11.0
		% within Presenting complaint	45.5%	9.1%	18.2%	9.1%	18.2%	0.0%	0.0%	100.0%
		% within Locality by District	2.9%	0.5%	0.6%	0.8%	2.1%	0.0%	0.0%	1.2%
	Psychosis	Count	4	3	11	3	5	0	0	26
		Expected Count	5.0	5.7	8.7	3.7	2.7	.1	.2	26.0
		% within Presenting complaint	15.4%	11.5%	42.3%	11.5%	19.2%	0.0%	0.0%	100.0%
		% within Locality by District	2.3%	1.5%	3.6%	2.3%	5.3%	0.0%	0.0%	2.8%
	Change in Behaviour	Count	2	9	6	2	1	0	0	20
		Expected Count	3.8	4.4	6.7	2.8	2.0	.1	.2	20.0
		% within Presenting complaint	10.0%	45.0%	30.0%	10.0%	5.0%	0.0%	0.0%	100.0%
		% within Locality by District	1.1%	4.5%	1.9%	1.5%	1.1%	0.0%	0.0%	2.2%
	Others	Count	7	9	7	7	3	0	0	33
		Expected Count	6.3	7.2	11.1	4.7	3.4	.1	.3	33.0
		% within Presenting complaint	21.2%	27.3%	21.2%	21.2%	9.1%	0.0%	0.0%	100.0%
		% within Locality by District	4.0%	4.5%	2.3%	5.4%	3.2%	0.0%	0.0%	3.6%
Total		Count	175	200	308	130	94	3	8	918
		Expected Count	175.0	200.0	308.0	130.0	94.0	3.0	8.0	918.0
		% within Presenting complaint	19.1%	21.8%	33.6%	14.2%	10.2%	0.3%	0.9%	100.0%
		% within Locality by District	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.5 Trends in presenting complaints and the referring agent

As shown in Table 4.6 there was a significant difference in the presenting complaints and the referring agent of the participants, χ^2 (56, N=918) = 293.5, p<0.001.

Anxiety was the presenting complaint in half of the cases referred by the Accident and Emergency Department at MDH (n=64, 49.6%). Clients who were self-referred or referred by a family member were referred mostly for behavioural problems +and suicidal thoughts (n=56, 28%, n=52, 26% respectively). Those who were referred from other psychiatric services were mostly referred due to behavioural problems (n=16, 42.1%) and self-harm behaviour (n=11, 28.9% respectively). Children and adolescents referred from school were more likely referred with suicidal thoughts (n=140, 39.7%) or behavioural problems (n=83, 23.5%). Two-thirds of the participants who were referred by the police were referred with behavioural problems (n=14, 66.7%).

Clients presenting with the following presenting complaints: suicidal thoughts (56%), self-harm behaviour (39.3%), behavioural problems (34.3%), low mood (37.3%), and PTSD (36.4%) were most likely referred by their school. 47.8% of the cases referred due to anxiety were referred from the A&E department (n=64). Participants presenting with features of psychosis (n=8, 30.8%) or change in behaviour were mostly self-referred or referred by a family member (n=8, 40%) respectively.

Table 4. 6 Trends in presenting complaints and the referring agent

			Referring Agent								
			A&E	Self Referred or Family	Psychiatric Services	School	Social Worker	Police	Psychologist	General Practitioner	Total
Presenting complaint	Suicidal thoughts	Count	14	52	4	140	12	2	4	22	250
		Expected Count	35.1	54.5	10.3	96.1	20.2	5.7	3.5	24.5	250.0
		% within Presenting complaint	5.6%	20.8%	1.6%	56.0%	4.8%	0.8%	1.6%	8.8%	100.0%
		% within Referring Agent	10.9%	26.0%	10.5%	39.7%	16.2%	9.5%	30.8%	24.4%	27.2%
	Self harm behaviour	Count	19	17	11	53	8	4	4	19	135
		Expected Count	19.0	29.4	5.6	51.9	10.9	3.1	1.9	13.2	135.0
		% within Presenting complaint	14.1%	12.6%	8.1%	39.3%	5.9%	3.0%	3.0%	14.1%	100.0%
		% within Referring Agent	14.7%	8.5%	28.9%	15.0%	10.8%	19.0%	30.8%	21.1%	14.7%
	Anxiety	Count	64	23	1	30	6	0	1	9	134
		Expected Count	18.8	29.2	5.5	51.5	10.8	3.1	1.9	13.1	134.0
		% within Presenting complaint	47.8%	17.2%	0.7%	22.4%	4.5%	0.0%	0.7%	6.7%	100.0%
		% within Referring Agent	49.6%	11.5%	2.6%	8.5%	8.1%	0.0%	7.7%	10.0%	14.6%
	Behavioural Problems	Count	13	56	16	83	40	14	1	19	242
		Expected Count	34.0	52.7	10.0	93.1	19.5	5.5	3.4	23.7	242.0
		% within Presenting complaint	5.4%	23.1%	6.6%	34.3%	16.5%	5.8%	0.4%	7.9%	100.0%
		% within Referring Agent	10.1%	28.0%	42.1%	23.5%	54.1%	66.7%	7.7%	21.1%	26.4%
	Low mood	Count	6	21	1	25	1	0	1	12	67
		Expected Count	9.4	14.6	2.8	25.8	5.4	1.5	.9	6.6	67.0
		% within Presenting complaint	9.0%	31.3%	1.5%	37.3%	1.5%	0.0%	1.5%	17.9%	100.0%
		% within Referring Agent	4.7%	10.5%	2.6%	7.1%	1.4%	0.0%	7.7%	13.3%	7.3%
	PTSD	Count	3	3	0	4	0	0	0	1	11
		Expected Count	1.5	2.4	.5	4.2	.9	.3	.2	1.1	11.0
		% within Presenting complaint	27.3%	27.3%	0.0%	36.4%	0.0%	0.0%	0.0%	9.1%	100.0%
		% within Referring Agent	2.3%	1.5%	0.0%	1.1%	0.0%	0.0%	0.0%	1.1%	1.2%
	Psychosis	Count	3	8	0	6	3	0	1	5	26
		Expected Count	3.7	5.7	1.1	10.0	2.1	.6	.4	2.5	26.0
		% within Presenting complaint	11.5%	30.8%	0.0%	23.1%	11.5%	0.0%	3.8%	19.2%	100.0%
		% within Referring Agent	2.3%	4.0%	0.0%	1.7%	4.1%	0.0%	7.7%	5.6%	2.8%
	Change in Behaviour	Count	3	8	0	5	2	1	0	1	20
		Expected Count	2.8	4.4	.8	7.7	1.6	.5	.3	2.0	20.0
		% within Presenting complaint	15.0%	40.0%	0.0%	25.0%	10.0%	5.0%	0.0%	5.0%	100.0%
		% within Referring Agent	2.3%	4.0%	0.0%	1.4%	2.7%	4.8%	0.0%	1.1%	2.2%
	Others	Count	4	12	5	7	2	0	1	2	33
		Expected Count	4.6	7.2	1.4	12.7	2.7	.8	.5	3.2	33.0
		% within Presenting complaint	12.1%	36.4%	15.2%	21.2%	6.1%	0.0%	3.0%	6.1%	100.0%
		% within Referring Agent	3.1%	6.0%	13.2%	2.0%	2.7%	0.0%	7.7%	2.2%	3.6%
Total		Count	129	200	38	353	74	21	13	90	918
		Expected Count	129.0	200.0	38.0	353.0	74.0	21.0	13.0	90.0	918.0
		% within Presenting complaint	14.1%	21.8%	4.1%	38.5%	8.1%	2.3%	1.4%	9.8%	100.0%
		% within Referring Agent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.6 Association between the presenting complaints and the care and custody of the participants

As illustrated in Table 4.7, there was a significant difference in the presenting complaints and the care and custody of the participants, [χ^2 (56, N=918) = 113.9, p<0.00].

Participants who had their care and custody assigned to both parents were more likely to present to CAPES with suicidal thoughts (n=145, 29.1%). Clients who had their care and custody assigned to mother only presented mostly with behaviour problems (n=97, 36.3%). On the other hand, those who had their care and custody assigned to the father only would mostly present with one of the following presenting complaints; self-harm behaviour (n=6, 20.7%), anxiety (n=6, 20.7%) or behavioural problems (n=6, 20.7%). More than half of the clients who were placed under a care order presented to CAPES with behavioural problems (n=46, 55.4%). 44.4% of the clients who had been adopted presented with suicidal thoughts (n=8).

More than half of the participants presenting with one of the following presenting complaint; suicidal thoughts (n=145, 58%), self-harm behaviour (n=79, 58.5%), anxiety (n=91,67.9%), low mood (n=43, 64.2%), psychosis (n=17, 65.4%), change in behaviour (n=12, 60%) or other presenting complaints (n=20, 60.6%) had their care and custody assigned to both parents. Clients presenting with behavioural problems were more likely to have their care and custody given to one of their parents or under a care order (n=103, 42.6%).

Table 4. 7 Association between the presenting complaints and the care and custody of the participants

			Care & Custody							
			Both Parents	Mother Only	Father Only	Care Order	Adoptive Parents	Foster Parents	Court Order	Total
Presenting complaint	Suicidal thoughts	Count	145	69	5	13	8	7	3	250
		Expected Count	135.9	72.7	7.9	22.6	4.9	4.6	1.4	250.0
		% within Presenting complaint	58.0%	27.6%	2.0%	5.2%	3.2%	2.8%	1.2%	100.0%
		% within Care & Custody	29.1%	25.8%	17.2%	15.7%	44.4%	41.2%	60.0%	27.2%
	Self harm behaviour	Count	79	36	6	11	3	0	0	135
		Expected Count	73.4	39.3	4.3	12.2	2.6	2.5	.7	135.0
		% within Presenting complaint	58.5%	26.7%	4.4%	8.1%	2.2%	0.0%	0.0%	100.0%
		% within Care & Custody	15.8%	13.5%	20.7%	13.3%	16.7%	0.0%	0.0%	14.7%
	Anxiety	Count	91	27	6	3	4	1	2	134
		Expected Count	72.8	39.0	4.2	12.1	2.6	2.5	.7	134.0
		% within Presenting complaint	67.9%	20.1%	4.5%	2.2%	3.0%	0.7%	1.5%	100.0%
		% within Care & Custody	18.2%	10.1%	20.7%	3.6%	22.2%	5.9%	40.0%	14.6%
	Behavioural Problems	Count	87	97	6	46	2	4	0	242
		Expected Count	131.5	70.4	7.6	21.9	4.7	4.5	1.3	242.0
		% within Presenting complaint	36.0%	40.1%	2.5%	19.0%	0.8%	1.7%	0.0%	100.0%
		% within Care & Custody	17.4%	36.3%	20.7%	55.4%	11.1%	23.5%	0.0%	26.4%
	Low mood	Count	43	15	2	3	1	3	0	67
		Expected Count	36.4	19.5	2.1	6.1	1.3	1.2	.4	67.0
		% within Presenting complaint	64.2%	22.4%	3.0%	4.5%	1.5%	4.5%	0.0%	100.0%
		% within Care & Custody	8.6%	5.6%	6.9%	3.6%	5.6%	17.6%	0.0%	7.3%
	PTSD	Count	5	4	2	0	0	0	0	11
		Expected Count	6.0	3.2	.3	1.0	.2	.2	.1	11.0
		% within Presenting complaint	45.5%	36.4%	18.2%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within Care & Custody	1.0%	1.5%	6.9%	0.0%	0.0%	0.0%	0.0%	1.2%
	Psychosis	Count	17	6	1	2	0	0	0	26
		Expected Count	14.1	7.6	.8	2.4	.5	.5	.1	26.0
		% within Presenting complaint	65.4%	23.1%	3.8%	7.7%	0.0%	0.0%	0.0%	100.0%
		% within Care & Custody	3.4%	2.2%	3.4%	2.4%	0.0%	0.0%	0.0%	2.8%
	Change in Behaviour	Count	12	4	1	2	0	1	0	20
		Expected Count	10.9	5.8	.6	1.8	.4	.4	.1	20.0
		% within Presenting complaint	60.0%	20.0%	5.0%	10.0%	0.0%	5.0%	0.0%	100.0%
		% within Care & Custody	2.4%	1.5%	3.4%	2.4%	0.0%	5.9%	0.0%	2.2%
	Others	Count	20	9	0	3	0	1	0	33
		Expected Count	17.9	9.6	1.0	3.0	.6	.6	.2	33.0
		% within Presenting complaint	60.6%	27.3%	0.0%	9.1%	0.0%	3.0%	0.0%	100.0%
		% within Care & Custody	4.0%	3.4%	0.0%	3.6%	0.0%	5.9%	0.0%	3.6%
Total		Count	499	267	29	83	18	17	5	918
		Expected Count	499.0	267.0	29.0	83.0	18.0	17.0	5.0	918.0
		% within Presenting complaint	54.4%	29.1%	3.2%	9.0%	2.0%	1.9%	0.5%	100.0%
		% within Care & Custody	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.7 Association between the presenting complaints and previous psychiatric history of the participants

Table 4.8 shows a cross tabulation of the presenting complaints and previous psychiatric history of the participants. There was a significant difference between the two variables [χ^2 (40, N=918) = 115.9, p<0.001].

More than half of the participants who had a psychiatric history of an inpatient psychiatric hospitalisation presented to CAPES with behavioural problems (n=52, 58.4%). Participants who had a psychiatric history of an outpatient psychiatric services were more likely to present with either behaviour problems (n=111, 30.7%) or suicidal thoughts (n=102, 28.3%). Clients who had a psychiatric history of attending either a psychology or school counsellor session were more likely to present with suicidal thoughts (n=10, 37% & n=13, 48.1% respectively). Those participants who had no previous psychiatric history were more likely to present with one of the following presenting compliant; suicidal thoughts (n=105, 26.4%), anxiety (n=78, 19.6%), self-harm behaviour (n=73, 18.3%) or behavioural problems (n=69, 17.3%).

More than half of the participants who presented with one of the following presenting compliant; self-harm behaviour (n=73, 54.1%), anxiety (n=78, 58.2%), low mood (n=36, 53.7%) or PTSD (n=8, 72.7%) had no previous psychiatric history. Youngsters presenting with psychosis or change in behaviour were more likely to have had a psychiatric history of an outpatient services.

Table 4. 8 Association between presenting complaint and previous psychiatric history

			Previous Psychiatric History						
			History of psychiatric hospitalisation	Outpatient services	psychology sessions	School Counsellor sessions	Previous CAPES client	NIL	Total
Presenting complaint	Suicidal thoughts	Count	15	102	10	13	5	105	250
		Expected Count	24.2	98.3	7.4	7.4	4.4	108.4	250.0
		% within Presenting complaint	6.0%	40.8%	4.0%	5.2%	2.0%	42.0%	100.0%
		% within Previous Psychiatric History	16.9%	28.3%	37.0%	48.1%	31.3%	26.4%	27.2%
	Self harm behaviour	Count	4	46	7	2	3	73	135
		Expected Count	13.1	53.1	4.0	4.0	2.4	58.5	135.0
		% within Presenting complaint	3.0%	34.1%	5.2%	1.5%	2.2%	54.1%	100.0%
		% within Previous Psychiatric History	4.5%	12.7%	25.9%	7.4%	18.8%	18.3%	14.7%
	Anxiety	Count	4	43	5	3	1	78	134
		Expected Count	13.0	52.7	3.9	3.9	2.3	58.1	134.0
		% within Presenting complaint	3.0%	32.1%	3.7%	2.2%	0.7%	58.2%	100.0%
		% within Previous Psychiatric History	4.5%	11.9%	18.5%	11.1%	6.3%	19.6%	14.6%
	Behavioural Problems	Count	52	111	1	5	4	69	242
		Expected Count	23.5	95.2	7.1	7.1	4.2	104.9	242.0
		% within Presenting complaint	21.5%	45.9%	0.4%	2.1%	1.7%	28.5%	100.0%
		% within Previous Psychiatric History	58.4%	30.7%	3.7%	18.5%	25.0%	17.3%	26.4%
	Low mood	Count	4	21	3	1	2	36	67
		Expected Count	6.5	26.3	2.0	2.0	1.2	29.0	67.0
		% within Presenting complaint	6.0%	31.3%	4.5%	1.5%	3.0%	53.7%	100.0%
		% within Previous Psychiatric History	4.5%	5.8%	11.1%	3.7%	12.5%	9.0%	7.3%
	PTSD	Count	1	1	0	1	0	8	11
		Expected Count	1.1	4.3	.3	.3	.2	4.8	11.0
		% within Presenting complaint	9.1%	9.1%	0.0%	9.1%	0.0%	72.7%	100.0%
		% within Previous Psychiatric History	1.1%	0.3%	0.0%	3.7%	0.0%	2.0%	1.2%
	Psychosis	Count	3	11	1	1	1	9	26
		Expected Count	2.5	10.2	.8	.8	.5	11.3	26.0
		% within Presenting complaint	11.5%	42.3%	3.8%	3.8%	3.8%	34.6%	100.0%
		% within Previous Psychiatric History	3.4%	3.0%	3.7%	3.7%	6.3%	2.3%	2.8%
	Change in Behaviour	Count	1	9	0	0	0	10	20
		Expected Count	1.9	7.9	.6	.6	.3	8.7	20.0
		% within Presenting complaint	5.0%	45.0%	0.0%	0.0%	0.0%	50.0%	100.0%
		% within Previous Psychiatric History	1.1%	2.5%	0.0%	0.0%	0.0%	2.5%	2.2%
	Others	Count	5	17	0	1	0	10	33
		Expected Count	3.2	13.0	1.0	1.0	.6	14.3	33.0
		% within Presenting complaint	15.2%	51.5%	0.0%	3.0%	0.0%	30.3%	100.0%
		% within Previous Psychiatric History	5.6%	4.7%	0.0%	3.7%	0.0%	2.5%	3.6%
Total		Count	89	361	27	27	16	398	918
		Expected Count	89.0	361.0	27.0	27.0	16.0	398.0	918.0
		% within Presenting complaint	9.7%	39.3%	2.9%	2.9%	1.7%	43.4%	100.0%
		% within Previous Psychiatric History	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.8 Association between the month of review and the referring agent of the participants

Table 4.9 shows a cross tabulation of the month of review (categorised into yearly *quarters)* and the referring agent of the participants. There was a significant difference [(χ2 (119, (N=918) = 392.3, p<0.001] between month of review and referring agent of the participants.

More than half the cases that were referred from the A&E occurred during the first few months of the first year of service (July 2016-June 2017) (n= 68, 52.8%). Conversely, those participants who were either self-referred or referred by a family member were consistent throughout the whole period of this study, with a slight decline in rate between the months of July-September in the year 2016 & 2017.

During the Maltese scholastic months (October-June) the majority of the cases referred to CAPES were referred from school, with a significant drop in referrals from schools between the months of July-September.

Table 4. 9 Referring agent of the participants by month of review

			Month of Review																		
			Jul-Sep 2016	Oct-Dec 2016	Jan-Mar 2017	Apr-Jun 2017	Jul-Sep 2017	Oct-Dec 2017	Jan-Mar 2018	Apr-Jun 2018	Jul-Sep 2018	Oct-Dec 2018	Jan-Mar 2019	Apr-Jun 2019	Jul-Sep 2019	Oct-Dec2019	Jan-Mar 2020	Apr-Jun 2020	Jul-Sep 2020	Oct 2020	Total
Referring Agent	A&E	Count	22	20	16	10	6	3	5	4	4	4	8	1	4	14	4	2	1	1	129
		Expected Count	5.3	9.3	8.6	9.6	3.5	9.1	7.0	11.0	2.5	7.2	8.3	6.3	5.9	13.5	12.6	3.2	4.1	2.0	129.0
		% within Referring Agent	17.1%	15.5%	12.4%	7.8%	4.7%	2.3%	3.9%	3.1%	3.1%	3.1%	6.2%	0.8%	3.1%	10.9%	3.1%	1.6%	0.8%	0.8%	100.0%
		% within Month of Review	57.9%	30.3%	26.2%	14.7%	24.0%	4.6%	10.0%	5.1%	22.2%	7.8%	13.6%	2.2%	9.5%	14.6%	4.4%	8.7%	3.4%	7.1%	14.1%
	Self Referred or Family	Count	5	14	11	15	10	14	10	17	4	10	9	12	18	12	15	11	10	3	200
		Expected Count	8.3	14.4	13.3	14.8	5.4	14.2	10.9	17.0	3.9	11.1	12.9	9.8	9.2	20.9	19.6	5.0	6.3	3.1	200.0
		% within Referring Agent	2.5%	7.0%	5.5%	7.5%	5.0%	7.0%	5.0%	8.5%	2.0%	5.0%	4.5%	6.0%	9.0%	6.0%	7.5%	5.5%	5.0%	1.5%	100.0%
		% within Month of Review	13.2%	21.2%	18.0%	22.1%	40.0%	21.5%	20.0%	21.8%	22.2%	19.6%	15.3%	26.7%	42.9%	12.5%	16.7%	47.8%	34.5%	21.4%	21.8%
	Psychiatric Services	Count	1	1	0	1	1	1	0	1	2	1	1	2	3	3	6	2	9	3	38
		Expected Count	1.6	2.7	2.5	2.8	1.0	2.7	2.1	3.2	.7	2.1	2.4	1.9	1.7	4.0	3.7	1.0	1.2	.6	38.0
		% within Referring Agent	2.6%	2.6%	0.0%	2.6%	2.6%	2.6%	0.0%	2.6%	5.3%	2.6%	2.6%	5.3%	7.9%	7.9%	15.8%	5.3%	23.7%	7.9%	100.0%
		% within Month of Review	2.6%	1.5%	0.0%	1.5%	4.0%	1.5%	0.0%	1.3%	11.1%	2.0%	1.7%	4.4%	7.1%	3.1%	6.7%	8.7%	31.0%	21.4%	4.1%
	School	Count	2	20	20	28	0	35	22	39	1	30	34	19	0	51	46	1	0	5	353
		Expected Count	14.6	25.4	23.5	26.1	9.6	25.0	19.2	30.0	6.9	19.6	22.7	17.3	16.2	36.9	34.6	8.8	11.2	5.4	353.0
		% within Referring Agent	0.6%	5.7%	5.7%	7.9%	0.0%	9.9%	6.2%	11.0%	0.3%	8.5%	9.6%	5.4%	0.0%	14.4%	13.0%	0.3%	0.0%	1.4%	100.0%
		% within Month of Review	5.3%	30.3%	32.8%	41.2%	0.0%	53.8%	44.0%	50.0%	5.6%	58.8%	57.6%	42.2%	0.0%	53.1%	51.1%	4.3%	0.0%	35.7%	38.5%
	Social Worker	Count	2	3	4	3	4	6	6	1	3	2	1	4	10	10	5	5	5	0	74
		Expected Count	3.1	5.3	4.9	5.5	2.0	5.2	4.0	6.3	1.5	4.1	4.8	3.6	3.4	7.7	7.3	1.9	2.3	1.1	74.0
		% within Referring Agent	2.7%	4.1%	5.4%	4.1%	5.4%	8.1%	8.1%	1.4%	4.1%	2.7%	1.4%	5.4%	13.5%	13.5%	6.8%	6.8%	6.8%	0.0%	100.0%
		% within Month of Review	5.3%	4.5%	6.6%	4.4%	16.0%	9.2%	12.0%	1.3%	16.7%	3.9%	1.7%	8.9%	23.8%	10.4%	5.6%	21.7%	17.2%	0.0%	8.1%
	Police	Count	1	1	0	0	0	0	1	5	0	0	1	1	3	3	3	1	0	1	21
		Expected Count	.9	1.5	1.4	1.6	.6	1.5	1.1	1.8	.4	1.2	1.3	1.0	1.0	2.2	2.1	.5	.7	.3	21.0
		% within Referring Agent	4.8%	4.8%	0.0%	0.0%	0.0%	0.0%	4.8%	23.8%	0.0%	0.0%	4.8%	4.8%	14.3%	14.3%	14.3%	4.8%	0.0%	4.8%	100.0%
		% within Month of Review	2.6%	1.5%	0.0%	0.0%	0.0%	0.0%	2.0%	6.4%	0.0%	0.0%	1.7%	2.2%	7.1%	3.1%	3.3%	4.3%	0.0%	7.1%	2.3%
	Psychologist	Count	1	0	0	2	2	2	2	0	0	0	1	1	1	0	0	0	1	0	13
		Expected Count	.5	.9	.9	1.0	.4	.9	.7	1.1	.3	.7	.8	.6	.6	1.4	1.3	.3	.4	.2	13.0
		% within Referring Agent	7.7%	0.0%	0.0%	15.4%	15.4%	15.4%	15.4%	0.0%	0.0%	0.0%	7.7%	7.7%	7.7%	0.0%	0.0%	0.0%	7.7%	0.0%	100.0%
		% within Month of Review	2.6%	0.0%	0.0%	2.9%	8.0%	3.1%	4.0%	0.0%	0.0%	0.0%	1.7%	2.2%	2.4%	0.0%	0.0%	0.0%	3.4%	0.0%	1.4%
	General Practitioner	Count	4	7	10	9	2	4	4	11	4	4	4	5	3	3	11	1	3	1	90
		Expected Count	3.7	6.5	6.0	6.7	2.5	6.4	4.9	7.6	1.8	5.0	5.8	4.4	4.1	9.4	8.8	2.3	2.8	1.4	90.0
		% within Referring Agent	4.4%	7.8%	11.1%	10.0%	2.2%	4.4%	4.4%	12.2%	4.4%	4.4%	4.4%	5.6%	3.3%	3.3%	12.2%	1.1%	3.3%	1.1%	100.0%
		% within Month of Review	10.5%	10.6%	16.4%	13.2%	8.0%	6.2%	8.0%	14.1%	22.2%	7.8%	6.8%	11.1%	7.1%	3.1%	12.2%	4.3%	10.3%	7.1%	9.8%
Total		Count	38	66	61	68	25	65	50	78	18	51	59	45	42	96	90	23	29	14	918
		Expected Count	38.0	66.0	61.0	68.0	25.0	65.0	50.0	78.0	18.0	51.0	59.0	45.0	42.0	96.0	90.0	23.0	29.0	14.0	918.0
		% within Referring Agent	4.1%	7.2%	6.6%	7.4%	2.7%	7.1%	5.4%	8.5%	2.0%	5.6%	6.4%	4.9%	4.6%	10.5%	9.8%	2.5%	3.2%	1.5%	100.0%
		% within Month of Review	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.9 Association between the gender of the participants and the primary outcome on discharge

Table 4.10 shows a cross tabulation of the gender of the participants and the primary outcome on discharge from CAPES. No significant difference was found between the two variables (χ^2 (8, N=918) =15.3, p=.054).

More males when compared to females were admitted voluntarily to YPU following CAPES assessment (males=47, 61%; females=30, 39%). On the other hand, involuntary admissions were evenly distributed between the two sexes (n=14, 50%).

When compared to males, more females were given an urgent follow up appointment at CYPS (Females=145, 53.1%; Males=128, 46.9%). Similarly, more females were followed by the CIHT after being discharged from CAPES (Females: n=76, 60.3%; Males: n=50, 39.7%). With regards to participants who were discharged from CAPES without any further psychiatric interventions there were more males than females (Males=63, 58.3%; Females=45, 41.7%).

Table 4. 10 Association between the gender of the participants and the primary outcome on discharge

			Gender		
			Female	Male	Total
Main Outcome on discharge	Volontary Admission	Count	30	47	77
		Expected Count	37.3	39.7	77.0
		% within Main Outcome on discharge	39.0%	61.0%	100.0%
		% within Gender	6.7%	9.9%	8.4%
	Involontary Admission	Count	14	14	28
		Expected Count	13.6	14.4	28.0
		% within Main Outcome on discharge	50.0%	50.0%	100.0%
		% within Gender	3.1%	3.0%	3.1%
	Admission at MDH	Count	12	9	21
		Expected Count	10.2	10.8	21.0
		% within Main Outcome on discharge	57.1%	42.9%	100.0%
		% within Gender	2.7%	1.9%	2.3%
	CYPS Urgent f/u appointment	Count	128	145	273
		Expected Count	132.3	140.7	273.0
		% within Main Outcome on discharge	46.9%	53.1%	100.0%
		% within Gender	28.8%	30.7%	29.7%
	CYPS f/u appointment	Count	113	114	227
		Expected Count	110.0	117.0	227.0
		% within Main Outcome on discharge	49.8%	50.2%	100.0%
		% within Gender	25.4%	24.1%	24.7%
	Private appointment with psychiatrist	Count	26	17	43
		Expected Count	20.8	22.2	43.0
		% within Main Outcome on discharge	60.5%	39.5%	100.0%
		% within Gender	5.8%	3.6%	4.7%
	CIHT & Urgent CYPS appointment	Count	50	76	126
		Expected Count	61.1	64.9	126.0
		% within Main Outcome on discharge	39.7%	60.3%	100.0%
		% within Gender	11.2%	16.1%	13.7%
	DAMA	Count	9	6	15
		Expected Count	7.3	7.7	15.0
		% within Main Outcome on discharge	60.0%	40.0%	100.0%
		% within Gender	2.0%	1.3%	1.6%
	Discharged from psychiatric POV	Count	63	45	108
		Expected Count	52.4	55.6	108.0
		% within Main Outcome on discharge	58.3%	41.7%	100.0%
		% within Gender	14.2%	9.5%	11.8%
Total		Count	445	473	918
		Expected Count	445.0	473.0	918.0
		% within Main Outcome on discharge	48.5%	51.5%	100.0%
		% within Gender	100.0%	100.0%	100.0%

4.4.10 Association between the age of the participants and the primary outcome on discharge from CAPES

As illustrated in Figure 4.11, a significant difference between the age of the participants and the primary outcome upon discharge from CAPES was identified [χ^2 (24, N=918) = 50.2, p=0.001].

Most of admissions to psychiatric hospital were associated with adolescent age (n=107, 82.9%). While the remainder of admissions were of children aged between 6-9 years old (n=18, 17.1%), with no admissions recorded for children aged between 2-5 years.

Nearly half of the participants who were given an urgent follow-up appointment at CYPS were adolescents aged between 10-13 years (n=129, 47.3%). Similar results were also noted for the participants who were given a non-urgent outpatient follow-up appointment (n=113, 49.8%).

Table 4. 11 Association between age of participants and the primary outcome upon discharge

			Age Category				
			2-5	6-9	10-13	14-17	Total
Main Outcome on discharge	Volontary Admission	Count	0	17	25	35	77
		Expected Count	1.2	10.1	34.2	31.5	77.0
		% within Main Outcome on discharge	0.0%	22.1%	32.5%	45.5%	100.0%
		% within Age	0.0%	14.0%	6.1%	9.3%	8.4%
	Involontary Admission	Count	0	1	8	19	28
		Expected Count	.4	3.7	12.4	11.4	28.0
		% within Main Outcome on discharge	0.0%	3.6%	28.6%	67.9%	100.0%
		% within Age	0.0%	0.8%	2.0%	5.1%	3.1%
	Admission at MDH	Count	0	2	6	13	21
		Expected Count	.3	2.8	9.3	8.6	21.0
		% within Main Outcome on discharge	0.0%	9.5%	28.6%	61.9%	100.0%
		% within Age	0.0%	1.7%	1.5%	3.5%	2.3%
	CYPS Urgent f/u appointment	Count	8	45	129	91	273
		Expected Count	4.2	36.0	121.3	111.5	273.0
		% within Main Outcome on discharge	2.9%	16.5%	47.3%	33.3%	100.0%
		% within Age	57.1%	37.2%	31.6%	24.3%	29.7%
	CYPS f/u appointment	Count	3	23	113	88	227
		Expected Count	3.5	29.9	100.9	92.7	227.0
		% within Main Outcome on discharge	1.3%	10.1%	49.8%	38.8%	100.0%
		% within Age	21.4%	19.0%	27.7%	23.5%	24.7%
	Private appointment with psychiatrist	Count	1	1	20	21	43
		Expected Count	.7	5.7	19.1	17.6	43.0
		% within Main Outcome on discharge	2.3%	2.3%	46.5%	48.8%	100.0%
		% within Age	7.1%	0.8%	4.9%	5.6%	4.7%
	CIHT & Urgent CYPS appointment	Count	1	15	47	63	126
		Expected Count	1.9	16.6	56.0	51.5	126.0
		% within Main Outcome on discharge	0.8%	11.9%	37.3%	50.0%	100.0%
		% within Age	7.1%	12.4%	11.5%	16.8%	13.7%
	DAMA	Count	0	2	4	9	15
		Expected Count	.2	2.0	6.7	6.1	15.0
		% within Main Outcome on discharge	0.0%	13.3%	26.7%	60.0%	100.0%
		% within Age	0.0%	1.7%	1.0%	2.4%	1.6%
	Discharged from psychiatric POV	Count	1	15	56	36	108
		Expected Count	1.6	14.2	48.0	44.1	108.0
		% within Main Outcome on discharge	0.9%	13.9%	51.9%	33.3%	100.0%
		% within Age	7.1%	12.4%	13.7%	9.6%	11.8%
Total		Count	14	121	408	375	918
		Expected Count	14.0	121.0	408.0	375.0	918.0
		% within Main Outcome on discharge	1.5%	13.2%	44.4%	40.8%	100.0%
		% within Age	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.11 Association between the presenting complaint and the primary outcome on discharge

As shown below in Table 4.12, there was a significant difference in the presenting complaints and the primary outcome identified on discharge of the participants, [χ^2 (64, N=918) = 185.4, p<0.001].

37.7% of the 77 cases who were voluntarily admitted to an inpatient psychiatric hospital after being seen by CAPES were admitted due to behavioural problems (n=29). Other reasons for admission include suicidal thoughts (n=21, 27.3%), self-harm behaviour (n=13, 16.9%) and psychosis (n=6, 7.8%).

As for the participants who were admitted involuntarily under the MHA to YPU, the common presenting complaints were suicidal thoughts (n=8, 28.6%), behavioural problems (n=7, 25%) and self-harm behaviour (n=6, 21.4%).

The majority of the cases that were followed up by the CIHT services post discharge from CAPES presented with either behavioural problems (n=45, 35.7%) or suicidal thoughts (n=42, 33.3%).

Most of the clients who were discharged from CAPES without any further psychiatric interventions were referred in view of either suicidal thoughts (n=30, 27.8%) or anxiety (n=29, 26.9%).

Youngsters presenting with suicidal thoughts were more likely to be given an urgent follow-up appointment at CYPS (n=74, 29.6%) and or be followed by the CIHT service (n=42, 16.8% respectively). Whilst clients presenting with self-harm behaviour were more likely to be given a non-urgent follow-up appointment at CYPS (n=40, 29.6%).

Half of the participants presenting with behavioural problems were given an outpatient follow-up appointment (n=126, 52%), 77 of these were given an urgent appointment. On the other hand, children and adolescents presenting to CAPES with psychosis as their presenting complaint were more likely to be admitted to an inpatient psychiatric hospital [n=11, 42.3%: 6 voluntary admissions (23.1%) and 5 involuntary admissions (19.2%)].

Table 4. 12 Association between the presenting complaint and the primary outcome on discharge

			Main Outcome on discharge									
			Volontary Admission	Involontary Admission	Admission at MDH	CYPS Urgent f/u appointment	CYPS f/u appointment	Private appointment with psychiatrist	CIHT & Urgent CYPS appointment	DAMA	Discharged from psychiatric POV	Total
Presenting complaint	Suicidal thoughts	Count	21	8	1	74	56	14	42	4	30	250
		Expected Count	21.0	7.6	5.7	74.3	61.8	11.7	34.3	4.1	29.4	250.0
		% within Presenting complaint	8.4%	3.2%	0.4%	29.6%	22.4%	5.6%	16.8%	1.6%	12.0%	100.0%
		% within Main Outcome on discharge	27.3%	28.6%	4.8%	27.1%	24.7%	32.6%	33.3%	26.7%	27.8%	27.2%
	Self harm behaviour	Count	13	6	7	34	40	3	17	4	11	135
		Expected Count	11.3	4.1	3.1	40.1	33.4	6.3	18.5	2.2	15.9	135.0
		% within Presenting complaint	9.6%	4.4%	5.2%	25.2%	29.6%	2.2%	12.6%	3.0%	8.1%	100.0%
		% within Main Outcome on discharge	16.9%	21.4%	33.3%	12.5%	17.6%	7.0%	13.5%	26.7%	10.2%	14.7%
	Anxiety	Count	1	0	2	34	49	9	10	0	29	134
		Expected Count	11.2	4.1	3.1	39.8	33.1	6.3	18.4	2.2	15.8	134.0
		% within Presenting complaint	0.7%	0.0%	1.5%	25.4%	36.6%	6.7%	7.5%	0.0%	21.6%	100.0%
		% within Main Outcome on discharge	1.3%	0.0%	9.5%	12.5%	21.6%	20.9%	7.9%	0.0%	26.9%	14.6%
	Behavioural Problems	Count	29	7	2	77	49	13	45	3	17	242
		Expected Count	20.3	7.4	5.5	72.0	59.8	11.3	33.2	4.0	28.5	242.0
		% within Presenting complaint	12.0%	2.9%	0.8%	31.8%	20.2%	5.4%	18.6%	1.2%	7.0%	100.0%
		% within Main Outcome on discharge	37.7%	25.0%	9.5%	28.2%	21.6%	30.2%	35.7%	20.0%	15.7%	26.4%
	Low mood	Count	4	0	1	23	16	2	7	2	12	67
		Expected Count	5.6	2.0	1.5	19.9	16.6	3.1	9.2	1.1	7.9	67.0
		% within Presenting complaint	6.0%	0.0%	1.5%	34.3%	23.9%	3.0%	10.4%	3.0%	17.9%	100.0%
		% within Main Outcome on discharge	5.2%	0.0%	4.8%	8.4%	7.0%	4.7%	5.6%	13.3%	11.1%	7.3%
	PTSD	Count	0	0	0	7	2	0	0	0	2	11
		Expected Count	.9	.3	.3	3.3	2.7	.5	1.5	.2	1.3	11.0
		% within Presenting complaint	0.0%	0.0%	0.0%	63.6%	18.2%	0.0%	0.0%	0.0%	18.2%	100.0%
		% within Main Outcome on discharge	0.0%	0.0%	0.0%	2.6%	0.9%	0.0%	0.0%	0.0%	1.9%	1.2%
	Psychosis	Count	6	5	5	7	2	0	1	0	0	26
		Expected Count	2.2	.8	.6	7.7	6.4	1.2	3.6	.4	3.1	26.0
		% within Presenting complaint	23.1%	19.2%	19.2%	26.9%	7.7%	0.0%	3.8%	0.0%	0.0%	100.0%
		% within Main Outcome on discharge	7.8%	17.9%	23.8%	2.6%	0.9%	0.0%	0.8%	0.0%	0.0%	2.8%
	Change in Behaviour	Count	1	1	2	11	3	0	0	1	1	20
		Expected Count	1.7	.6	.5	5.9	4.9	.9	2.7	.3	2.4	20.0
		% within Presenting complaint	5.0%	5.0%	10.0%	55.0%	15.0%	0.0%	0.0%	5.0%	5.0%	100.0%
		% within Main Outcome on discharge	1.3%	3.6%	9.5%	4.0%	1.3%	0.0%	0.0%	6.7%	0.9%	2.2%
	Others	Count	2	1	1	6	10	2	4	1	6	33
		Expected Count	2.8	1.0	.8	9.8	8.2	1.5	4.5	.5	3.9	33.0
		% within Presenting complaint	6.1%	3.0%	3.0%	18.2%	30.3%	6.1%	12.1%	3.0%	18.2%	100.0%
		% within Main Outcome on discharge	2.6%	3.6%	4.8%	2.2%	4.4%	4.7%	3.2%	6.7%	5.6%	3.6%
Total		Count	77	28	21	273	227	43	126	15	108	918
		Expected Count	77.0	28.0	21.0	273.0	227.0	43.0	126.0	15.0	108.0	918.0
		% within Presenting complaint	8.4%	3.1%	2.3%	29.7%	24.7%	4.7%	13.7%	1.6%	11.8%	100.0%
		% within Main Outcome on discharge	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.12 Association between previous psychiatric history and the primary outcome on discharge of the participants

Table 4.13 shows a cross tabulation of previous psychiatric history and the primary outcome on discharge of the participants. There was a significant difference between the two variables [χ^2 (40, N=918) = 175.9, p<0.001].

Participants known to the psychiatric national health services (i.e., previous psychiatric history of inpatient hospitalisation or outpatient services), were more likely to be admitted to an inpatient psychiatric hospital when compared with participants with no previous psychiatric history. There were in total 72 admissions to YPU of participants previously known to psychiatric services, of which 51 were admitted voluntarily and 21 were admitted involuntarily. On the other hand, the number of admissions of young people with no previous psychiatric history were 28, of which 22 were admitted voluntarily while 6 were admitted involuntarily.

Two-thirds of the clients who discharged themselves against medical advice had no previous psychiatric history (n=10, 66.7%).

Participants with no previous psychiatric history were more likely to be discharged from CAPES with an outpatient follow-up appointment at CYPS (n=228, 57.3%).

Table 4. 13 Association between previous psychiatric history and the primary outcome on discharge of the participants

			Previous Psychiatric History						Total
			History of psychiatric hospitalisation	Outpatient services	psychology sessions	School Counsellor sessions	Previous CAPES client	NIL	
Main Outcome on discharge	Volontary Admission	Count	21	30	2	0	2	22	77
		Expected Count	7.5	30.3	2.3	2.3	1.3	33.4	77.0
		% within Main Outcome on discharge	27.3%	39.0%	2.6%	0.0%	2.6%	28.6%	100.0%
		% within Previous Psychiatric History	23.6%	8.3%	7.4%	0.0%	12.5%	5.5%	8.4%
	Involontary Admission	Count	8	13	0	0	1	6	28
		Expected Count	2.7	11.0	.8	.8	.5	12.1	28.0
		% within Main Outcome on discharge	28.6%	46.4%	0.0%	0.0%	3.6%	21.4%	100.0%
		% within Previous Psychiatric History	9.0%	3.6%	0.0%	0.0%	6.3%	1.5%	3.1%
	Admission at MDH	Count	3	9	0	0	0	9	21
		Expected Count	2.0	8.3	.6	.6	.4	9.1	21.0
		% within Main Outcome on discharge	14.3%	42.9%	0.0%	0.0%	0.0%	42.9%	100.0%
		% within Previous Psychiatric History	3.4%	2.5%	0.0%	0.0%	0.0%	2.3%	2.3%
	CYPS Urgent f/u appointment	Count	14	129	9	10	5	106	273
		Expected Count	26.5	107.4	8.0	8.0	4.8	118.4	273.0
		% within Main Outcome on discharge	5.1%	47.3%	3.3%	3.7%	1.8%	38.8%	100.0%
		% within Previous Psychiatric History	15.7%	35.7%	33.3%	37.0%	31.3%	26.6%	29.7%
	CYPS f/u appointment	Count	13	80	5	4	3	122	227
		Expected Count	22.0	89.3	6.7	6.7	4.0	98.4	227.0
		% within Main Outcome on discharge	5.7%	35.2%	2.2%	1.8%	1.3%	53.7%	100.0%
		% within Previous Psychiatric History	14.6%	22.2%	18.5%	14.8%	18.8%	30.7%	24.7%
	Private appointment with psychiatrist	Count	6	31	1	0	0	5	43
		Expected Count	4.2	16.9	1.3	1.3	.7	18.6	43.0
		% within Main Outcome on discharge	14.0%	72.1%	2.3%	0.0%	0.0%	11.6%	100.0%
		% within Previous Psychiatric History	6.7%	8.6%	3.7%	0.0%	0.0%	1.3%	4.7%
	CIHT & Urgent CYPS appointment	Count	20	53	5	2	1	45	126
		Expected Count	12.2	49.5	3.7	3.7	2.2	54.6	126.0
		% within Main Outcome on discharge	15.9%	42.1%	4.0%	1.6%	0.8%	35.7%	100.0%
		% within Previous Psychiatric History	22.5%	14.7%	18.5%	7.4%	6.3%	11.3%	13.7%
	DAMA	Count	0	5	0	0	0	10	15
		Expected Count	1.5	5.9	.4	.4	.3	6.5	15.0
		% within Main Outcome on discharge	0.0%	33.3%	0.0%	0.0%	0.0%	66.7%	100.0%
		% within Previous Psychiatric History	0.0%	1.4%	0.0%	0.0%	0.0%	2.5%	1.6%
	Discharged from psychiatric POV	Count	4	11	5	11	4	73	108
		Expected Count	10.5	42.5	3.2	3.2	1.9	46.8	108.0
		% within Main Outcome on discharge	3.7%	10.2%	4.6%	10.2%	3.7%	67.6%	100.0%
		% within Previous Psychiatric History	4.5%	3.0%	18.5%	40.7%	25.0%	18.3%	11.8%
Total		Count	89	361	27	27	16	398	918
		Expected Count	89.0	361.0	27.0	27.0	16.0	398.0	918.0
		% within Main Outcome on discharge	9.7%	39.3%	2.9%	2.9%	1.7%	43.4%	100.0%
		% within Previous Psychiatric History	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4.4.13 Association between the primary outcome on discharge and the referring agent

Table 4.14 presents a cross tabulation of the primary outcome on discharge and the referring agent. A significant difference between the two variable was observed [χ^2 (56, N=918) = 200.4, p<0.001].

Most of the participants who were voluntarily admitted to a psychiatric hospital were either self-referred or referred by a family member (n=25, 32.5%) followed by those referred from school or a social worker (n=15, 19.5% respectively). Whereas the majority of the participants admitted involuntary were referred by A&E or either self-referred or referred by a family member (n=7, 25%), followed by those referred by a general practitioner (n=4, 14.3%) and those who were referred by either the police, or school, or a social worker (n=3, 10.7% respectively).

Participants who were referred to CAPES from school were most like to be discharged from CAPES with a CYPS follow up appointment (n=219, 62%). One in four participants who were discharged from CAPES without any psychiatric follow up appointment were referred from the A&E (n=28, 25.9%).

Table 4. 14 Association between the primary outcome on discharge and the referring agent

			Referring Agent								
			A&E	Self Referred or Family	Psychiatric Services	School	Social Worker	Police	Psychologist	General Practitioner	Total
Main Outcome on discharge	Volontary Admission	Count	9	25	0	15	15	3	2	8	77
		Expected Count	10.8	16.8	3.2	29.6	6.2	1.8	1.1	7.5	77.0
		% within Main Outcome on discharge	11.7%	32.5%	0.0%	19.5%	19.5%	3.9%	2.6%	10.4%	100.0%
		% within Referring Agent	7.0%	12.5%	0.0%	4.2%	20.3%	14.3%	15.4%	8.9%	8.4%
	Involontary Admission	Count	7	7	1	3	3	3	0	4	28
		Expected Count	3.9	6.1	1.2	10.8	2.3	.6	.4	2.7	28.0
		% within Main Outcome on discharge	25.0%	25.0%	3.6%	10.7%	10.7%	10.7%	0.0%	14.3%	100.0%
		% within Referring Agent	5.4%	3.5%	2.6%	0.8%	4.1%	14.3%	0.0%	4.4%	3.1%
	Admission at MDH	Count	7	5	2	4	2	0	0	1	21
		Expected Count	3.0	4.6	.9	8.1	1.7	.5	.3	2.1	21.0
		% within Main Outcome on discharge	33.3%	23.8%	9.5%	19.0%	9.5%	0.0%	0.0%	4.8%	100.0%
		% within Referring Agent	5.4%	2.5%	5.3%	1.1%	2.7%	0.0%	0.0%	1.1%	2.3%
	CYPS Urgent f/u appointment	Count	25	70	6	114	17	1	5	35	273
		Expected Count	38.4	59.5	11.3	105.0	22.0	6.2	3.9	26.8	273.0
		% within Main Outcome on discharge	9.2%	25.6%	2.2%	41.8%	6.2%	0.4%	1.8%	12.8%	100.0%
		% within Referring Agent	19.4%	35.0%	15.8%	32.3%	23.0%	4.8%	38.5%	38.9%	29.7%
	CYPS f/u appointment	Count	36	32	8	105	18	3	6	19	227
		Expected Count	31.9	49.5	9.4	87.3	18.3	5.2	3.2	22.3	227.0
		% within Main Outcome on discharge	15.9%	14.1%	3.5%	46.3%	7.9%	1.3%	2.6%	8.4%	100.0%
		% within Referring Agent	27.9%	16.0%	21.1%	29.7%	24.3%	14.3%	46.2%	21.1%	24.7%
	Private appointment with psychiatrist	Count	8	16	1	13	0	3	0	2	43
		Expected Count	6.0	9.4	1.8	16.5	3.5	1.0	.6	4.2	43.0
		% within Main Outcome on discharge	18.6%	37.2%	2.3%	30.2%	0.0%	7.0%	0.0%	4.7%	100.0%
		% within Referring Agent	6.2%	8.0%	2.6%	3.7%	0.0%	14.3%	0.0%	2.2%	4.7%
	CIHT & Urgent CYPS appointment	Count	7	33	19	35	15	4	0	13	126
		Expected Count	17.7	27.5	5.2	48.5	10.2	2.9	1.8	12.4	126.0
		% within Main Outcome on discharge	5.6%	26.2%	15.1%	27.8%	11.9%	3.2%	0.0%	10.3%	100.0%
		% within Referring Agent	5.4%	16.5%	50.0%	9.9%	20.3%	19.0%	0.0%	14.4%	13.7%
	DAMA	Count	2	5	0	5	1	1	0	1	15
		Expected Count	2.1	3.3	.6	5.8	1.2	.3	.2	1.5	15.0
		% within Main Outcome on discharge	13.3%	33.3%	0.0%	33.3%	6.7%	6.7%	0.0%	6.7%	100.0%
		% within Referring Agent	1.6%	2.5%	0.0%	1.4%	1.4%	4.8%	0.0%	1.1%	1.6%
	Discharged from psychiatric POV	Count	28	7	1	59	3	3	0	7	108
		Expected Count	15.2	23.5	4.5	41.5	8.7	2.5	1.5	10.6	108.0
		% within Main Outcome on discharge	25.9%	6.5%	0.9%	54.6%	2.8%	2.8%	0.0%	6.5%	100.0%
		% within Referring Agent	21.7%	3.5%	2.6%	16.7%	4.1%	14.3%	0.0%	7.8%	11.8%
Total		Count	129	200	38	353	74	21	13	90	918
		Expected Count	129.0	200.0	38.0	353.0	74.0	21.0	13.0	90.0	918.0
		% within Main Outcome on discharge	14.1%	21.8%	4.1%	38.5%	8.1%	2.3%	1.4%	9.8%	100.0%
		% within Referring Agent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

4.5 Conclusion

This chapter highlighted the socio-demographic and clinical details of all the children and adolescents who were seen by CAPES within the four-year period of this study. Furthermore, these details were then analysed to explore different associations and trends according to different variables. The next chapter presents a discussion of these findings in relation to the relevant literature available.

Chapter 5

Discussion

5.1 Introduction

This chapter presents a discussion on the main results of this study in relation to the topic examined in this dissertation. The main aim of this study was to explore the characteristics, trends and outcomes of the children and adolescents who made use of CAPES between July 2016 and October 2020.

Considering this aim, the parts that follow in this chapter attempt to address the key findings and their potential implications, in view of the research objective and in the context of existing literature. Since this research used a descriptive content analysis approach, this chapter integrated the data, extracted it, and compared it to the recent literature available, with the goal of providing a more detailed discussion and, eventually, establishing a more stable basis for drawing conclusions and recommendations.

As already indicated in the literature review (Chapter 2), this study conducted a thorough search of electronic databases and bibliographies of relevant journals. The PRISMA statement guidelines were used to ensure a systematic description of every phase of this process. As previously pointed, there is a lack of existing research examining these variables in relations to the phenomenon of young people seen by the psychiatric emergency services. To the researcher's knowledge, this is the first research of this kind locally, and this study enabled the compilation of an electronic database for all the cases seen by CAPES from its origination till October 2020.

This chapter discusses the different associations identified by sociodemographic and clinical variables for children and adolescents in the local context and compares these findings to relevant literature generated in the general literature.

5.2 Socio-demographic characteristics of the participants

The following section discusses different socio-demographic characteristics of the participants.

5.2.1 Psychiatric emergency cases of children and adolescents by gender

There was no significant difference for the participants by gender, over the four-year period of this study 51.5% were males (n=473) and 48.5% were females (n=445). According to the latest Maltese census, which was conducted in 2015, the population of Malta was evenly distributed between males and females across most of the ages (National Statistics Office, 2017). Thus, this shows that this study has a good sample representation of gender according to the Maltese population.

Similar results were reported by various researchers (Edelsohn et al., 2003; Goldstein et al., 2005; Grudnikoff et al., 2015) who noted that slightly more males than females were seen by an emergency psychiatric service. On the other hand, in recent studies (Boyer, et al., 2013; Dil & Vuijk, 2012; Holder et al., 2017; Mutlu, et al., 2015) it was noticed that a higher percentage of females were seen by emergency psychiatric services. Interestingly, in both studies by Holder et al, (2017) and Boyer et al, (2013) the number of females exceeded the 60% mark.

5.2.2 Age of the participants seen by CAPES

In this study, the ages of the participants seen by CAPES were categorized into four groups, namely: 2-5 years, 6-9 years, 10-13 years, and 14-17 years. A significant

difference for the participants by age was identified. Most of the participants seen by CAPES were aged between 10-13 years (n=408, 44.4%), followed by the 14–17-year age group (n=375, 40.8%). These results were congruent with various studies (Edelsohn et al., 2003; Grudnikoff et al., 2014). Similarly, a slight increase in mean age was also reported by Mutlu et al. (2015) and Boyer et al. (2013).

These results are also consistent with the average age of onset of mental health conditions. The WHO (2018) highlighted that half of all mental health conditions commence in the adolescent age.

5.2.3 Location by district of children and adolescents seen by CAPES

As previously mentioned, the Maltese islands are divided into six districts, namely the Southern harbor district (district 1), Northern harbor district (district 2), South eastern district (district 3), Western district (district 4), Northern district (district 5) and the islands of Gozo and Comino (district 6). Further details outlining the towns and cities falling under each district are listed in Appendix (A).

The modal category for the children and adolescents who were assessed by the psychiatric emergency service by district was identified for the Northern Harbour District (n=308, 33.5%); followed by the Southern Harbour (n=200, 21.8%). The least number of participants were identified for the 6th district which comprises the island of Gozo. This was to be expected since the 6th district has the lowest population. The emergency psychiatric service is not easily reachable for the population of Gozo since they have a longer journey to cross to the Island of Malta.

These results were compared to a local study which was conducted by Siegersma (2017), that studied admission trends to YPU over a 24-year period. Both studies

reported identical results in the location by district. Furthermore, in the latest annual report, the mental health commissioner reported that one-third of young people admitted involuntarily to YPU were from the Northern Harbour District (33%), followed by 19% who were from the South Eastern Harbour and 16% were from the Southern Harbour District (Cachia, 2020). The Northern Harbour District has a much denser population which is double of the Southern Harbour and Northern District. (NSO, 2017). The higher the population, the higher is the probability of incidence of mental health issues.

According to the latest Maltese census, 29.4% of the population resides in the Northern Harbour District, followed by the Southern Harbour District (18.4%) and Northern District and South Eastern District (15.7% respectively) (NSO, 2017). The latter statistics continue to suggest that the current study has a good representation of the general population.

5.2.4 Care and custody of the young person seen by CAPES

This study examined the care and custody of the participants, and the data shows that more than half of the participants had their care and custody assigned to both parents (n=499, 54.4%). On the other hand, 29.1% had the care and custody given to mother only (n=267, 29.1%), while 3.2% of the cases had the care and custody allocated to father only (n=29). The number of participants who were placed under a care order was that of 83 (9%).

In comparison with the local study of Siegersma (2017) similar results were observed regarding the care and custody that was assigned to both parents, mother only and father only. On the other hand, the percentage of participants who were placed under a care order was much lower, in fact Siegersma (2017) reported a rate of 21.3%.

Akister et al. (2010) remarked that children and adolescents who are either in out-of-home care or in foster care, showed a higher prevalence of mental health issues when compared to young people who were not involved in social care. Instability, neglect, and a disruptive childhood causes emotional distress which contributes to mental health issues.

5.3 Clinical characteristics of the participants

The following section discusses different clinical characteristics of the participants.

5.3.1 Previous psychiatric history of children and adolescents seen at CAPES

Most of the participants had no previous psychiatric contact before presenting at CAPES (n=398, 43.4%). 39.3% of the participants had previously or were receiving outpatient psychiatric care at CYPS, while 9.7% had a history of an inpatient psychiatric hospitalisation at YPU (n=89).

In his study on 711 participants, Mutlu et al (2015) reported similar results, with 40.6% of the participants having a history of psychiatric outpatient service and 7.1% who were previously admitted to a psychiatric hospital prior to the psychiatric emergency consultation. On the other hand, the number of particapnts who were previously admitted to an inpatient hospitalisation was lower than that reported by Grudnikoff et al. (2015) who reported that 26.4% of participants were previously admitted (n=281).

5.3.2 Family history of the participants reviewed by CAPES

Nevertheless, most of the young people reviewed by CAPES did not have a family history of psychiatric problems (n=550, 60%), 26.7% had a family history of at least one family member. Interestingly, 200 of the participants reported that at least one of their parents had psychiatric issues (21.8%)

Siegersma (2017) observed that 13.2% of the admissions at YPU had a history of one member being admitted to a psychiatric hospital. Differently from the study by Siegersma (2017), this current study was able to identify what psychiatric conditions featured in the families of the participants. Depression (n=117, 42.9%) was the most identified psychiatric problem amongst the 273 participants with a family psychiatric history, followed by substance abuse (n=38, 13.9%) and anxiety (n=30, 11%).

According to Stewart et al. (2014), children with a dysfunctional family relationships or those living in and out of home care are more susceptible to mental health issues with increased chance of psychiatric hospitalisation. In relation to this, Olives et al. (2015) emphasised that good levels of home care serve as a protective factor in terms of mental health services by children and adolescents.

5.3.3 Presenting complaints of the participants

More than half of the cases seen by CAPES were referred due to either suicidal thoughts or behavioural problems (n=250, 27.2% and n=242, 26.4% respectively). Other frequent presenting complaints included self-harming behaviour and anxiety (n=135, 14.7% and n=134, 14.6% respectively).

The findings in this study regarding the presenting complaints of the participants reviewed by CAPES were compared to the studies included in the literature review of this study (Chapter 2). Remarkably, the study conducted by Mutlu et al. (2015) reported similar results in the most prevalent presenting symptoms of the 1080 participants, which were suicidal thoughts (21%), behaviour problems (20.7%), self-harming behaviour (16.7%), and anxiety (16.7%). The number of participants presenting with psychotic symptoms in the study by Mutlu et al. (2015) was slightly higher than that reported in this study (7.6% vs 2.8% respectively). On the other hand, Grudnikoff et al. (2015) reported a higher number of participants presenting with suicidal thoughts (44.9%) and behavioural problems (41.6%). In another study conducted by So et al. (2020) suicidal thoughts or self-harming behaviour were the two most common presenting complaints of assessment by a psychiatric emergency service (59%).

Interestingly, the study of Boyer et al. (2013) reported that 24.5% of the participants were reviewed after a suicide attempt. In this present study there were reported 26 cases of suicide attempts (2.8%), of these, 24 cases were reviewed in view of overdose of prescribed medication or over the counter medication. In the other two cases, there were no clear indication of the type of suicide attempt.

The following section discusses the level of urgencies in the CAPES cases and the predictors associated with urgency.

5.4 Predictors of Urgency in CAPES cases

One of the objectives of this study is to determine whether cases presented at CAPES are indeed psychiatric emergencies. For the purpose of this study, to tackle this

objective, the researcher classified the participants into two categories "urgent" and "nonurgent" based on the CAPES assessment primary outcome. Urgent cases were defined as those cases who were discharged from CAPES with the one of following plans: admission to a psychiatric hospital, admission at MDH for further investigations, urgent follow up appointment at CYPS, and CIHT follow up. On the other hand, nonurgent cases were defined as those participants discharge from CAPES with one of the following outcome: follow up appointment at CYPS, discharged from CAPES without any follow up appointment, patients who requested DAMA, and those patients who chose to have a follow up appointment with their private psychiatrist.

While various other studies (Soto et al., 2009; Edelsohn et al., 2003; Hillard et al., 1987) found that 18-40% of the paediatric psychiatric emergency visits were nonurgent, this current study yielded a slightly higher rate of 42.8%. Whereas 525 of the 918 cases included in this study were classified as urgent visits (57.2%).

This study found that more male visits (61.5%) than female visits (52.6%) were urgent, this was contrary to the findings published by Edelsohn et al. (2003), who reported more female visits (64%) than male visits (57%).

As expected, a significant higher proportion of adolescents (10-17 years old) were classified as urgent when compared to participants younger in age (2-9 years old) (n=436, 83.1%, vs n=89, 16.9%). This may be explained by the fact that adolescents are more likely to have opportunities to participate in risky behaviour. Furthermore, they are more likely to enter the age of risk for emotional disorders including depression, anxiety, and schizophrenia, with clinical symptoms that may relate to urgency, when compared to other young people who are less prone to suffer from these mental health issues.

As anticipated, significant percentages of participants presenting with signs of psychosis (92.3%), change in behaviour (75%) and PTSD (63.6%) were believed to be urgent visits. Contrary to what was expected, the results of this study, show that youngsters presenting at CAPES with behavioural problems were perceived as urgent cases (n=160, 66.1%). Similar findings were reported by Edelsohn et al. (2003), with 59% of behavioural problems that were urgent visits. Breslow et al. (1999) also studied participants with behavioural problems as they presented to psychiatric emergency services. They found that patients with behavioural problems required more interventions with the police or social services when compared to the other participants.

Interestingly, participants presenting with anxiety were mostly considered as nonurgent visits (n=87, 64.9%). On the other hand, participants presenting with suicidal thoughts and self-harming behaviour were more likely to be classified as urgent (n=146, 58.4% and n=77, 57% respectively).

The next section discusses the relationship between psychiatric emergency visits and the academic year.

5.5 CAPES visits and their relationship to the scholastic calendar

The findings of this study show that most of the participants were referred from schools (n=353, 38.5%). Grudnikoff (2015) reported a higher number of referrals made by schools (44.1%). Also, results from the current study show that the busiest months for CAPES were October, May January, March, and November with an average of 25.5 cases per month. On the other hand, the idle months were August and September with average of 9.6 cases.

This is probably explained by the fact that, as anticipated, during the Maltese scholastic months (October-June) the majority of the cases referred to CAPES were referred from school, with a significant drop in referrals from schools between the months of July-September.

Similar to other studies (Ali et al., 2012; Grudnikoff et al., 2015; Grudnikoff et al., 2014; Soto et al., 2009) this study found that most of the cases referred from school were mostly referred for suicidal thoughts (n=140, 39.7%). Other referrals included behavioural problems (n=83, 23.5%) and self-harming behaviour (n=53, 15%). The findings suggest that school professionals have a low threshold in cases that involve the word 'suicidality', thus they prefer to immediately refer them to CAPES before even using any available in-school resources, such as the school counsellor.

The finding that children and adolescents are more likely to present to CAPES during the academic year presents several opportunities for further future research and education. The association between the school year and psychiatric emergency visits implies that school may be a significant source of stress for children and adolescents, which may also worsen pre-existing mental health conditions. Goldstein et al. (2005) claimed that teachers are more likely to be less equipped to manage certain behaviours in children than their parents, resulting in more frequent emergency room referrals when children are attending school.

Intriguingly, the results of this study show that that more than half of the cases who were referred from school were classified as nonurgent cases (n=182, 51.6%). This result is consistent with the study by Grudnikoff et al. (2015) who reported that 52% of the referrals were deemed not appropriate.

Another noteworthy result from this study shows that 54.6% of the 108 participants who were discharged from CAPES without any need of a psychiatric follow-up appointment were referred from school.

Up until recently in Malta, there were no school-based mental health clinics. These clinics started offering mental health support and assessments to students and staff at the University of Malta, MCAST, and the Giovanni Curmi Higher Secondary School. More school-based mental health clinics are needed in Malta, especially in primary and secondary schools which cater for children and adolescents under the age of 16 years. These clinics can serve as a point of reference where mental health assessments can be conducted and then referrals can be made to the appropriate services.

The next section discusses admissions to an inpatient psychiatric hospital following psychiatric emergency assessment.

5.6 Admissions to an inpatient psychiatric hospital following CAPES assessment

In contrast to various other studies (Boyer et al., 2013; Holder et al., 2017; Mutlu et al., 2015; Starling et al., 2006), results from this study indicate a lower rate of admissions to an inpatient psychiatric hospital following CAPES assessment (n=105, 11.4%). This result was only higher to that obtained by Grudnikoff et al., (2015), who reported an admission rate of 7.8%. 73.3 % of admissions were voluntary (n=77), whilst 28 were admitted involuntary under the MHA (26.7%).

When analysing the number of involuntary admissions per year, one can observe that in between 2018 and 2020 (till October) there was a decline in involuntary admissions (June – December 2016 n= 6; 2017 n= 12; 2018 n=3; 2019 n=6; January-October 2020

n=1). Similarly, less voluntary admissions were observed in 2019 and 2020 (June – December 2016 n= 9; 2017 n= 24; 2018 n=25; 2019 n=15; January-October 2020 n=7). Involuntary admissions are a critical issue in mental health care, especially when adolescents under the age of 18 are involved. The Maltese MHA, which was published in 2012, states that a person may not be admitted to a licensed psychiatric hospital if less restrictive alternatives, such as community care are available. The implementation of CIHT, which is a mental health community service for children and adolescents, may possibly have contributed to a reduced number of voluntary and involuntary admissions.

Several studies highlighted the demographic characteristics and clinic factors that may be predictors of children and adolescents who are admitted to a psychiatric hospital following psychiatric emergency evaluation. Demographic characteristics that were found to be associated with psychiatric hospitalisation include older age, minority status and being adopted (Corrigall & Bhugra, 2013; Grudnikoff et al., 2015; Huffman et al., 2012; Hunter et al., 2015). On the other hand, clinical factors that were associated with an admission were self-harming behaviour, suicide attempt, previous admission and being on psychiatric treatment (Corrigall & Bhugra, 2013; Grudnikoff et al., 2015; Huffman et al., 2012; Hunter et al., 2015; Ruth et al., 2013).

The following sections discuss the influence of different sociodemographic and clinical variables on admissions to a psychiatric facility following an emergency psychiatric assessment.

5.6.1 Admissions to a psychiatric hospital by gender

The study results show that majority of the participants who were admitted were males (n=61, 58.1%). No significance difference was found in involuntary admissions by

gender. These results are congruent with the study conducted by Siegersma (2017) on children and adolescents who were admitted to YPU. Only the study by So et al. (2020) reported a difference in admissions by gender following psychiatric emergency assessment. So et al. (2020) reported that more females than males were admitted, however a higher percentage of females were included in the sample population (62.8%).

Jendreyschak et al. (2014) and Snowden et al. (2007) both argue that in general more young males than young females are admitted in an inpatient psychiatric hospitals around the world. Various studies (Barker et al., 2010; Harpaz-Rotem et al., 2005; Ivert et al., 2013) disagree with the latter findings, as they found that more girls are admitted to psychiatric hospitals. On the other hand, other researchers (Leslie et al., 2005; Mendes et al., 2013) did not observe any significant difference in admissions by gender.

5.6.2 Age of the participants admitted following CAPES assessment

The study results demonstrate that more than half of the participants who were admitted following CAPES were 14-17 years old (n=54, 51.4%). Additionally, 67.9% of the participants who were admitted involuntarily were aged between 14-17 years old (n=19). No admissions of children aged between 2-5 years were reported. Even though, according to the national Children and Adolescents Mental Health Services (CAMHS) Protocol, no children under the age of 12 years should be admitted to an inpatient hospital, admissions in this age group are still happening. In fact, 18 admissions were reported involving children aged between 6-9 years (17.2%), one of which was an involuntary admission. One reason that may have attributed to this finding was that until recently there were no proper community services available for

children and adolescents. These young children may have been admitted because caring for them at home would have been difficult without intensive community service. 33 admissions were reported to adolescents aged between 10-13 years old (31.4%), of which eight were involuntary. The above results are similar to the study by So et al. (2020) who described that young people admitted involuntary had a higher mean age than those admitted voluntarily.

5.6.3 Admissions to a psychiatric hospital and the participants' presenting complaint

More than half of the participants admitted, presented at CAPES with either behavioural problems or suicidal thoughts (n=36, 34.3% and n=29, 27.6% respectively). On the other hand, 42.3% of the participants presenting with symptoms of psychosis were admitted to a psychiatric hospital (n=11). Other notable percentages of admissions according to the presenting complaints, were behavioural problems (14.9%), self-harming behaviour (14%) and suicidal thoughts (11.6%). While the admission rate of youngsters presenting with psychosis was consistent with a study conducted by Newton et al. (2010), it was still lower than that reported by Mutlu et al. (2015), who reported an admission rate of nearly 66%. The other results mentioned above are consistent with the study by Mutlu et al. (2015) who reported an average admission rate of 12% of participants presenting with suicidal ideations and behavioural problems.

Siegersma (2017) highlighted that most admissions to YPU between the year 1992-2016 were associated with behavioural problems (n=137, 34.7%). The term 'behavioural problems' is mostly linked to Conduct Disorder and Oppositional Defiant Disorder. According to the DSM-V, conduct disorder is usually associated with young people

under the age of 18 and is characterized by a pervasive and persistent pattern of aggressive, deceitful, and destructive behaviour. The DSM-V defines ODD as a continuous pattern of negativistic, aggressive, rebellious, and defiant behaviour. Siegersma (2017) highlighted that there has been a long-standing debate whether behavioural problems as a primary reason for admission, should be deemed a justifiable reason for hospitalisation.

This study found that a significant number of participants presenting with self-harming behaviour and suicidal thoughts were admitted to a psychiatric hospital (n=19, 14% and n=29, 11 respectively). When comparing these findings to the local literature, one can observe that over the four-year period of this study, there were more admissions associated with suicidal thoughts and self-harming behaviour than Siegersma (2017) reported over a 24-year period (n=23, n=12 respectively). In recent years, there has been a great increase in use of social media, which can negatively influence vulnerable children and adolescents. Greater use of social media is also associated with cyber bullying and also decreased sleep which can contribute to self-harming behaviour. On a positive note, recently there has been more awareness on mental health especially on children and adolescents, which may have encouraged more youngsters to come forward and seek help.

5.7 Conclusion

This chapter discussed different socio-demographic and clinical characteristics of the participants seen by CAPES. Moreover, the level of urgencies and the predictors associated with urgency of psychiatric emergency cases was also discussed. Also, relationship between the scholastic year and admissions associated with CAPES was

examined. Furthermore, a comparison of the findings of the present study to the relevant general literature was presented.

Chapter 6

Conclusion & Recommendations

6.1 Introduction

This chapter summarizes the findings of the study, which were obtained by investigating the demographic, socioeconomic, and outcome variables of children and adolescents seen by CAPES. The study examines potential trends and associations in socio-demographic and clinical variables of the participants seen by CAPES over the four-year period of this study. Following that, there will be a discussion outlining several interventions and recommendations for education, research and practice.

6.2 Summary of Research

The initial search for existing literature generated an overall limited number of studies which focused on examining the socio-demographic variables and outcomes on discharge of children and adolescents who made use of the psychiatric emergency service. Other limited studies focused on exploring the level of urgency of cases referred for an emergency psychiatric assessment, and while other literature focused on the impact of schools on such services.

To facilitate this study, a descriptive content analysis was deemed as the most appropriate research design. The present study included all young people who were reviewed by CAPES from the commencement of service i.e., July 2016 and October 2020. The data was collected through a content analysis of the CAPES case record file. These files were available at the office of the CAMHS charge nurse. The collected data was recorded in a data input sheet which was created by the researcher. The data collection process was conducted between August 2020 and November 2020. The data was then analysed using the SPSS program.

6.2.1 Socio-demographic statistics of children and adolescents reviewed by CAPES

There were 918 participants included in this study, and there was no significant difference for the participants by gender. Comparing the sample population with the latest Maltese census, the results show that this study had a good sample representation of the Maltese population by gender. Most of the participants seen by CAPES were aged between 10-13 years followed by the 14–17-year age group.

The modal category for the children and adolescents who were assessed by the psychiatric emergency service by district was identified for the Northern Harbour District, followed by the Southern Harbour District. the least number of participants were from the 6th district which comprises the island of Gozo. These results were congruent with the study by Siegersma (2017), and the latest annual report published by the mental health commissioner (Cachia, 2020).

With regards to the care and custody of the participants, the results illustrate that more than half of the participants had their care and custody assigned to both parents. On the other hand, 29.1% had the care and custody given to mother only, while 3.2% of the cases had the care and custody allocated to father only. The number of participants who were placed under a care order was that of 83.

6.2.2 Clinical characteristics of children and adolescents reviewed by CAPES

Many of the children and adolescents reviewed by CAPES had no previous psychiatric contact before presenting with a psychiatric emergency at the A&E. 39.3% of the

participants had previous psychiatric contact or were receiving outpatient psychiatric care at CYPS, while 9.7% had a history of an inpatient psychiatric hospitalisation. Also, 60% of the participants did not have any family history of psychiatric problems, while 26.7% had a psychiatric issue related to at least one family member. Interestingly, 21.8% of the participants reported that at least one of their parents had psychiatric issues.

Suicidal thoughts and behavioural problems were the two most predominant presenting complaints. Other common presenting complaints included self-harming behaviour, anxiety, and low mood.

6.2.3 Predictors of urgency in CAPES cases

The results of this study suggest that 42.8% of the cases reviewed by CAPES were classified as a nonurgent case. When compared to existent literature, this study yielded a slightly higher rate of nonurgent cases. This study found that more male visits (61.5%) than female visits (52.6%) were referred for an urgent reason. A significant percentage of adolescents were classified as urgent when compared to participants younger in age.

Nearly all the participants presenting with signs of psychosis were considered to be urgent cases (92.3). Furthermore, high percentages of cases presenting with change in behaviour (75%), behavioural problems (66.1%), and PTSD (63%) were also deemed as urgent.

Remarkably, participants presenting with anxiety were mostly considered as nonurgent visits (64.9%). While participants presenting with suicidal thoughts and self-harming behaviour were more likely to be classified as urgent (58.4% and 57% respectively).

6.2.4 The association between the scholastic year and CAPES visits

Most of the participants included in this study were referred from school (38.5%). Also, results from the current study show that the busiest months for CAPES were October, May, January, March, and November, with an average of 25.5 cases per month. On the other hand, the months of August and September were less busy with average of 9.6 cases.

During the Maltese scholastic months i.e., from October to June, the majority of the cases referred to CAPES were referred from school. An expected significant drop in referrals from schools was observed between the months of July and September, a decline in cases seen during this period was also noticed.

An interesting finding that emerged from this study was that most of the cases referred from school were referred for suicidal thoughts (39.7%). Other reasons of referral included behavioural problems (23.5%) and self-harming behaviour (15%). Intriguingly, the results of this study indicate that that more than half of the cases referred from school were considered as nonurgent cases.

These findings may suggest that school professionals have a low threshold in cases that involve the word suicidality. Rather than using the services of the school counsellor or guidance teacher, they usually refer directly to CAPES. Being seen by these professionals prior to referral to the psychiatric emergency service may reduce nonurgent visits. The association between the school year and psychiatric emergency visits implies that school may be a significant stressor for children and adolescents, which may also worsen pre-existing mental health conditions.

6.2.5 Admissions to an inpatient psychiatric hospital following CAPES assessment

The rate of admissions following CAPES assessment was 11.4% and most of the admissions were voluntary (73.3%). The admission rate was lower than most existent literature on psychiatric emergency services. More admissions occurred during the first few years of the psychiatric emergency service, the introduction of the CIHT service may have contributed to the decreased admission rate.

The results of the study show that majority of the participants who were admitted were males (58.1%). No significant difference was found in involuntary admissions by gender. More than half of the participants who were admitted following CAPES were 14-17 years old (51.4%). Additionally, 67.9% of the participants who were admitted involuntary were aged between 14-17 years old (n=19). No admissions of children aged between 2-5 years were reported. Most of the participants were admitted after presenting at CAPES with behavioural problems (34.3%), followed by suicidal thoughts (27.6%).

Participants presenting with symptoms of psychosis had a high rate of admission (42.3%). Other significant percentages of admission according to the presenting complaints were behavioural problems (14.9%), self-harming behaviour (14%) and suicidal thoughts (11.6%).

Over the four-year period of this study there were more admissions associated with suicidal thoughts and self-harming behaviour than that reported by Siegersma (2017) over a 24-year period.

6.3 Strengths of the study

The researcher was able to target the whole population by creating a database specifically for this study, which included all children and adolescents who were reviewed by CAPES between July 2016 and October 2020. The thorough utilisation of data is clearly the strength of the current study; this strategy allowed the researcher to investigate the largest cohort conceivable. Additionally, sociodemographic data, and clinical information such as previous psychiatric history, family psychiatric history and the outcome on discharge from CAPES were collected.

The researcher has years of experiences working with children and adolescents in the mental health setting thus providing a better understanding of the results.

6.4 Limitations of the research study

Regardless of the findings, the results of the study should be interpreted in light of the following limitations.

- Since the researcher has worked within the national CAMHS for the past eight years and continues to do so, there is a chance that observant bias was present. However, because the author of this dissertation based the findings on objective quantifiable data acquired throughout the study and given in the findings section, this was severely limited.
- With the high increase of foreign nationals living in Malta, this study did not collect any data regarding the nationality or ethnicity of the participants.
- Due to the retrospective nature of this study, some missing data could not be retrieved and was recorded as not available.

- This study collected data regarding custodial care, however it did not identify the marital status of the participants' parents and their place of residence.
- Psychiatric emergencies occurring after working hours of CAPES, were not included in this study, as this data was not available to the researcher.

6.5 Recommendations and Interventions

Based on the current findings of the current study, the following policy suggestions and practices are proposed:

6.5.1 Recommendations for education and policy

- In order to enhance the quality of service and care given to children and adolescents utilising CAPES, nursing education focusing on crisis interventions, and children and adolescent psychiatry should be more promoted and available.
- Curriculum for health care students should include child and adolescent mental health. Students should be made aware that young people with mental health problems differ substantially from adults who are experiencing mental illness, and hence care should be tailored to their specific requirements.
- When improving service systems for young people with mental health or behavioural difficulties, the findings of this study may be of interest to community policymakers and stakeholders in health policy and youth care.
- Programs are required to assist parents, educators, and health care professionals in learning the most effective approaches to promote beneficial social, emotional, and behavioural development.
- Primary care professionals and educators must realize that mental health is as essential as physical health and academic education. Assessment and care for

children's mental health must be included into their general healthcare and education.

6.5.2 Recommendations for further research

It is recommended that future research on this subject should focus on:

- Follow up on cases seen at CAPES to determine whether their mental health has improved, and to find out whether some clients are getting lost in the system.
- Further in-depth analysis of cases to truly determine the urgency of the cases.
- Further studies on children who are being followed by CIHT to determine whether community services reduce the need for repeated assessments by CAPES.
- To seek predictors of revolving door patients who present at CAPES.

6.5.3 Recommendations for clinical practice

- Since there was an extremely low percentage of participants from Gozo, it is recommended that a similar psychiatric emergency service for young people should be implemented at the Gozo General Hospital since it would be easier for people living in Gozo to seek psychiatric support.
- CAPES should ideally be a 24-hour service in order to provide support and assessments to psychiatric emergencies occurring after current operational hours.
- Results from this study indicate that a high number of nonurgent cases were referred from school. In order to reduce nonurgent cases, the service of the

school counsellor should be utilized and if the case warrants an assessment by CAPES, they should send a detailed report.

- Similar services to CAPES should be introduced to reach out to youngsters who are reluctant to seek help. Such services include a crisis hotline, use of digital platforms and a mobile assessment team.
- Implement the use of standardized case sheet to ensure that all the relevant data is gathered and properly documented.
- Investment in continuous professional development for professionals working at CAPES.
- Increased human resources to keep up with the workload and demand of such services.

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Appendix A

Districts

Southern Harbour District

Birgu (Vittoriosa)

Bormla (Cospicua)

Fgura

Floriana

Senglea

Kalkara

Luqa

Marsa

Paola

Santa Luċija

Tarxien

Valletta

Xgħajra

Żabbar

Northern Harbour District

Birkirkara

Fleur-de-Lys

Is-Swatar

Il-Gżira

Il-Ħamrun

L-Imsida

Pembroke

Tal-Pietà

Ħal Qormi

San Ġiljan

Tas-Sliema

Is-Swieqi

Ta' Xbiex

South Eastern District

Birżebbuġa

Ħal Għaxaq

Il-Gudja

Ħal Kirkop

Marsaskala (Wied il-Għajn)

Marsaxlokk

L-Imqabba

Il-Qrendi

Ħal Safi

Iż-Żejtun

Iż-Żurrieq

Western District

Ħ'Attard

Ħal Balzan

Ħad-Dingli

L-Iklin

Ħal Lija

L-Imdina

L-Imtarfa

Ir-Rabat

Is-Siġġiewi

Ħaż-Żebbuġ

Northern District

Ħal Għargħur

Il-Mellieħa

L-Imġarr

Il-Mosta

In-Naxxar

San Pawl il-Baħar

Qawra

Gozo and Comino District

Il-Fontana

Għajnsielem (including Comino)

L-Għarb

L-Għasri

Ta' Kerċem

Il-Munxar

In-Nadur

Il-Qala

San Lawrenz

Ta' Sannat

Ix-Xagħra

Ix-Xewkija

Ir-Rabat (Victoria)

Iż-Żebbuġ

Appendix B

FREC & UREC Permissions

Nicholas Schembri
<nicholas.a.schembri.12@um.edu.mt>

UREC FORM V_11022020 5583 Nicholas Schembri

Research Ethics HEALTHSCI <research-ethics.healthsci@um.edu.mt> 25 August 2020
Cc: Rosienne Farrugia <rosienne.farrugia@um.edu.mt>, Josianne Scerri <josianne.scerri@um.edu.mt>

Dear Nicholas,

Further to my previous email, please note that UREC-DP has reviewed your application. Approval is granted **on condition** that the following issues are addressed by the researcher and verified by the FREC before the research commences:

1) Processing of Secondary Data

As UREC-DP, we accept that data may be processed under the legal base provided in the General Data Protection Regulation (GDPR) Article 9(2)(j). This stipulates that sensitive personal data may be processed if necessary for scientific research purposes in accordance with Article 89(1), as long as such processing is "subject to appropriate safeguards … for the rights and freedoms of the data subject. Those safeguards shall ensure that technical and organisational measures are in place in particular in order to ensure respect for the principle of data minimisation".

In this study, the researcher proposes to audit the demographic and socio-economic variables of children and adolescents referred to the Children and Adolescent Psychiatric Emergency Service. The data will be provided to the researcher by an intermediary without obvious identifiers such as names and ID card numbers. However, a range of very specific and highly sensitive data is being collected, which poses a small risk that participants may be identifiable. Due to this, the data must be treated as personal data and, in order to proceed under the above legal provision, the researcher must ensure that adequate safeguards are in place and that the principle of data minimisation is adhered to, as follows:

1.1 In the data collection sheet, the date of review should be changed to the month or quarter of review, to mitigate the possibility of identifying the specific research subjects.

1.2 Some safeguards have already been indicated in the application. For example, the researcher states in his letter to the intermediary that the data will be stored on a password protected computer to which only he has access. However, password protection does not provide much security for data, therefore, the data should be stored in an encrypted manner.

1.3 The researcher needs to specify who will have access to the data. This must be limited to those who need it for the research purposes, and would normally be the researcher, the supervisor and, in exceptional circumstances, the examiners (for verification purposes).

1.4 The researcher should specify for how long he will retain the data. The GDPR Article 5(1)(e) states that personal data (information relating to an identified or identifiable natural person) must be "kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed". Personal data may be stored for longer periods if it will be processed solely for scientific research purposes and if the need to process such data for longer periods is justified. In order to ensure that the data are not kept longer than necessary, time limits should be established by the researcher for erasure or for a periodic review.

Please forward the **amended documents with track changes** **to Dr Rosienne Farrugia**, in copy, to be approved by FREC. **Once the FREC has verified that all the issues raised above have been addressed, you may proceed with your study.**

Please forward me:
1. A soft copy of the documents a), b) and c) merged in ONE pdf document:
   a) the revised pages only made in Word using track changes.
   b) a point-by-point response to the issues raised above.
   c) the endorsement email from your supervisor.
   d) the endorsement email from Dr Rosienne Farrugia.

2. An updated soft copy of the appendices in a zipped

file (without track changes). by not later than Friday,

4th September.

Thanks and
Regards,
Christabel Vella

L-Università ta' Malta

Nicholas Schembri <nicholas.a.schembri.12@um.edu.mt>

UREC FORM V_11022020 5583 Nicholas Schembri

Rosienne Farrugia <rosienne.farrugia@um.edu.mt> 2 September 2020 at 16:36
To: Nicholas Schembri <nicholas.a.schembri.12@um.edu.mt>
Cc: Paulann Grech <paulann.grech@um.edu.mt>, Research Ethics HEALTHSCI <research-ethics.healthsci@um.edu.mt>

Dear Nicholas,

I confirm that all requested changes have been made.
You can now proceed with data collection. Good luck with your study.

Regards,

L-Università ta' Malta

Dr Rosienne Farrugia
PhD(Cantab)

Senior Lecturer ¦ Research Academic
Department of Applied Biomedical Science
Faculty of Health Sciences
+356 2340 1107/3281

[Quoted text hidden]

Appendix C

Permissions

RE: Request for Ethical Approval to conduct research for Masters Dissertation

Xuereb Stephanie at Health-Mental Health Services

Thu 28/05/2020 19:40

To: Schembri Nicholas at Health-Mental Health Services <nicholas.schembri@gov.mt>;

Dear Mr. Schembri,

Your request to conduct the study indicated below is approved provided Data Protection and Patient Confidentiality is respected at all times.

Dr. S. Xuereb

Dr. Stephanie Xuereb MD, MSc (Public Health), MBA, DCH
Chief Executive Officer
Mental Health Services

t +356 23304727 e stephanie.xuereb@gov.mt
https://health.gov.mt |
[www.publicservice.gov.mt]www.publicservice.gov.mt

MINISTRY FOR HEALTH

MOUNT CARMEL HOSPITAL, TRIQ NOTABILE,
ATTARD, MALTA

From: Schembri Nicholas at Health-Mental Health Services
Sent: Tuesday, 19 May 2020 17:13
To: Xuereb Stephanie at Health-Primary Health Care <stephanie.xuereb@gov.mt>
Subject: Request for Ethical Approval to conduct research for Masters Dissertation

Dr Stephanie Xuereb
Chief Executive Officer
Mount Carmel Hospital

Dear Dr Xuereb,

I am currently undertaking a Master's Degree in Mental Health Nursing. As partial fulfilment of my studies I will be carrying out a research projected entitled: 'An Audit of the Children and Adolescent Psychiatric Emergency Service (CAPES). The aim of the study is to audit the demographic data and the outcome of the clients who made use of the CAPES.

This study will require the extraction of demographic and socio-economic variables from documents by myself as the researcher. Information required includes details regarding the age, gender, locality, presenting compliant, referred from, review date, past psychiatric history, family psychiatric history, care and custody of the minor, and the outcome.

To ensure participant's confidentiality, Mr Chris Siegersma (Acting Charge Nurse – YPU, CAPES & CIHT) will act as an intermediary. The intermediary will be providing me a copy of the CAPES documents with redacted

Re: [EXTERNAL] - Re: Request for Ethical Approval to conduct research for Masters Dissertation

Grech Anton at Health-Mental Health Services

Tue 26/05/2020 08:41

To: Paulann Grech <paulann.grech@um.edu.mt>;

Cc: Schembri Nicholas at Health-Mental Health Services <nicholas.schembri@gov.mt>;

Nicholas,

Permission granted.

Dr. Anton Grech MD (Melita) PhD (Maastricht) MSc (Psych)(London) FRCPsych(U.K.)
Clinical Chairman (Psychiatry), Dept. of Psychiatry, within Ministry of Health, Malta
Chairman of 'Fondazzjoni Kenn ghal Sahhtek', Malta
Resident Senior Lecturer, University of Malta
Senior Research Fellow, BCMHR-Cambridge University, UK

On 25 May 2020, at 10:03, Paulann Grech <paulann.grech@um.edu.mt> wrote:

Dear Dr.Grech,

I confirm that I am Nicholas Schembri's supervisor and that I have reviewed the documents that he shall be submitting in order to obtain permission from the Faculty's and University's Research Ethics Committees. I would like to support his request for your kind permission for this study to be carried out.

Best wishes,

Paulann

Dr. Paulann Grech
Lecturer

Department of Mental Health
Faculty of Health Sciences
Room 51, Block A, Level 1,
University of Malta
MSD2080

Tel: (+356) 2340 1180 Mob: (+356) 79730509
Email address: paulann.grech@um.edu.mt

Courses Presently on offer:
Full-Time Bachelor of Science (Hons.) Mental Health Nursing
Part-Time Bachelor of Science (Hons.) Mental Health Nursing
Part-Time MSc.Mental Health Studies

5/28/2020 Mail – nicholas.schembri@gov.mt

RE: Request for Ethical Approval to conduct research for Masters Dissertation

Balzan Oswald at Health-Mental Health Services

Wed 20/05/2020 09:51

To: Schembri Nicholas at Health-Mental Health Services <nicholas.schembri@gov.mt>;

Dear Mr.Schembri,

As per our telephone conversation, you are to strictly adhere to the explained conditions and obtain the data through your mentioned intermediary (CS).

I stress once again, to dispose of the data passed to you by shredding, as soon as you are ready from it.

Permission granted
APPROVED

Ossie Balzan
Principal
Mount Carmel Hospital
Health-Mental Health Services

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MINISTRY FOR HEALTH

MOUNT CARMEL HOSPITAL, TRIQ NOTABILE,
ATTARD, MALTA

Kindly consider your environmental responsibility before printing this e-mail

From: Balzan Oswald at Health-Mental Health Services
Sent: Wednesday, 20 May 2020 09:09
To: Schembri Nicholas at Health-Mental Health Services <nicholas.schembri@gov.mt>
Subject: RE: Request for Ethical Approval to conduct research for Masters Dissertation

Dear Nicholas

Have you ever worked with Children and Adolescent Psychiatric Emergency Service (CAPES)?

Were these patients ever your clients at (CAPES) or you formed part of a firm that treated these children & adolescents?

Ossie Balzan
Principal
Mount Carmel Hospital
Health-Mental Health Services

RE: Request for Ethical Approval to conduct research for Masters Dissertation

Sultana Victoria at Health-Mental Health Services

Tue 26/05/2020 10:24

To: Schembri Nicholas at Health-Mental Health Services <nicholas.schembri@gov.mt>;

Approved subject to ethics clearance.
Best of luck
Vicky

Dr Victoria Sultana
Director Nursing
Mount Carmel Hospital
Health-Mental Health Services

t +356 23304358 e victoria.sultana@gov.mt
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MINISTRY FOR HEALTH

MOUNT CARMEL HOSPITAL, TRIQ NOTABILE,
ATTARD, MALTA

From: Schembri Nicholas at Health-Mental Health Services
Sent: Tuesday, 26 May 2020 10:03
To: Sultana Victoria at Health-Mental Health Services <victoria.sultana@gov.mt>
Subject: Re: Request for Ethical Approval to conduct research for Masters Dissertation

Dear Dr Sultana,

A gentle reminder regarding the ethical approval request to conduct a research for masters dissertation.
Thanks in advance.

Kind Regards,
Nicholas Schembri

From: Schembri Nicholas at Health-Mental Health Services <nicholas.schembri@gov.mt>
Sent: Tuesday, 19 May 2020, 17:10
To: Sultana Victoria at Health-Mental Health Services
Subject: Request for Ethical Approval to conduct research for Masters Dissertation

Dr Victoria Sultana
Director of Nursing
Mount Carmel Hospital

Dear Dr Sultana,

I am currently undertaking a Master's Degree in Mental Health Nursing. As partial fulfilment of my studies I will be carrying out a research projected entitled: 'An Audit of the Children and Adolescent Psychiatric

16th May 2020

Mr Chris Siegersma

Acting Charge Nurse

YPU, CAPES & CIHT - Mount Carmel Hospital

Dear Mr Siegersma,

I am currently undertaking a Master's Degree in Mental Health Nursing. As partial fulfilment of my studies I will be carrying out a research projected entitled: 'An Audit of the Children and Adolescent Psychiatric Emergency Service (CAPES). The aim of the study is to audit the demographic data and the outcome of the clients who made use of the CAPES.

This study will require the extraction of demographic and socio-economic variables from documents by myself as the researcher. Information required includes details regarding the age, gender, locality, presenting compliant, referred from, review date, past psychiatric history, family psychiatric history, care and custody of the minor, and the outcome.

To ensure participant's confidentiality, Mr Chris Siegersma (Acting Charge Nurse – YPU, CAPES & CIHT) will act as the intermediary. The intermediary will be providing me a copy of the CAPES documents with redacted details. The intermediary will use codes to replace identifying features such as names, surnames, and ID card. Furthermore, the use of univariate statistical analysis for data analysis ensures that participant confidentiality is protected. Additionally, any data collected will be stored on a password protected computer to which only I will have access.

I am requesting your kind approval to allow me to collect this data. I have also requested permission from Dr Stephanie Xuereb (Chief Executive Officer), Dr Anton Grech (Clinical Charmain of Psychiatry), Dr Victoria Sultana (Nursing Director), Mr Chris Siegersma (Acting Charge Nurse – YPU, CAPES & CIHT to be able to conduct this study. I am aware that I have to adhere to strict ethical considerations. Prior to commencement of this study, approval must be obtained from the University Research and Ethics Committee (UREC).

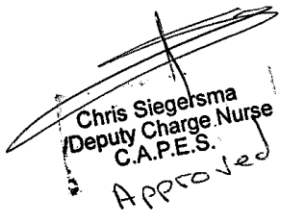
Should you have any questions about this matter, please do not hesitate to contact me (mobile 79303743; email: nicholas.schembri@gov.mt) or my researcher supervisor Dr Paulann Grech (telephone: 23401180; email: paulann.grech@um.edu.mt) or my co-supervisor Dr Josianne Scerri (telephone: 23401175; email: josianne.scerri@um.edu.mt)

Thank you in advance for your attention to this request.

Yours sincerely,

Nicholas Schembri

Registered Mental Health Nurse



16th May 2020

Mr Chris Siegersma

Acting Charge Nurse

YPU, CAPES & CIHT - Mount Carmel Hospital

Dear Mr Siegersma,

I am currently undertaking a Master's Degree in Mental Health Nursing. As partial fulfilment of my studies I will be carrying out a research projected entitled: 'An Audit of the Children and Adolescent Psychiatric Emergency Service (CAPES). The aim of the study is to audit the demographic data and the outcome of the clients who made use of the CAPES.

This study will require the extraction of demographic and socio-economic variables from documents by myself as the researcher. Information required includes details regarding the age, gender, locality, presenting compliant, referred from, review date, past psychiatric history, family psychiatric history, care and custody of the minor, and the outcome.

As you agreed to act as my intermediary, I would require the following process from your behalf:

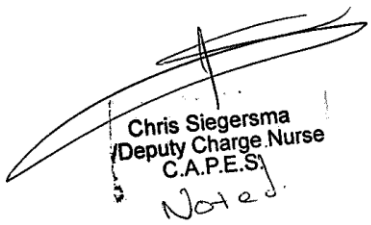
- Provide me a copy of the notes of all clients who made use of the CAPES since its launch
- The names and the identification number of the client's needs to be removed from the copied version and replaced with a number

Should you require further clarification about this matter, please do not hesitate to contact me (mobile 79303743; email: nicholas.schembri@gov.mt) or my researcher supervisor Dr Paulann Grech (telephone: 23401180; email: paulann.grech@um.edu.mt) or my co-supervisor Dr Josianne Scerri (telephone: 23401175; email: josianne.scerri@um.edu.mt)

Thanks for your cooperation,

Nicholas Schembri

Registered Mental Health Nurse



Appendix D

Data Collection Sheet

DATA COLLECTION SHEET

DATA COLLECTION SHEET

Number	Gender	Year of Birth	Age	Care & Custody	Locality (BY DISTRICT)	Presenting Complaint	Referred from	Month of Review	Previous Psychiatric History	Family Psychiatric History	Outcome on discharge