AN EXPLORATION AND CRITICAL ANALYSIS OF THE PREDISPOSING FACTORS LEADING TO DEPRESSION WITHIN THE BRITISH ARMY

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ABSTRACT

Depression is a common mental health (MH) disorder affecting British Army personnel and a significant factor in reducing the fighting capability of the British Armed Forces, yet as a theme it has not been the subject of a detailed empirical investigation. This thesis aimed to redress this imbalance by advancing knowledge and understanding of the predisposing factors that resulted in Army personnel presenting with Depression.

Mixed research methods were utilised. Quantitative data was obtained from 2 survey questionnaires, the first providing information from 1,030 military MH hospital admissions and the second was completed by 317 serving soldiers. Qualitative information was obtained through interviews with 19 experienced Army MH clinicians and a Constructivist Grounded Theory provided the theoretical model.

The most common reason why soldiers' required a MH hospital admission was for a depressive illness, with the majority presenting with multi-factorial problems displayed in a number of different ways, with the main causes being relationship problems, family issues and occupational stressors irrespective of rank, age and gender. The presentation of Depression was not uniform, or aligned to civilian definitions, and had a unique interpretation within the Army.

Results draw attention to previously unpublished issues such as the plight of the unhappy young soldier, where nearly 50% of those who accessed the Army Medical Services (AMS) presented with the one stressor of wanting to leave the Army, and in this sample they were positively correlated with self-harming ideology. The results also challenge held beliefs such as soldiers with MH problems are stigmatised. Female soldiers were significantly more likely to attend for a MH assessment and to be admitted to hospital for a MH disorder, and were more prone to being diagnosed with Depression. It appeared that female soldiers were less affected by stigma, and GPs were more likely to refer a tearful woman than a man who disguised his emotions.

The predisposing factors can be absorbed into 4 major clusters; situational stressors, maintaining / precipitating factors, secondary coping mechanisms and help seeking behaviour. There were issues related to the contextual differences of peacetime and operational duties; and the provision provided by the AMS, Departments of Community MH and Unit Command and these aspects could either enable or inhibit access to clinical support. These features are included within a theoretical model detailing the predisposing factors that influence the presentation of military depression and the patient's clinical pathway. This model can be utilised at a practical level within Primary Healthcare, also to support clinical education programmes, and to influence MOD policy. It is anticipated that the findings are transferable to other populations that deal predominately with men's MH, and Armed Forces in other countries.

Supervisor: Professor Robert Ashford PhD

Chapter 1

Overview of the Study

INTRODUCTION

Depression is a common mental health (MH) disorder affecting British Army personnel and a prevalent MH diagnosis leading to a community based assessment within an Armed Forces Department of Community Mental Health (DCMH) and for military mental health (MMH) hospital admissions (Neal et al, 2003, Jones et al, 2008, Iversen et al, 2009). However, despite depression being a significant factor in reducing the fighting capability of the British Armed Forces, it remains an area that has received palpably little research endeavour in relation to defining empirical evidence (Crawford, 2004). This study will try to address this shortfall by providing an exploration and critical analysis of the predisposing factors that resulted in British Army personnel requiring a specialist MH assessment for depression, commencing with this first chapter which outlines both the background to the study and the research proposal.

Background

Civilian views of military psychiatry stem from the perception that large numbers of Service personnel suffer combat stress related disorders caused by the terror of war, and the media in particular focus on the negative consequences of conflict and post traumatic stress disorder (PTSD) (Wessely, 2005). These perceptions are difficult to contest, despite evidence suggesting that deploying on an operational tour can be beneficial to soldiers' MH (Hacker Hughes et al, 2005). Depression is a far more prevalent MH diagnosis in reducing the fighting capability of the British Armed Forces and there is a requirement for a better understanding of factors that predispose and precipitate the condition. Depression, deliberate self harm (DSH) and suicide within the Army are highly sensitive issues (House of Commons Defence Committee, 2005) with survivors often reciting trauma related factors such as PTSD, institutional bullying or racism as the antecedents to their low mood and subsequent behaviour (BBC, 2002a). Relatives of these soldiers will often state that the Army has failed in its duty of care (BBC 2002b), with the Army's approach to treating depression open to criticism (Colvile, 2006), epitomised with headlines such as "*Desert Rats Depressed – Fury Over 30 Sick Soldiers Sent to Iraq*" (Kay, 2006) that resulted in an

editorial stating "*It's a sorry state of affairs when an Army is so short of soldiers it has to send sick men to the front line.*" (The Sun Newspaper (Editorial), 2006).

The Army and its senior MH personnel need to demonstrate responsibility for undertaking MH research, which has not always been the case, illustrated during a legal claim against the Ministry of Defence (MOD), brought by Veterans involved in the wars in the Falklands and in Iraq; and the conflicts in the Balkans and in Northern Ireland (NI) (Multiple Claimants v The Ministry of Defence, 2003). The claimants lost this case in all the significant events; however a notable recommendation by the Honourable Mr Justice Owen was that the MOD must demonstrate a meaningful improvement in undertaking MH research and this study supports the MOD response. The theoretical framework for this study was entrenched in the operational requirement to improve the MH support available to Army personnel, and the author aimed to utilise significant experience in occupational MMH and nursing to produce a study that would enhance the understanding of the predisposing factors that lead to depression and the associated symptoms. By identifying the most prominent causes, the Army might be in a better position to maximise the use of resources in supporting depressed personnel, preferably before the soldier's problems are exacerbated to the extent that an assessment is required.

Stimulus for the Study

The inspiration for this research originated with the author's participation in a MOD sponsored research study that was undertaken at Imperial College London in 2005. This enquiry intended to explore the predisposing factors that resulted in soldiers' self harming, with data obtained from Army personnel through taped interviews. The study aimed to access soldiers who had committed a DSH act at the completion of any MH intervention, at which time they were offered the opportunity to be involved in the research; however the response rate was extremely poor, with only 10 personnel volunteering to be interviewed during a 10 month period. The reason derived from the study methodology including some flawed assumptions, such as Army personnel agreeing to be interviewed, which they did not. The exact reasons why the response rate was poor remains unclear, although within

the Army there is a del facto code of not volunteering, which combined with the stigma associated with self-harming behaviour would appear likely to be contributing factors. In addition, soldiers who DSH were often directed to attend a MH assessment, and if their actions were an acute response to a situational stressor such as a failed relationship, and exacerbated by alcohol consumption, then personal experience from treating these soldiers would indicate that they would be reluctant to return to a DCMH to participate in a research project. Due to the poor response rate, the Imperial College team took the author's advice and interviewed MMH clinicians (Crawford et al, 2009). This experience influenced the choice of the research cohort for this study, and the option to utilise Army Mental Health (AMH) clinicians rather than soldiers.

Another key driver to this research occurred in 2004 when the author was directed to produce a strategy for monitoring MMH hospital admissions, to identify emerging trends and benchmark performance between the military DCMHs and the different hospitals that Service personnel were admitted to. However, it quickly became clear that there was very rich research material presenting in an area that was palpably short of quality epidemiological findings, and the initial stimulus, determined from an operational perspective, was in line with the Economics and Social Research Council (1996) direction that "*Research which makes a difference to the health and wealth of the population, rather than merely supports "ivory tower" academic excellence will be the ESRC priority.*" As a result, the author contacted the Director of Post Graduate Research Degrees at the University of Central England[1] to discuss the developing themes and the potential for a robust and constructive research study.

Epistemological Position and the Biopsychosocial Model

A core assumption within this research pertains to the epistemological position regarding the theory of knowledge and how it relates to AMH clinicians views of truth, belief and justification. The primary question in epistemology is: what is knowledge? how is this knowledge acquired? and what are individual beliefs? These are key notions that need to be

[1] Now Birmingham City University

acknowledged throughout this research project. Testimony is just one way of gaining knowledge, and the historically dominant tradition in epistemology guides the researcher to look beyond just personal attestations and search for true beliefs, and from there to gain knowledge. Possessing knowledge is not determined by whether we have good enough reasons for our beliefs but whether the processes that produced these ideas are sufficiently reliable. Knowledge is distinct from belief, and if someone claims to believe something, he or she is claiming that it is the truth. However, it is not until the reasons are sufficiently rational that we have knowledge. There are many other different discussions within the field of epistemology including an understanding of the fundamental problems in obtaining facts thought different research methodologies, with the chosen model within this study designed to promote critical thinking and to achieve the aims of the study, utilizing grounded theory (covered in Chapter 5) and a biopsychosocial model.

This study is positioned in the biopsychosocial frame of reference, which is appropriate as the research explores the biological, psychological, sociological, occupational and environmental factors that influence the development of depression within the military. Any type of change or new demand may cause stress to a person and this research considered the impact of the many challenging life events that are encapsulated within military life. These reactions to difficult personal life experiences are dependent on an individual's coping mechanisms as these dictate how a person handles stress or problems of everyday life, with these issues covered in depth within the literature search in Chapter 2. In addition, MH problems are significantly linked to an individual's social interaction and his / her response to their environment, which for the military has special considerations, as both peacetime and operational settings are often unique to this population. The issue of constructivism is considered within Chapter 5.

To capture the required biopsychosocial information, data was collected from 3 different sources, these being hospital admissions, soldiers and experienced AMH clinicians. Quantitative data was obtained with survey questionnaires that penetrated the co-relation between numerous variables. However, qualitative information constitutes the main focus of the research and was obtained through in depth interviews with AMH clinicians that

explored the processes involved in identifying why different themes were emerging. Grounded theory (Glaser & Strauss, 1967); which has been described as a means of discovering the problem from "*The point of view of the actors*" (Pursley - Crotteau & Stern, 1996) provides the theoretical model.

STUDY AIM

The study aimed to advance knowledge and understanding of the predisposing factors and the associated symptoms that resulted in Army personnel developing depression.

The objectives were:

1. Recognise trends and risk factors including gender, age and rank and indicate if there were vulnerable groups who were more prone to depression. This would lead to defining the predisposing factors and symptoms associated with depression in the Army.

2. Determine whether aspects of military life, the support of the Army Medical Services (AMS), operational stresses and stigma were significant contributing factors in affecting access to MH services.

3. Undertake a critical review that would result in the construction of a theoretical (predictive) model that could be utilised at an operational level to identify soldiers who were more susceptible to developing depression and defining their clinical pathway.

METHOD

In research, whether it is qualitative, quantitative, or mixed methods, the choice of method must not be predetermined and should be the best means of explaining the research question. The researcher should attempt to " *find a theoretical approach which makes sense to you"* (Silverman, 2005), making sensible, pragmatic choices between investigation

methods and if necessary to combine different types in order to achieve the most sagacious means of answering the examination question, whilst acknowledging that it is also reasonable to base the study in an area where the author has a substantial amount of familiarity and influence, and therefore can negate many of the barriers faced by external researchers (Silverman, 2005). This study utilised mixed methods, obtaining quantitative data through survey questionnaires and qualitative information through in depth interviews, and the research raises insight into the complexities associated with depression through the interpretation of a wide range of soldier's emotions and behaviour.

Positivism is the most common quantitative model, "the default option" and treats theory as a statement of relationships between abstract concepts that cover a wide range of empirical observations. Positivists view the theoretical concepts as variables and construct operational definitions of concepts for hypothesis testing through accurate, empirical measurement that can be replicated. Positivist theories seek causes, favours deterministic explanations, and emphasises generality and universality (Silverman, 2005). Military hierarchical structures and the field of this study are placed in an arena dominated by positivist views, and recognition of this potential barrier was paramount if the study was to succeed at an operational level in influencing MOD policy makers and financers whilst also improving mental healthcare. The problem from a methodological perspective is that the positivist view sits uneasily beside qualitative research designs and positivists would be concerned with how far the interviewee's accounts were biased. The quantitative studies within this study therefore needed to be robust enough to withstand criticism by providing empirical evidence, with results that complimented and provided justification to the qualitative research; and therefore all 3 sets of collected data were designed as individual studies that would stand up in their own right.

The positivist position was established on defining the dependent variable in depression and the mapping of the relation with other factors that were operationally defined by evidence based medicine, expert contributors, personal experience and responses to operational questions within MOD. This provided the basis for the exploration of the co-relation between variables and the measurement and analysis of casual relationships.

However, MMH research have predominately adopted a quantitative approach and have not addressed the processes involved in identifying why trends were developing. Therefore, a novel approach was required, and the core and quality of this study attempted to gain this insight through a non-positivist approach, by obtaining qualitative descriptions from interviews. This data was gathered from a relatively small number of cases and was more interested in detail than scope. The interviews would provide a deeper understanding of the social phenomena of depression within the Army by seeking to comprehend how the impact of the biopsychosocial experiences were created and given meaning. The author aimed to draw out the propositional knowledge stance of the sample group in defining what they believe to be true, and this would either enhance or challenge the results obtained from quantitative surveys. This leads to the rationale of only using experienced AMH clinicians and the concept that their beliefs were more likely to be based on experience and less likely on guesses or wishful thinking. Grounded theory supported the categorisation of emerging factors and the development of these classifications into broader comparisons and provided alternative results rather than simply following the traditional medical / lay beliefs (Glaser & Strauss, 1967). Therefore a key question in epistemology is what must be added to a subject's true beliefs to convert them into knowledge, and the triangulation of quantitative and qualitative results should answer this question, whilst enhancing reliability and validity; providing a platform to develop a theoretical model to support education and policy decisions regarding the predisposing factors leading to depression.

The data collection sequence was Survey 1, Survey 2 and then the taped interviews. However, the intention was not for one set of results to define the boundaries for the next section. This study was not designed to follow a linear sequencing model and therefore the order of data collection was not imperative.

Survey One

The first sample comprised of 1,030 Service personnel who were admitted to hospital due to a MH disorder between December 2003 and March 2007. Of these, 476 had a diagnosed depressive disorder. MMH nurses based in DCMHs collected the data for this cross-

sectional survey by providing tick box responses onto a questionnaire that contained the empirically recognised biopsychosocial predisposing factors that lead to depression (Beck et al, 1961; World Health Organisation (WHO), 1996), together with known military stresses such as the influences of operational tours (Hoge et al, 2004) and unresolved traumatic events (Scott & Stradling, 1992). The questionnaire also contained demographic information and performance monitoring detail, and provided the baseline data for identifying trends and themes associated with the predisposing factors that resulted in MMH hospital admissions.

Survey Two

The second sample were 317 serving British Army Officers and soldiers who completed a DCMH patient satisfaction survey that included questions regarding the predisposing factors and the associated symptoms that resulted in their MH assessment. The data was intended to appreciate the soldiers' views of the Army Mental Health Services (AMHS), and identify trends and risk factors that indicate vulnerability to depression.

Survey Data Management and Analysis

SPSS Version 17 was used for the management and analysis of the quantitative information, which was then exposed to significant descriptive and inferential statistical examination. Demographic data defined the mean, spread and distribution of results in areas such as rank, gender and age. Inferential statistical methods such as Analysis of Variance (ANOVA) was utilised to qualify whether the results were statically significant and provided the platform for the development of a theoretical model.

Qualitative Interviews

The third sample was drawn from the population of 61 serving Army and civilian AMH clinicians with five or more years military experience. Between July 2006 and August 2007, a series of 19 in-depth interviews were completed until saturation of information was

reached. An interview schedule was developed and the author conducted the consultations in private in the respondents own workplace, and ensured that dedicated time was identified for the sessions. The author has considerable experience in conducting interviews and interruptions were kept to a minimum to allow respondents to produce personnel accounts. At the end of the interview, each respondent completed a short 2-page questionnaire providing demographic details and their opinions regarding common depressive symptoms and the predisposing factors leading to depression; with each factor scored onto a Likert scale ranging from 0 to 10. This data endorsed the triangulation of information and the comparison of the qualitative and quantitative results.

Grounded theory analysis determined whether military life, the support of the AMS, occupational, situational or operational stressors; and help seeking behaviour were significant constituents in the presentation of depression in the British Army.

Interview Data Management and Analysis

Interviews were recorded onto an audio digital recorder and then transferred to a computer; allowing easy access whilst ensuring that data analysis commenced at an early stage and provided a sound foundation for ensuring the research was completed in a timely fashion. The author transcribed verbatim text of the interviews which were subjected to a grounded theory analysis (Glaser & Strauss, 1967).

Control Group

Within Surveys 2 and 3 there was scope to have an undiagnosed, non-depressed, military population as a control group, but for a number of reasons this pathway was not taken. The author was aware that the findings must make a significant contribution to MMH by exploring the views within a small workable field. Practical implications were important and this independent, part time study would have been increased to an unmanageable level with this additional control group. In addition, Gunnell et al (2003) developed a theoretical model for the identification of predisposing factors that indicated greater vulnerability to

DSH behaviour without a control group, as the factors were case sensitive specifically to that group. Finally, in Survey 3 it was decided not to ask soldiers as their stories are likely to be significantly affected by the contextual sensitivity of their environment (Silverman, 2005), and factors causing depression in peacetime are likely to be different to stressors on operations (Wessely, 2005). These issues are discussed further in Chapter 5. The Army also has a "macho" image, with Service personnel reluctant to admit MH problems as the personal admission indicates weakness, and they are therefore a difficult group to a co-opt into research studies (Finnegan, 1997; Busuttill, 2010).

Triangulation

Finally, the emerging classifications from all 3 elements of this study were refined into analytical frameworks to support the evolution of a predicative / theoretical model in order to demonstrate relevance both within the Army and potentially within external agencies. The means of achieving this was through triangulation, which pulls results together to improve validity and reliability; ensuring findings are more trustworthy and authentic. Triangulation facilitates the comparison of different kinds of data; e.g. qualitative and / or quantitative, and different methods such as observations and interviews to determine whether they support one another (Mason, 1996; Annells, 2006). Having a cumulative view of data drawn from different contexts may, as in trigonometry, be able to triangulate the "true" state of affairs by identifying and exploring where the different datasets intersect (Silverman, 2005).

ETHICAL APPROVAL

The use of quantitative and qualitative data presented a number of ethical issues that were addressed by following United Kingdom (UK) (Central Office for Research: Ethics Committee, 2005) and professional guidelines (Royal College of Nursing (RCN), 2005a & 2005b; World Medical Association, 2005), with detail provided in the forthcoming relevant chapters. Records are being kept secure in accordance with the Data Protection Act (1998) and participants were provided with all relevant information to obtain informed consent. In

line with National Statistics Code of Practice (2004) guidelines, the analysis of small numbers (where possible) were excluded. These aspects were detailed in an ethical proposal that was approved by the MOD Research Ethical Committee and accepted by the Birmingham City University (BCU) Degrees Committee. The MOD authority is at Appendix 1.1. Throughout this study the author was a member of the British Army, and the MOD paid all university fees, although without direct sponsorship.

DESSIMINATING THE RESEARCH FINDINGS

The study findings will be widely disseminated through a number of mediums including:

- Verbally. Verbal reports to appropriate Army Headquarters personnel.

- Publication. Due to the operational imperative within this study, the author published in peer review journals as the study progressed rather than waiting for completion of the research. Two papers were published within the Journal of the Royal Army Medical Corps (RAMC) (Finnegan et al, 2007, Finnegan et al, 2010) and 2 in the British Journal of Nursing (Finnegan & Finnegan, 2007, Finnegan et al, 2010). These papers are at Appendixes 1.2, 1.3, 1.4 and 1.5.

- Presentation. Papers have been presented at national and international conferences, included the RCN Annual Conferences in 2007 and 2008; and the 9th International Military Mental Health Conference in 2006. Further presentations are planned.

- Internet. Papers and other appropriate information on military websites.

The thesis will now progress to Chapter 2, and the literature search.

Chapter 2

Literature Search

Keyword Search

Depression (Global Perspective) / Armed Forces / British Army / Royal Navy / Royal Air Force / Deliberate Self Harm / Suicide / Military / Psychiatry / Stigma / Iraq / Afghanistan / Mental Health / Soldiers / Mental Illness / Men's Health.

Databases – Medline, Cinhael, Datastar, Psychinfo (1860 to present), ASSIA, Social Policy and Practice, Web of Knowledge.

Hand literature search: Jan 2002 to Dec 2009: Journal of the RAMC, Military Medicine, Lancet, British Medical Journal, and British Journal of Psychiatry.

PREFACE

The British Army

The primary function of the British Armed forces is to protect the UK population of 59.3 million people (National Statistics Office, 2005). Command and control ultimately rests with the Prime Minister who is supported by the Secretary of State for Defence who holds responsibility for defence matters and is supported by 3 principle deputies, the Ministers for the Armed Forces, Defence Procurement and Veterans.

The British Army follows a "*Defence policy that requires the provision of forces with a high degree of military effectiveness, at sufficient readiness and with clear sense of purpose, for conflict prevention, crisis management and combat operations. Their demonstrable capability, conventional and nuclear, is intended to act as an effective deterrent to a potential aggressor, both in peacetime and during a crisis. They must be able to undertake a range of Military Tasks to fulfil the missions set out below, matched to changing strategic circumstances.*" (MOD, 2010a). These missions are: peacetime security; security of overseas territories; defence diplomacy; support to wider British interests; peace support and humanitarian operations; regional conflict outside the North Atlantic Treaty Organisation (NATO) area; regional conflict inside the NATO area, and to react to any strategic attack on NATO. The British Armed Forces budget of £27 billion pounds provides a human capacity of 202,000 regular (109,850 Army) and 250,000 reserve

/ TA personnel. All uniformed personnel are employed on the basis that they have an operational role and are fit for deployments. There are a number of different ranks that will be referred to throughout this study, and these are displayed in Figure 1.

Defence Mental Health Services

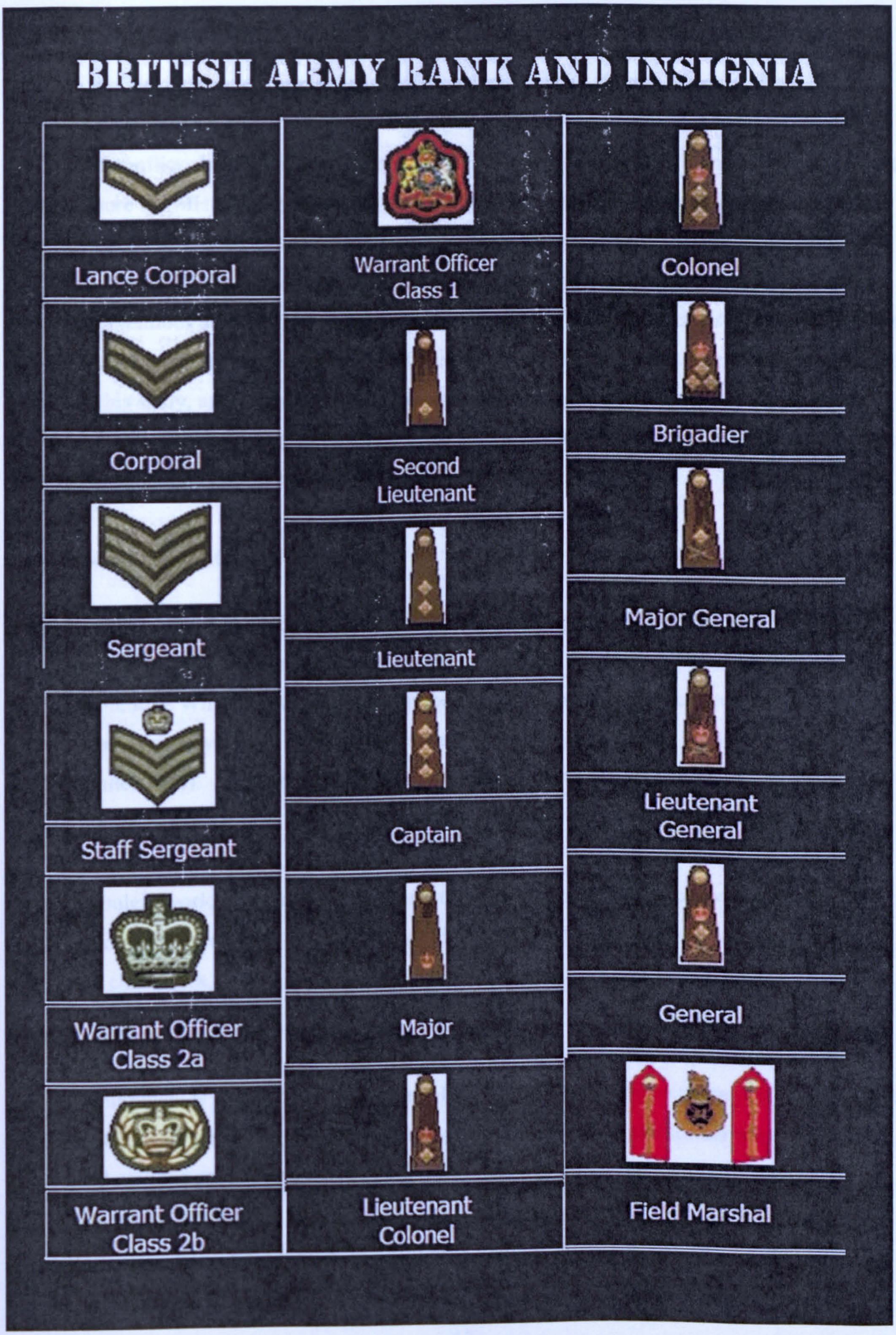
The MOD aims to provide an effective MH service that is accessible, readily available and within a culture that tackles stigma and positively acknowledges a duty of care. The Defence Medical Services (DMS) focus on meeting the operational imperative of producing a capable workforce, able to undertake their military duties without physical or mental problems. This is achieved by maximising the psychological support offered to Service personnel through the provision of immediate MH support with the expectation that they will return to duty. There are proactive MH interventions such as pre trauma support in MH education, training and stress inoculation (Deahl et al, 2000). This consists of a rationalization of the characteristics of stress including the physical, psychological and behavioural sequel and anxiety reducing and relaxation techniques. This includes exploration of personal, social and domestic stresses and the appropriate coping mechanisms. Post operational support is provided by a stress management health programme, Primary Healthcare (PHC) clinicians and specialist MH support where required.

Mental Health Research

AMH personnel need to positively engage in promoting and providing better MH care, and the Army would benefit from determining the factors that cause Officers and soldiers to seek MH support. This leads to the requirement and rationale for this research project, and the author aimed to utilise significant experience in occupational MH and nursing to produce a study that would enhance the understanding of the predisposing factors that resulted in a soldier[1] requiring a MH assessment for depression and the associated symptomatology. By identifying the most prominent causes, the British Army may be in a

[1] Soldiers – Generic term referring to Officers and all ranks within the British Army.

Figure 2.1 British Army Rank and Insignia



better position to maximise the use of resources in supporting soldiers, preferably before their problems are exacerbated to the extent that an assessment is required. Without war and conflict, there would be no need for this research, or for MMH, and the requirement to ensure the MH stability of a soldier, defined and tested within MMH doctrine during the First (WW1) and Second World Wars (WW2), has helped shape many National Health Service (NHS) MH service provisions. These initiatives include a number of therapeutic interventions such as assertive out-reach, community based care, crisis intervention (Artiss, 1997) and group psychotherapy (Harrison & Clarke, 1992). Therefore there is a precedent to this study, and the production of a theoretical model regarding the development of depression in a military cohort may be transferable internationally to other Armed Forces and nationally within civilian practice.

INTRODUCTION

Mental well being cannot be found in isolation (Conrad & Warwick Booth, 2010), and MH is not just an absence of mental illness, but people getting the best from their lives (Conrad & White, 2010). MH within the Army is predominately concerned with young men's issues, yet even civilian studies in this area are still in their infancy (Conrad & White, 2010). Male life expectancy in England is 5 years less than a females (Conrad & White, 2010) and men are 3 times more likely to take their own lives, yet society gives insufficient attention to targeting men (White, 2010). With the challenges faced in the turbulent world, there is a requirement to provide men with the tools to help them manage their emotions (White & Conrad, 2010), and this chapter will outline many of the challenges.

The Army cannot function without a robust, healthy and motivated workforce. This requirement is underpinned within an AMS that aim to maximise the psychological support to soldiers by providing immediate MH provision, wherever the soldier may request care, and with the expectation that he or she will return to duty. This military doctrine of proximity, immediacy and expectancy (PIE) was developed during WWI (Salmon, 1917; O'Brien, 1998), and remains the main principle for military psychiatry, defining the

foundations for treating combat induced MH disorders and stress. *Proximity* indicates that support is provided wherever the soldier is based and therefore psychiatric support teams are present in the operational theatre. *Immediacy* and early MH intervention facilitates the resolution of misunderstandings and mistrust, whilst helping to recall in a factual way counteracts the tendency to suppress unpleasant thoughts. *Expectancy* is that the soldier will quickly psychologically process any traumatic event, and therefore continue to be a functional soldier. This template maintains that traditional psychiatric injury is predictable, proportionate and can, in theory, be managed and preclude the detrimental effects of MH disorder associated with evacuation out of a combat arena (Jones & Wessely, 2003). This model was unquestioned prior to the Vietnam conflict (1955-75) and it was accepted that there were psychological problems associated with warfare, but provided the issues were correctly addressed and managed with early interventions, whilst keeping Service personnel within the combat environment, then the expectation was that if the soldier maintained his military identity then he would return to work and recover (Jones & Wessely, 2003). The subsequent recognition that all soldiers, depending on the level of stress and stressors they face has a breaking point, has prompted another hypothesis in that mental well being can be positively enhanced.

MH support for soldiers is extremely newsworthy, and regularly featured in high profile media forums such as prime time television or tabloid newspaper articles that focus on PTSD (Colvile, 2006) and military suicides (BBC, 2002a). These stories often stemmed from soldiers' personal attestations that their MH problems were attributable to military duties, institutional bullying or racism and relatives' reporting that the Army had failed in its duty of care (BBC, 2002b). Examples include Colvile (2006) reporting "*an estimated 1,500 troops who served in Iraq have required treatment for PTSD*" and that "*800 personnel had been treated in the Priory* (hospital)." This article quoted the Chair of the Gulf Veterans and Families Benevolent Association who stated that "*Soldiers were being discharged before being given proper treatment"* into a NHS system "*which did not have the specialist psychiatrists necessary.*" The headlines often appear to be generated to gain maximum impact such as "*Seven veterans of the Iraq War have committed suicide*" (Kite & Rayment, 2004), leaving the perception within the public eye that MMH problems are

caused by the horrors of war and that Service personnel evacuated from war zones are returned with combat stress related disorders caused by the terror of conflict. These opinions and images contribute significantly to the British publics' primary focus in the negative consequences of war on the human mind. However, these articles have not provided an accurate picture of the main MH disorders that affect troops, and incorrectly concluded that the majority of soldiers who deploy into a hostile arena will suffer from combat stress and serious MH problems. However, recent conflicts have not seen any widespread outbreak of PTSD within the British Armed forces, although within the media "*there has certainly been an epidemic of stories about PTSD*" (Wessely, 2005), and rates of PTSD in the British Army have remained low (Jones et al, 2008). The publics' concerns have a direct impact in channelling MOD financial resources to high profile MH areas rather than targeting funds to resolving mood disorders and alcohol abuse that empirical research has indicated has the greatest impact on operational capability (Iversen et al, 2009). The results from this study will assist in clarifying the true state of affairs. The literature search will commence by exploring the development of MMH, and how the care of Armed Forces personnel has shaped MH care within the UK.

THE HISTORY OF MILITARY MENTAL HEALTH

The history of MMH is inextricably linked with caring for soldiers and responding to the MH problems associated with warfare and conflict (Trimble, 1985). MH care for troops in the late 19th century was not a high priority, although lessons were to be learnt from post trauma problems noted in the civilian population such as Samuel Pepy's describing low mood, sleep disturbance and intrusive thoughts in his diary following the Great Fire of London in 1666 (O'Brien, 1998). The development of the psychoanalytical school developed by Freud (Freud & Breuer, 1895) with concepts based on inner conflicts between the conscious and the unconscious enmeshed with suppressed childhood memories identified that following trauma the normal defences were breached and the inner conflicts unleashed, and this appreciation of the effects of trauma, at any age, showed significant insight and demonstrated as appreciable understanding of the phenomenon which would influence MMH psychiatrists in future years. However, clinical psychiatric

interventions even for Service personnel were almost nonexistent (Pines, 1991) despite the gradual recognition that post trauma problems were due to psychological and not physical problems, which emerged as a result of the development in transport and carrier related accidents (Page, 1883). In 1911 Oppenheim described "*traumatic neurosis*" and the impact of military conflict and associated mental illness was reported in the Russo-Japanese War (1904-1906) (Baker, 1975). However, MH issues were generally disregarded before the outbreak of WW1 (1914-18), where the MH care of soldiers would provide the foundation for principles that are still adhered to.

World War I

Arguably the most significant advances in military and general MH developed during the Great War, where the balance between success and defeat on the battlefield was small, and it was imperative to maintain the numbers of fighting troops at a maximum. This conflict was a total war, where all of the participating nations social constructs were focussed on defeating the enemy, and significant advancements in military technology introduced radically different forms on attacking the foe such as high explosive artillery pieces, mines, chemical warfare and Tanks. These enhancements exposed Servicemen to levels of conflict that had never previously been witnessed, with soldiers faced with impregnable defences, subjected to long periods of continuous bombardment (Hart, 1934) and witnessing horrendous forms of death to both friends and colleagues. They were grossly unprepared and were offered little protection. As reports of hysterical presentations induced by exposure to bombardment emerged (Elliott, 1914), it became a necessity to determine whether repeated exposure to bombardment without physical injury could produce a condition of emotional changes. In 1915, Myers coined the term "*shell shock*", which was a rare presentation in the first years of WW1 (Salmon, 1917), but escalated as the war progressed, producing a concept that was incredibly powerful in the public eye yet for the medical services presented many difficulties in relation to definition and treatment.

MMH was now an important branch of the AMS, and was responding by developing protocols to keep troops on the front line rather than being evacuated home. Shell shock

became recognised as an acceptable term for fright and a condition where fear stopped a soldier from fulfilling his duties although the term also gradually developed to incorporate malingering. This reflected the growing numbers of Servicemen who presented with shell shock symptoms who had never been near to the frontline and shell shock was subsequently stigmatised as "*degrading*" leading to punishment or ridicule (Salmon, 1917). Medical and MH policies were inextricably linked to the operational considerations and any increase in psychiatric diagnosis would result in a weakening of the fighting force and subsequently the war might be lost. RAMC doctors faced the dichotomy of helping the ill whilst maintaining morale and this was reflected in a MH strategy to provide adequate local support to prevent soldiers from returning home; principles that remain intact today, although in 1914 this retention in theatre protocol carried the significant risk of death or major injury. To highlight this, it is worth noting the background against which doctors had to make their decisions, often in the face of immense devastation, peaking during the four months of the second Battle of the Somme (1916), which resulted in 420,000 British and Irish, 194,000 French, and 440,000 Germans casualties, whilst of the 42,000,000 men mobilised in WW1, 5,000,000 lost their lives and another 21,000,000 were wounded.

The necessity for an effective psychiatric treatment regime became imperative and MH strategies emerged. Mott (1916) advocated promising patients' recovery by being cheerful, reassuring them, warm baths, some hypnosis, diversion of thought, using common sense, providing welfare support and amusement. Special attention was paid to morale. A treatment proposal that recognised the controversial use of Electro Convulsive Therapy (ECT) is in Table 2.1. This template from a UK MH perspective was vitally important for being one of the first models focused on treating symptoms, utilising military host unit support and providing some therapy rather than simply providing a safe haven. RAMC doctors were often viewed as being patriarchal and displaying "*striking ambivalence*" (Merskey, 1991), for pushing soldiers back into the field, although this was partly due to the effect on morale of those left in the trenches (Babington, 1983). Notably, in evacuated soldiers, their symptoms were often instantly removed once away from the front (Russell, 1919), and the Army gradually developed a philosophy for treating psychological trauma (Salmon, 1919), with early management based on locality to the

incident with the expectancy of full recovery. As a result between 65% and 91% of shell shock cases were returned to the fighting troops. This PIE doctrine (detailed in the introduction to this chapter) remains the basis for current civilian crisis intervention policy.

Environment	Rest Quiet
Medical responsibility	Massage Hydrotherapy Baths Occupational management Persuasion Suggestion Formal psychotherapy Electric Shock Treatment
Unit interventions	Exercise Occupation: swimming, basket making, carpentry Self help
Medical officers responsibility	Show no surprise Be firm Discipline Understanding Re-educate in will, thought, feeling and function.

Table 2.1 WWI Mental Health Treatment Model

From Salmon, 1917

There was a growing acceptance that warfare had caused psychological problems and many countries reported common physiological symptoms whilst research attempted to identify risk factors within a pre morbid personality (Osler, 1917). Recommendations emerged regarding pre trauma screening "*rigidly excluding insane, feebleminded, psychopathic and neurotic individuals*" from the "*terrific stress of modern war*" (Salmon, 1917) and excluding those with a previous psychiatric history as this was deemed to lead to increased vulnerability (Wolfsohn, 1918). Various epidemiological trends emerged including the recognition that psychological trauma increased as a nations performance on the battlefield deteriorated. There was early recognition that the greater the stressor and the risk of death, then the greater the risk of traumatic psychological problems; reinforced by the recognition that many brave men, including soldiers who have received the Victoria Cross had presented with shell shock (Williamson, 1917).

Post World War I and World War II

WW1 laid the antecedents that recognised the importance of MMH and accentuated the development of psychiatry and post trauma studies as a creditable discipline. Salmon (1919) noted "*No one could conceive of a greater experiment than to take 2,000,000 men, exposed to the stress of the world war, and have them observed by men competent to make scientific observations and record results.*" Psychiatry as a discipline benefited from the Great War in that MH treatment facilities such as the Tavistock clinic and Cassel Hospital were founded to treat psychological war problems (Pines, 1991), and funds were made available for pensions and compensation. MH lessons learnt were transferred into the civilian sector. However, as peace returned throughout Europe, the interest in psychological trauma and post trauma problems diminished until WWII (1939-45) by which time it was suggested that the lessons learnt from WWI were largely forsaken (Strecker & Appel, 1946). What was clear was that both the United States of America (USA) and the UK entered into WWII with asylums full of ex-Servicemen and a staggering pensions bill from WW1 that promoted a determination to do things better (Wessely, 2005). Improved preparations were made and many hospital beds were provided for British psychological causalities although they failed to materialise (O'Brien, 1994).

Better insight was reflected in advancing treatment methods that included individual treatments based on catharsis with abreaction (Grinker & Speigel, 1945), and group interventions centred on debriefing models (Marshall, 1944; Foulkes, 1946). In WWII, soldiers had greater insight into the anticipated dangers, although still the level of destruction was horrendously high. In addition to combat death were the sufferings of the Jews in Germany, survivors of Hiroshima, and Far East Prisoners of War (FEPOW). In these cases, none of the abused bared arms, had no means of self-defence and could not get away through illness or desertion. This period also witnessed extensive efforts to screen personnel who were prone to MH problems, and during WWII the Americans removed over 2 million men from the draft on the basis of personality testing that predicted future breakdown (Jones et al, 2003). However by 1944, the demand for manpower was out

pacing supply, and therefore the USA Army enlisted many that had previously been excluded (Ginzberg, 1959), the majority of which did well and had no psychological problems (Wessely, 2005). The implications for screening will be addressed below.

Post World War II

Post WWII studies directly linked Servicemen's MH symptoms with military service and formal recognition of MMH problems were included within the American Psychiatric Association (APA) Diagnostic and Statistical Manual (DSM) Volume 1 (APA, 1952), with the diagnostic classifications of "*gross stress reactions*" and "*traumatic war neuroses* "(Futterman & Pumpian-Mindlin, 1951). This linked the post war psychological symptoms to the concept of battleshock, or combat neurosis / fatigue (Archibald & Tuddenham, 1965). By the 1960's, MH reactions witnessed in WWII veterans were being reported in civilian studies (Dobbs & Wilson, 1960; Archibald & Tuddenham, 1965), including the non-combatant survivors from Hiroshima (Lifton, 1967), concentration camps (Chodoff, 1963) and following natural disasters (Popovic & Petrovic, 1964). These observations were extended to survivors of personal tragedy such as torture (Simpson, 1993) or rape (Mezey & Taylor, 1988), rescue workers (Dunning & Silva, 1980; Deitz, 1986; McFarlane, 1986), and emergency services personnel (Taylor & Frazer, 1982; Jones, 1985; Ursano & McCarroll, 1990).

In 1968, DSM II classified post trauma reactions as "*transient emotional disturbance*" with examples provided of stressful life events including transportation accidents, military duties and social problems such as an unwanted pregnancy. In the 1970's, within the USA there was growing concern regarding the MH of Vietnam War (1959-75) veterans, with the recognition of similar MH characteristics appearing in approximately half of this population (Wilson, 1980). These symptoms were initially described as "*post Vietnam stress syndrome*" (Rosenheck & Fontana, 1994) and led to the classification of PTSD within the DSM-III (APA, 1980). The World Wars and operational studies had clearly indicated that the greater the nature of physical casualties the greater the number of psychiatric casualties (Jones & Wessely, 2005) and those who stayed well in the short term

stayed well in the long term (Solomon, 1989; Lee et al, 1995). Therefore, the best predicator of long term ill health was acute ill health during conflict.

Community Based Mental Health Care

In the 1970's, UK MMH was established within military hospitals with MH wards that provided a fast track in-patient provision for soldiers (Shepherd, 2000). These facilities were enhanced by a community MH service and the emergence of military DCMHs consisting of small teams of 1 consultant psychiatrist and 1 or 2 community psychiatric nurses (CPNs). By the late 1980s, the MMH in-patient facilities in the UK were reduced to just 1 hospital, The Duchess of Kent's Psychiatric Hospital (DKPH) in Catterick, North Yorkshire, which between 2001 and 2003 was providing in-patient care to approximately 3,000 soldiers per year (Neal et al, 2003). This represented a psychiatric admission rate of 2.6 per 1000 based on a trained strength total of 100,378 against the Army's regular manning figure of 106,973 (Defence Analytical Services Agency (DASA), 2001). Neal et al, (2003) provided information regarding the classification of MH disorders[2] treated within DKPH (See Table 2.2), with demographic data indicating that 6.5% from a sample of 309 personnel were female and the mean age was 26.4 years old (range 17-53). This data was collected at a period of significant operational tempo with operations in NI, Afghanistan, Bosnia, Kosovo and Sierra Leone.

Ser	Condition	%
1	Neurotic, Stress Related and Somatoform	32.6
2	Alcohol or Drug Misuse	26.6
3	Psychosocial and Environmental Problems	13.2
4	Depressive Episodes	12.5
5	Personality Eisorders	9.9
6	Schizophrenia, Schizotypal and Delusional Disorders.	3.3
7	Organic Personality Change	1.2
8	Bipolar Affective Disorder	0.9

Distribution of primary psychiatric disorders in terms of ICD 10 for 309 Army personnel admitted consecutively to the Duchess of Kent's Psychiatric Hospital from 1 Jan 1996 to 1 Jan 1999.

Table 2.2 Military Mental Health Admissions to DKPH

From Neal et al, 2003

[2] All soldiers at time of discharge classified with ICD coding, made by a consultant psychiatrist.

In 1998, the DKPH was judged inefficient at rehabilitating soldiers back to active service and deemed to keep patients in hospital for too long. Two years after being in-patients; 52% of soldiers had been recommended for discharge on psychiatric grounds and 23% had left for other reasons such as being classified as temperamentally unsuitable for military service. The hospital was costing £3,000,000 per year, and was a costly service supporting predominately operationally unfit soldiers (Neal et al, 2003). These findings were consistent with USA studies (Pullen, 1992). In 2003, following an extensive review, the MOD transferred in-patient care to the Priory Group of Independent Service Provider (ISP) hospitals.

At this time, the MODs Defence Medical Services Directorate (DMSD)[3] acquired responsibility for the Defence Mental Health Services (DMHS) in the UK. The aim was to provide a clearly defined integrated care pathway between PHC, military DCMHs and Secondary Healthcare (SHC). There were 15 DCMHs in the UK of which 8 were Army facilities, and service-personnel serving in Germany, Cyprus and Gibraltar were supported in their host country or could be evacuated back to Great Britain. The Army DCMHs were located in areas of high Army populations, as indicated within the UK British Army Land Command Regional Force Boundaries in Appendix 2.1. The DCMHs consisted of multi-professional clinical staff of psychiatrists, nurses and administrative staff with sessional support from psychologists and social workers and were intended to provide a patient centred, occupational MH service grounded in the MMH philosophy of local, easily accessible, effective treatment (O'Brien, 1998). This service was underpinned with DCMH clinicians offered a robust continuing personal and professional development (CPPD) educational pathway to ensure that they had the appropriate skill sets and competencies. Numerous Performance Indicators (PIs) were instigated to demonstrate that the new configuration was providing a measurable effective service; such as monitoring whether urgent MH referrals were assessed within 1 working day and routine referrals within 20 working days. DCMHs also provided urgent support or advice during working hours and a

[3] Now known as the Surgeon General's Department (SGD).

national support line during other periods, with ISPs contracted to identify an admission bed within 4 hours.[4]

MH CHALLENGES IN TODAY'S ARMY

US studies have indicated that operational tours since the commencement of Gulf War 1 (1991) have had a negative MH impact on troops. Black et al (2004) examined the prevalence of depression, MH co-morbidity, illness variables, and quality of life in a sample of 602 soldiers who were serving during the first Gulf War (1991). Interviews were completed between 1999-2002 with the cohort consisting of either deployed personnel or eligible for deployment but not deployed to the Gulf. All subjects were interviewed using the Structured Clinical Interview for DSM-IV (First et al, 1996), and a series of semi-structured interviews and validated questionnaires.[5] Best estimate psychiatric diagnoses were assigned based on all available information. The results indicated that 32% met the criteria for a current or lifetime depressive disorder (major depression, dysthymia, depressive disorder-not otherwise specified). There were few significant differences between the depressed deployed veterans and the depressed non-deployed veterans. Depressed deployed veterans had significantly higher lifetime rates of co-morbid cognitive dysfunction (55% vs. 35%) and anxiety disorders (59% vs. 33%); mainly accounted for by specific phobias (12% vs. 2%) and PTSD (33% vs. 10%). Lifetime substance use disorders were more frequent in deployed veterans (70% vs. 52%), particularly alcohol disorders (68% vs. 52%). There were no significant differences in rates of personality characteristics, family psychiatric history, stressors, hypochondriasis, and level of functioning between the 2 cohorts. The main difference between study groups was that depressed deployed veterans had higher rates of comorbid anxiety disorders, which Black et al (2004) hypothesized to be part of the stress-related syndromes seen in those who experienced combat. However, Black et al's (2004) research does have several shortfalls. In common with many military

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[4] In 2009, in patient services passed from the priory group of hospitals to an NHS consortium managed by the Staffordshire and Shropshire NHS Foundation Trust.

[5] Whiteley Index; Medical Outcome Survey; Social Provisions Scale; PRIME-MD; Schedule for Nonadaptive and Adaptive Personality; Structured Clinical Interview for DSM-IV Axis I Disorders.

studies, the authors did not state the level of combat exposure, and as 33% of the deployed sample developed PTSD; this would suggest significant combat exposure but this has to be assumed as not stated in the paper. Also, there was a considerable period of at least 7 years between the event and the first interview, and as will be noted later in this chapter, soldiers can change their stories to suit the audience. However, the commonality of depression within a military cohort was seen as a common MH problem that negatively impacts on operational capability.

UK research has produced different outcomes, and studies completed since the emergence of the formal diagnosis of PTSD in 1981 have often concluded that well motivated British troops, fighting in low intensity conflicts, were not negatively affected in large numbers with combat stress reactions (Hacker-Hughes et al, 2005) and troops generally do well; "*There are those for whom active service remains the best thing that ever happened to them*" (Wessely, 2005). Rona et al (2006b) examined the impact of multiple deployments over a 3 year period, and whilst this study did not specifically target depressive disorders, it did identify that factors such as length of the tour, location and intensity could result in increased alcohol problems and PTSD, although the prevalence of PTSD remains low in the UK military (Hotopf et al, 2006; Iversen & Greenberg, 2009; Iversen et al, 2009). Hacker-Hughes et al (2005) published the preliminary findings from a study exploring the effects of Gulf War II (2003) and concluded that mental well being can be positively enhanced through deployments. This study highlighted that soldiers' voluntarily joined the British Army and Regulars were well trained combat troops with good morale, whilst people with serious MH problems were excluded from enlisting. Morale was seen as being a vital ingredient in coping on operational tours, but could be negatively affected by poor equipment and leadership. Questions regarding legality could also lead to increased incidences of stress reactions (Belenky et al, 1987). Hacker-Hughes et al (2005) suggested that higher rates of PTSD in US troops may have stemmed from higher rates of US casualties.

Turner et al's (2005) Iraq War II (2003) study indicated that 69% of MH evacuees were non combatants, and for 79% the main MH symptom was low mood. In 85% of cases the

reason for evacuation was attributed to environmental, separation and inter-personnel difficulties, and these MH disorders were not particularly debilitating with the average in patient stay lasting 1.4 days. See Table 2.3.

Total Casualties	2009	
MH evacuations	178 (Ratio 1:10)	
Those immediately evacuated on return to UK	61	
Admitted to Hospital	117	
Details of those admitted to hospital		
Gender	101 (87%) male.	
Average Age	28 (range 18-55)	
Married	47 (40%)	
History of previous contact with the MH services	37%	
Military Background		
Service	68% (N=79) Army 16% (N=19) RAF 16% (N=18) RN 21% (N=24) Reservists	
Combat troops	32 (only 13 of these presented to MH clinicians in the field).	Significant majority of evacuees from support and no combat units.
Non Combat	84	8 medical staff
Primary Cause For Evacuation		
Low Mood	91	78.4%
Anxiety	14	12%
Somatic Symptoms	4	3.4%
Other	7	6.2%
Primary Cause of Distress		
Environmental	45	38.5%
Separation	41	35%
Interpersonal	9	7.7%
Combat	4	3.4%
None identified	17	14.7%
Diagnosis on Assessment in the UK		
Adjustment Disorders	59	50.8%
No Psychiatric Disorder	35	30.2%
Acute Stress Reaction	8	6.9%
Depression	7	6%
Alcohol Dependence	1	.9%
Other	4	3.7%
PTSD	0	

Table 2.3 MMH Casualty Evacuation from Gulf War 2: 16 Jan 2003 to 30 Oct 2003
From Turner et al, 2005

Turner et al's (2005) study suggested that non-combat related psychiatric presentation predicts long-term psychological morbidity in veterans, and that military personnel presenting with non combat related psychiatric problems have not been traumatised. This equated to these troops being unsuitable for military service and it was appropriate that they are repatriated. Turner et al (2005) noted there were dramatic decreases in casualty evacuations following the declaration that the war had ended and concluded that the "*fear of becoming a casualty was the primary cause of symptoms.*" This was reinforced by significant numbers of evacuees having either no symptoms or greatly reduced symptoms on their return to the UK. However, there is another factor that this study did not consider; that being the clinical skill sets of the MMH staff, and their possible lack of clinical competencies and experience may have contributed to the number of evacuations.

Jones et al (2008) provided detail on both peacetime referrals to Military DCMHs and operational referrals to deployed Field Mental Health Teams (FMHTs). Of 875 peacetime referrals during 2003 and 2006, the most common attributed classification was 26% with no psychiatric diagnosis assigned. It would have been beneficial to have identified the predisposing factors that led to the referrals but this information was not collected. The second most common referral was for adjustment reactions, although the majority were due to non-operational factors and represented a homecoming issue and difficult reactions to normal life events rather than a response to traumatic or stressful life events. Full details are in Table 2.4.

Diagnosis	Number	Percentage
No Psychiatric Diagnosis Assigned	226	25.8
Adjustment Disorder	214	24.5
Depressive Episode	126	14.4
Anxiety Disorder	117	13.4
Harmful Alcohol Use	75	8.6
Deliberate Self Harm	34	3.9
Acute Stress Disorder	16	1.8
PTSD	13	1.5
Personality Disorder	6	0.7
Sleep problems	4	0.5
*Other	39	4.5
Total	875	100

*Identified as Having a Mental Health Problem but no Diagnosis Recorded.

Table 2.4 A Random Sample of Peacetime Army DCMH Referrals - Feb 2003 to Feb 2006 From Jones et al, 2008

Operational referrals were notable for the few PTSD cases and the majority of patients were diagnosed as adjustment disorders, mood disorders and cases where it was not possible to assign a diagnostic category that were due to the medicalisation of normal reactions to difficult circumstances. Full details are in Table 2.5.

Diagnostic Outcome	Number	Percentage
Adjustment Disorder	283	27.3
No Diagnostic Category Assigned	199	19.2
Acute Stress Disorder	188	18.1
Depressive Episode	167	16.1
Anxiety Disorder	84	8.1
Not Recorded	30	2.9
PTSD	15	1.4
Mixed Anxiety & Depression	13	1.3
Problematic Personality	12	1.2
Somatoform Disorder	10	0.1
Harmful Alcohol Use	11	1.1
Psychosis	7	0.7
Other	17	1.6
Total	1036	100

Table 2.5 Diagnostic Outcomes for Referrals to Field Mental Health Teams Deployed to Operation TELIC - Feb 2003 to Mar 2007

From Jones et al, 2008

Serious mental illness is rare in the military, and the majority of service personnel do not experience MH problems, and of the approximate 1600 who leave the Services each year on medical grounds, only 150 were for MH reasons (Busuttil, 2010). The most common MH disorders affecting UK armed forces are depression, alcohol misuse and anxiety disorders (Neal et al, 2003; Turner et al, 2005; Iversen & Greenberg, 2009), and these conditions are the main MH factors in reducing the fighting capability of the British Armed forces. There does not appear to be an epidemic of psychological disorders once troops recover from operations; with few reports of MH problems that were directly attributed to a deployment (Jones et al, 2008). However, history has clearly shown that higher combat intensity and threat to life increase the negative MH impact on the individual and the reporting of trauma is a dynamic medium, and may alter as combat intensity increases (Jones et al, 2008), as witnessed in Afghanistan since 2007.

Military studies examining the impact of depression remain an area that has received palpably small endeavour in relation to defining empirical evidence. Therefore, to reduce depression and lessen DSH behaviour there is a requirement for a more detailed understanding of factors that predispose and precipitate depression, along with knowledge of the variables that promote and hinder access to the appropriate services (Crawford et al, 2005). Improved insight is required both within the AMS and the military organisational hierarchy, that have been publically criticised with headlines such as "*Desert Rats Depressed – Fury Over 30 Sick Soldiers Sent to Iraq*" (Kay, 2006); accompanied by an editorial stating "*It's a sorry state of affairs when an Army is so short of soldiers it has to send sick men to the front line*", highlighting that 30 soldiers were "*ordered to Iraq*" despite being diagnosed as suffering from depression (The Sun Newspaper (Editorial), 2006).

DEPRESSION

Depression is defined by a number of symptoms, and is an operational diagnosis that includes differences based on severity and frequency, with the WHO classification categorising depression as either mild, moderate or severe (International Classification of Diseases (ICD) -10 code F32, 33) (WHO 1992). A full listing of the WHO taxonomy is at Appendix 2.2. Depression is a dynamic disorder which can also be used descriptively, based on signs/symptoms, as a reaction to an event, a reactive unhappiness and as a feeling, as a complaint of low mood. Within this study, the author refers to a combination of all of the above, and it is this complexity of fitting the continuous variation in depression severity into a categorical definition that pose so many problems to clinicians when diagnosing depression (Mitchell et al, 2009). An example is that a proportion of patients with a mild diagnosis on the ICD-10 code would be diagnosed as a major depressive illness using the American mental illness scale; the DSM-IV (APA, 1994).

Depression affects between 5 and 10% of individuals and is the third most common reason for GP referrals (Singleton et al, 2001). In the UK, the most common MH problem is depression and anxiety together, with 108 women per 1,000 and 68 men per

1,000 reporting this condition (Office of National Statistics, 2000a). Whilst depression is more common in North America and Europe, there is widespread recognition of the immense burden that depression imposes on individuals, communities and health services throughout the world (Crawford, 2004). The Global Burden of Disease study (2000) (Chisholm et al, 2004) indicated that unipolar depression accounted for 4.4% of the global disease burden (6.5 million disability adjusted life years lost in a year), and the WHO have estimated that unipolar depression will be the second largest contributor to the global burden of disease by 2030 (Mathers & Loncar, 2006). This level of illness places depression in the same range of impacting on health as ischemic heart disease, diarrhoeal diseases or the combined impact of asthma and chronic obstructive pulmonary disease (WHO, 2002), and its severity and level of impact in reducing quality of life is comparable with blindness or paraplegia (Gold et al, 2002). Depression can result from biological, psychological, social, and environmental or welfare problems or a combination of 2 or more. Depression affects functional ability, interpersonal skills, occupational output, social functioning, cognitive processes, and behaviour with a significant negative impact for the individual and their spouse (Klerman & Weissman, 1992). Depression is associated with poor health outcomes and is characterized by a persistent low mood, profound sadness, and lack of interest in enjoyable activities whilst major depressive disorder impairs the ability to function, leading to role impairment in over 50% of patients (Kessler et al, 2003).

Mild / brief depression is an episodic disorder with a high rate of remission, usually lasting 1 to 3 days but high recurrent rates of 10 to 12% per year (Angst, 1992). Potential for recurrence is higher in those with: a number of previous episodes (with the higher the number the more likelihood of a further relapse) (Murphy, 1986); previous hospital admission for depressive illness (Keller et al, 1982), presence of a sick spouse (Kiloh et al, 1988); severity of the episode (Ramana et al, 1995; Staner et al, 1997) or as the number of recalled depressive symptoms (Coryell et al, 1991). Angst's et al (1990) concluded that following the onset of a depressive illness that up to 20% of lifetime was spent in illness and that relapse rates do not fall with age. An extensive international review of epidemiological studies indicated that the mean duration of an untreated depressive

episode is 6 months (Ustin et al, 2004), although depression rarely occurs on its own with more than 90% having an associated physical or other MH problem (Mitchell et al, 2009).

A fundamental feature of the epidemiology of major depressive disorder is the increasing morbidity, and a meta analysis of 25 studies with 1.3-16 years follow up of over 100,000 people indicated an overall risk of dying between 1.58 and 2.07 (95% Confidence Interval (CI)) compared with a non depressed cohort (Cuijpers & Smit, 2002). Depression also leads to excess mortality from unnatural causes in suicides. Significant depressive episodes often result from neurobiological and medical implications such as temporal lobe lesions or hippocampel atrophy (Sheline et al, 1996; Ebmeier et al, 2006), with episodic memory loss being the most common cognitive impairment (Iisley et al, 1995; Shah et al,1998). The cognitive abnormalities affect the person's opportunities to undertake activities of daily life such as driving or handling manual equipment, and also negatively affect the therapeutic process (Ebmeier et al, 2006). Patients diagnosed with a severe depressive episode had greater chances of having the diagnosis changed at a later date to a serious psychotic disorder, whereas patients with mild or moderate disorders were more likely to have the diagnosis changed to nervous or stress related disorder, personality disorder or substance misuse (Kessing, 2004). Brief depressive / moderate depressive episodes are often the result of a combination of situational stressors such as the result of financial and relationship problems although mild depression is not a minor condition, as approximately half the patients relapsed and 0.5% committed suicide (Paykel, 2002). Physical disability such as head injuries (Mann et al, 1999); and people with long-term medical conditions such as diabetes (Audit Scotland, 2007) can also lead to depression (Hankin & Locke, 1982).

In 2007/08, it was estimated that the NHS incurred approximately £1.3 billion in employment costs due to mental illness (Sainsbury Centre for Mental Health, 2007). Depression accounted for nearly 10% of all hospital admissions leading to 2.9 million stays (Russo et al, 2005), that were notable for being younger patients and females (National Institutes of Health, 2006). Following a hospital admission, 5 to 15% of moderate to severe cases stay for 1 to 2 weeks, although large numbers of patients

admitted to psychiatric units remain for long periods due to the nature of their illness. The average duration of stay in Scotland was 66.5 days; although there was insufficient data on length of stay and bed occupancy rates to provide specific details of diagnosis and age (Auditor General for Scotland and the Accounts Commission, 2009).

Although the number of stays principally for depression remained relatively stable between 1995 and 2005, the number of stays with depression as a secondary diagnosis rose by 166% over the same time period, with approximately 2.5 million depression-related hospitalizations (85%) involved depression as a coexisting condition (National Institutes of Health, 2006). In approximately 85% of hospital stays involving a diagnosis of depression, the patients' admission was principally for another condition such as cardio and cerebrovascular disorder with nonspecific chest pain, congestive heart failure, coronary atherosclerosis, cardiac dysrhythmias, and stroke (Russo et al, 2005). Other principle reasons for admissions was co-morbidity with physical disorders; pneumonia, chronic obstructive pulmonary disease, and asthma. Alcohol and substance abuse was 3.5 times more likely to be a principal reason for admission among patients with depression than those without depression. Similarly, poisoning by psychotropic agents was 9 times more likely to be a principal reason for admission, and poisoning by other medications and drugs was 5 times more likely (National Statistics, 2004). Details are in Table 2.6.

	Depression as a principal diagnosis	Depression as a secondary diagnosis	No mention of depression
No of discharges	423,300 (1.4%)	2,470,000 (8.2%)	27,169,200 (90.4%)
Percentage of depression stays	14.6%	85.4%	-
Mean age years	41.8	58.1	58
17 yrs and younger	9.7%	1.7%	6.7%
18-44	48.7%	24%	19.4%
45-64	29%	39.5%	45.5%
65 and older	12.4%	39.5%	45.5%
Percentage of females	58.8%	68.3%	53.5%
Mean length of stay	6.6	5.1	5

Table 2.6 UK Hospital Stays – Depression
From National Statistics, 2004

Significant MH problems facing the armed forces are mood disorders and alcohol misuse (Rona et al, 2004, Iversen et al, 2009). Williams et al (2002) completed one of the few studies that attempted to identify predisposing factors in a military cohort, with a sample of 433 USA Naval recruits who voluntarily joined the Armed Forces but had not passed Phase 1 (basic training). Data was collected from a number of psychometric questionnaires and concluded that depressed recruits were less likely to successfully complete basic training. However, there are significant shortfalls with this study, not least that over 50% of recruits presented with depressive symptoms, despite presumably having been screened and passed a recruitment medical; suggesting that a normal adjustment reaction may have been classified as depression.

This chapter will now continue by exploring the implications of DSH and suicide within the British Army.

DELIBERATE SELF HARM AND SUICIDE

DSH is the term used in the UK (Hawton et al, 2003) and parasuicide by the WHO (1996) (Schmidtke et al, 1996), and they include all suicide methods. The terms avoid attributing intent rather than referring to lack of intent. Self-harming behaviour within the UK is the highest in Europe, and is one of the 5 main reasons for acute medical admissions (Hawton & Fagg, 1988) resulting in 150,000 hospital admissions per year (National Health Service: Centre for Reviews and Dissemination, 1998), whilst suicide accounts for approximately 5,000 deaths in England each year (Department of Health (DOH), 2002). With a rate of 3 per 1000 people per year, the rate of non fatal DSH is more than 10 times higher than the rate of suicide (Crawford and Wessely, 1998). 15% of self harmers who reported to a hospital self harmed again within a year and those who DSH were between 72 to 100 times more likely to later commit suicide (DOH, 2002; Owens et al, 2002). Risk of suicide lasts over many years and a 22 year follow up study of 140 patients indicated that 8.5% had committed suicide (Jenkins et al, 2002). It is likely that a significant number of DSHers do not report their actions, and therefore the rate of those who commit suicide is likely to be higher.

As Service personnel are a reflection of British society, it is important to note findings drawn from civilian social / health studies where 90% of those who DSH and required hospital treatment have a psychiatric diagnosis, most commonly 70% with depression and over a quarter misusing alcohol or other substances (Haw et al, 2001). Depression and alcohol abuse are strongly correlated (Regier et al, 1990, Sayers, 2010) and 25% of those who commit suicide have a primary diagnosis of alcohol or other drug dependency (Foster et al, 1997) and over 30% occurred when the person was intoxicated (Skegg, 2005). There are also neurobiological and generic aspects and DSH is linked with physical problems such as epilepsy and Human Immunodeficiency Virus infection (Skegg, 2005). The social contexts and causes of self-harming behaviour are complex (Cook et al, 2004), although usually associated to a number of situational stressors (Schyder et al, 1999). Some obviously want to die, and there are extreme depths of despair (White, 2010) whilst others want to influence someone, or use this method as a form of help seeking behaviour (Bancroft et al, 1976).

DSH is prevalent in people with anxiety or personality disorders and impulsive individuals with poor problem solving skills may self harm following adverse life events (Simon, et al, 2001; Skegg, 2005). Individuals who DSH come from a heterogeneous background (Skegg, 2005), but is more prominent in young people, especially females (Hawton & Fagg, 1988) and homosexual / bisexual people from socioeconomic disadvantaged areas and dysfunctional families. Men are more likely to take their own lives (Cantor, 2000), accounting for three quarters of suicides in 2007 with a rate of 16.8 per 100000 of the population compared to women at 5 per 100000 population (Office for National Statistics, 2009). Since 1977, the highest rate had been men aged 15-44 years (Office for National Statistics, 2008), and suicide is the leading cause of death among under 25 year old males in Britain (Gunnell et al, 2003). This is particularly relevant within the Army where the critical mass of personnel are young men with large amounts of expendable money and living in a society that is perceived as tolerating alcohol (Fernandez et al, 2006).

The effect on family and friends is devastating, and within the Army a highly sensitive issue (House of Commons Defence Committee, 2005), with media reports suggesting that the causative factors were trauma related, institutional bullying or racism (BBC 2002a). However, the levels of DSH and suicide have been closely monitored (Fear & Williamson, 2003), and between 1984 and 2006 there were an estimated 672 suicides among British armed forces personnel which represented a lower suicide rate than comparative civilian groups, except for the age group 16 to 20 years old which was 50% higher than in the general population (DASA, 2007). Soldiers self harming behaviour is correlated with alcohol misuse (Crawford et al, 2009). DSH and suicide are often based on the availability of a mechanism to perform the act, and in the British civilian population most episodes of non-fatal DSH involve an overdose rather than the violent methods used in suicide (Schmidtke et al, 1996) although a risk within the military is that access to guns leads to higher levels of suicide by shooting (Lester, 1989).

PREDISPOSING FACTORS LEADING TO DEPRESSION

Any significant alteration in a person's lifestyle or new demands may cause stress and influence their ability to function, and there are numerous biopsychosocial life events that challenge, threaten or place extra demands on individuals (Paykel et al, 1969), and may induce the onset of MH disorders. Depression can be linked with major life events and has single or multifactor causes, with a combination of biological, psychological, social, or environmental issues linked to cognitive factors. It is important to assess the correlation between life events, responses to stress and coping strategies (Monroe & Depue, 1991) which for the military are contextually influenced by peacetime and operational settings. Recognised civilian stressors leading to MH problems such as: social isolation, lack of a confidant or social support (Kaplan et al, 1987); dysfunctional families (Fossom, 1988; Patterson, 2002); relationship problems (WHO, 1996); childhood abuse (Bagley & Ramsey, 1986); poverty (Belle, 1990), and the effects of alcohol abuse (Haw et al, 2001) would be expected to be reflected within the military population. There are also stressors unique to the macho military workforce (Finnegan, 1997) such as: psychological adjustment to operationally linked traumatic events (Scott & Stradling, 1992); serving in

operational areas (Hoge et al, 2004; Black et al, 2004), or symptomatology exhibited in personnel wishing to leave the Armed Forces, while facing extended periods of notice to leave (Crawford, 2009), whilst the pressures on a military family are well recognised (Dandeker et al, 2008; Norton-Taylor, 2008). Another main factor is poor physical health (Hankin & Locke, 1982; Kukull et al, 1986).

Situational Stressors

Relationship and Family Problems

Disruption of environmental and social relationships are factors that lead to significant MH problems (Warner, 1992; WHO, 1996) including depression (Cornelis et al, 1989) and DSH incidents (Morgan et al, 1975; Petronis et al, 1990), as recognised within the National Suicide Prevention Strategy (Department of Health, 2002). Depression experienced by one family member will often adversely affect other family members (Fossom, 1988) whilst paradoxically, structured social networks (Paykel, 1994), coupled with family support (Evans et al, 2004, Holland, 2007) and / or being in strong relationship (Magne-Ingvar et al, 1992; Conrad 2010) can improve self esteem and prove helpful in providing protection against depression.

In particular, relationship problems have negatively affected the MH of younger and middle aged men (Braunholtz et al, 2004). Often, this was associated with the process of becoming a parent where there remains a perception that a father has to provide a safe haven whilst the mother is nurturing the child, leaving men to rise above their own needs. Many young men struggle, as they have only ever been use to being looked after, rendering men vulnerable to developing depression (Madsen & Juhl, 2007). Men may also suffer post natal depression (PND), which has been identified in 7% of new fathers (Madsen & Burgess, 2010). It is especially important to detect different types of depression amongst men who become fathers as families tend to suffer from multiple stressors (Madsen & Burgess, 2010).

The impact of relationship and family stresses within the military is under researched, although environmental changes, separation from loved ones and inter-personnel difficulties were the primary causes of British MH evacuations during Gulf War II where the largest number of casualties presented with depressive symptomatology (Turner et al, 2005). It is recognised that the pace of military operations and the number of tours place a strain on families, leading to lower morale and a reason why soldiers leave the Army (Britt & Dawson, 2005). Operational tours could also affect families when there were associated adjustment reactions (Tarn, 2006). In a time of crisis men rely on wives and partners (Sixsmith & Boneham, 2002), which for the military can be problematic as soldiers are often detached on duty. Being away from home inhibits soldiers from addressing or even influencing relationship problems, contributing to the breakdown of domestic relationships (Crawford et al, 2009). Also, there is evidence that men are spending more time with their children (Equal Opportunities Commission, 2005), yet within the military fathers are often removed from their children (Jones, 2010), and Wessely (2005) has predicted that overstretch and the increasing number of deployments, with the adverse affect on family life and well-being will be a more significant cause of MH problems than conventional psychiatric disorders including PTSD.

The negative influence of operational deployment on the MH of military spouses is also under researched (Mansfield et al, 2010), although the pressure and stress caused to the family by debt is a leading component leading to depression (WHO, 2004; Thoresen & Goldsmith, 1987). US studies have noted associations of relationship difficulties and MH problems for Army wives, where in a family context financial well-being was associated with marital satisfaction and general well-being, whilst financial problems were correlated with depression (Mansfield et al, 2010). A study undertaken to identify predisposing factors leading to depression in a cohort of 443 US Navy Recruits concluded that depressed recruits had significantly higher levels of a history of family abuse; family history of alcohol abuse, and past psychiatric problems (Williams et al, 2002).

Occupational Stressors and Unhappy Young Soldiers

The adverse association between stress, job performance and MH are well-established among civilian populations, resulting in absenteeism, lower levels of productivity, and more interpersonal problems (Orasanu & Backer, 1996; Kanki, 1996; Bray et al, 2004; Boles et al, 2004). Stress is a ubiquitous occurrence for soldiers and has been associated with a variety of MH and job performance outcomes (Bray et al, 1999; Hoge et al, 2002) although military research has primarily focused on the psychological effects of exposure to trauma and combat (Bishop, 1984; Nindl et al, 2002; Hotopf et al, 2003). Few military studies have examined the impact of occupational stressors, and when they have, the study samples have been small, and the prevalence and levels of stress and the impact on MH and productivity has not been substantiated (Pflanz 2001; Pflanz & Sonnek, 2002; Williams et al, 2002). Two studies that have addressed the issue are by Hu ShuFang et al, (2003) and Hourani et al, (2006).

The first study was completed within the Chinese military, and explored the rate of depression in Service personnel stationed in combat ready units with data collected via a number of validated questionnaires.[6] Two hundred and thirty eight military cadets, Officers, and soldiers (mean age: 21.5 years old; range of military service: 1-13 years) in combat readiness formed the study group and 176 the control group. Depression in the study group was 35%; significantly higher than the 19% recorded in the control group. Regression analyses indicated that neuroticism, a perception of losing control, and changes in coping style were the factors associated with depression and concluded that a third of soldiers stationed in combat ready units have depressive symptoms. However, Hu ShuFang et al's (2003) study failed to recognise the adjustment reaction that may occur when a soldier is preparing to deploy, with the subsequent behavioural and mood changes, and just because the person has depressive symptoms did not mean that he / she was clinically depressed.

[6] The Self-Rating Depression Scale, the Eysenck Personality Questionnaire, the Social Support Rating Scale, the Adult Nowick-Strickland Internal Eternal Control Scale, and the Copying Style Questionnaire

In the second study, Hourani et al (2006) examined the extent to which high levels of occupational and family stress were associated with MH problems and productivity loss among active US military personnel. They evaluated data on 12,756 records, and identified higher levels of stress associated with occupational issues than experienced in family life, with almost one-third of respondents reporting "*a lot*" of stress at work, compared with less than 20% in their family lives. Personnel reporting the highest levels of occupational stress were those aged 25 years old or younger; those who were married with spouses not present, and women. Personnel with high levels of stress had significantly higher rates of MH problems and productivity loss than those with less stress. This study concluded that within the military, high levels of stress were associated with MH problems, productivity loss, and receipt of MH treatment. It is also clear that occupational related stress is likely to increase due to reductions in the number of Army personnel who then have to respond to higher levels of exposure to peacetime and operational stressors (Orasanu & Backer, 1996). Of note, there is a strong association between workplace bullying and subsequent depression (Kivimaki et al, 2003), although few studies have examined the effect of bullying in the military. In a UK study that reported the causes of acute stress disorder in 29 cases, bullying and harassment were reported in 2 incidents (Jones et al, 2008).

There are significant lifestyle changes that may occur as a result of enlisting into the Army, including separation from family and friends, restriction of freedom and privileges, and physical conditioning. Cheok et al (2000) have reported that for newly enlisted personnel, the main stressor was adapting to the military environment. A failure to adjust may be caused by a number of factors including; failed expectations, dislike of trade, conflict with authority, or changes in personal circumstances such as new relationships or family demands (Deu et al, 2004). These soldiers were predominately disaffected and unmotivated young men, who described feelings and symptoms often expressed by prisoners (Woodall, 2010) and they wished to leave the Army but were restricted by the minimum 12 month notice to leave. Depressive symptoms might develop (Roberts, 2006), although these young soldiers may have reported MH problems in an attempt to extract themselves from the Army (Rona et al, 2004 & 2006c). The result was personnel being regularly discharged on the grounds of being Temperamentally Unsuitable (TU) for military duties, under Queen's Regulations

(Army) (1975) Sections 9.414 and 9.434, which in 2001-2003 accounted for approximately 700 serving personnel (Deu et al, 2004). TU is widely used as a legitimate, expeditious discharge method for disaffected, inefficient or non-effective service personnel, often as an alternative to more suitable administrative procedures (Deu et al, 2004). The reason why these young men joined is unclear, although recruitment and retention incentives may have contributed to soldiers who are unsuited to Army life being encouraged to join and then complete their basic training. Terms of service then specify that once a soldier has completed basic training, that he / she cannot leave the Army for a 4 year period, leading to soldiers' reporting feeling trapped. They then may self harm, sometimes due to their distress or to manipulate their circumstances in an attempt to increase contact with their family (Crawford et al, 2009).

In the USA Air Force, recruits who have been recommended for discharge had a history of depression and had previously provided a false attestation to commence service. This group had poor motivation to carry on with military service, and the lack of opportunities to leave due to terms and conditions of service resulted in suicidal ideation (Cigrang et al, 1998). Of young disaffected personnel who required MH treatment from a psychiatrist, only 20% remained in the US Army after 2 years, even though the majority were diagnosed with mild MH problems such as an adjustment disorder (Pullen, 1992), and DSH was higher in this group than in the national average (Koshes & Rothberg, 1992).

Aetiological Factors

As noted above, neurobiological factors, organic disorders and physical problems can lead to depression. A past family history (PFH) of depression (Akiskal, 1989; Cigrang et al, 1998), and heritability in twin studies has been estimated at between 31-42% (Sullivan et al, 2000); although for brief depressive incidents the level of PFH is not a significant influencing element (Angst, 1992). Physical symptoms unexplained by an identifiable disease or organic process are extremely common, and are referred to as medically unexplained symptoms (MUS), and account for an estimated 20% of new inceptions of illness in PHC, and as many as 30-40% of all new medical outpatient referrals (Kirmayer et al, 2004). They are closely associated with psychological factors (Henningsen et al,

2003) but as 80% of depressed patients' consulted their General Practitioners (GPs) with non-specific physical complaints (Hankin & Locke, 1982; Kirmayer et al, 1993) the detection rates were low, so many people did not receive appropriate treatment (Royal College of Psychiatrists (RCP), 2008). The more bodily complaints a person reports, the more likely they were to also describe psychological distress (Kroenke et al, 1994). A similar relationship exists between number of bodily complaints and degree of impairment and frequency of healthcare use (Jackson et al, 2006). However, this is not to suggest that all patients with MUS have identifiable MH problems.

Others have tried to identify associations between physical problems and depression in a military sample. Mazur (1994) examined data from 4,462 male Vietnam veterans from the 1989 Veterans' Experience Study and noted that variations in the hormones cortisol and thyroxin levels were linked with differences in anxiety and depression. Nervousness was positively correlated with levels of thyroxin and cortisol, but all other symptoms of anxiety and depression such as panic attacks, tiredness or loss of memory were unrelated to either hormone. Another study indicated that physical symptomatology and emotional stress were significantly higher in active duty personnel than in civilian workers (Bishop, 1984; Pflanz, 2001).

Childhood Abuse

A history of childhood physical, psychological or sexual abuse can be a predisposing factor leading to depression (Akiskal,1989; Dube et al, 2001), and 45% of children looked after by Councils, for example those living in care homes, have MH problems (Office of National Statistics, 2004). Childhood spent within a dysfunctional family environment has been positively correlated to self-harming behaviour in young adults (Ferguson et al, 2000), especially where the mother was subjected to physical abuse (Dube et al, 2001), and risk was greater in children where the parents were either divorced or separated (Beautrais, 2000). Childhood adversity may lead to maladaptive patterns of attachment (difficulty in forming trusting social relationships) which may result in social isolation and difficulty in accessing healthcare and collaborating with health professionals (Ciechanowski et al,

2002). In Army recruits, a survey completed at the end of basic training indicated that troops with a history of parental abuse were more prone to MH problems and concluded that childhood experiences could have a substantial impact on later functioning, and could contribute to depression (Williams et al, 2002). Those subjected to childhood abuse may join the Armed Forces as a means of escape (Busuttil, 2010). Child sexual abuse appears to predispose women to depression (Dansak, 1998), and John (1989) reported that 92% of women who had a childhood history of abuse sought treatment for a diagnostic mood disorder. Females who had been sexually abused were reported as being twice as likely to develop depression in adulthood. (Bagley & Ramsey, 1986).

Help Seeking Behaviour

Boys and girls are treated differently from birth with gender roles reiterated within the media (White, 2007). Men are socialised with regards to gender roles and this influences how they see themselves in terms of masculinity, with expectations of how they should behave, dress, what activities they should complete and their occupational role. Examples include drinking and sexual conduct with pubs providing the traditional arenas for Anglo-Saxon social bonding (Conrad, 2010). Men's identity and their attitudes to MH are formed and performed within this arena of cultural influences (Beynon, 2004) and in the UK, men have to be emotionally strong (Conrad & Warwick Booth, 2010) as "*big boys don't cry*" (Bush, 2010). Soldiers, a predominately young, male group with over-representation of those from disadvantaged backgrounds (Wessely, 2005) fit into this caricature, with an occupational licence to take risks (Dandeker, 2001). Therefore troops evacuated from a combat area for MH reasons may want to imply that their anguish is a result of being in the firing line (Turner et al, 2005), even when they have not actually been in a conflict scenario.

Recounting Trauma

The North Vietnam Veterans Society gave lifetime PTSD rates of 30% to those who had served in the Vietnam War (1959-75), although this was twice the number who were

directly involved in combat (Kulka et al, 1990), drawing researchers to conclude that soldiers invent stories of atrocities that was not just linked to compensation (Young, 2002). For example, 13% of combat veterans referred to the UK MMH Services made fictitious claims of combat exposure or military service, leading Baggerley (1998) to refer to these soldiers as presenting with a form of "*Military Munchausen's*." Similar findings were identified in the US where Fruch (2005) discovered when examining 100 medical records from patients enlisted on the Veterans Affairs treatment programme for combat related PTSD that: 41% had clear evidence of combat experience; a further 20% had served in Vietnam although the level of combat exposure was unclear; 32% had responsibilities that made it extremely unlikely that they had been involved in combat; 3% were in the military but never served in Vietnam, and 2% had never served in the military. Fruch (2005) concluded that soldiers not involved in combat were more likely to report witnessing or committing battlefield atrocities. Another example regards a Korean War (1950-53) veteran who made a much publicised visit to the scene of the atrocities to beg forgiveness from the descendents of the village, only for it to become clear sometime later that he had never previously been there (Barrington, 2000).

Soldiers stories can be unreliable for other reasons, no more so than due to silence. This was exemplified by the stoical FEPOWs who perceived surrender as shameful, which combined with the horrendous implications of their capture, resulted in historians and MH clinicians trying to interpret what was left unsaid (Wessely, 2005). Soldiers tell different stories to each other and certainly different from the ones they report to MH clinicians (Young, 1995), assumptions that significantly influenced the author's decision to gather data from MMH clinicians rather than soldiers in the qualitative section of this thesis.

Stigma

Stigma is the negative evaluation of a person who is tainted or discredited on the basis of attributes such as MH disorders, ethnicity, drug misuse or physical disability (Goffman, 1963). MH stigma is engrained in long standing attitudes held by a majority of national societies (Jamison, 2006) and provides a powerful form of social control because it can be incorporated within social structures (Burns, 2006), and media publications and

presentations make statements regarding MH conditions or patients that would not be tolerated against other minority populations (Jamison, 2006). Link & Phalan (2006) have summarised that "*If all the stigma conditions were considered together and all outcomes examined ....stigma would be shown to have an enormous impact on people's lives.*" Stigma has been linked to an insidious form of discrimination, and is a chronic source of stress, leading to significant negative social, political, economic and psychological impact for the stigmatised (Dovidio et al, 2000; King et al, 2007). This may result in loss of employment (either voluntarily or mandatory), insurance, accommodation (Corrigan et al, 2001a; Jamison, 2006; Link et al, 1997) and negatively affect physical and MH (Gibbs & Fuery, 1994), leading to depression (Link et al, 1997).

Approximately 40% of PHC referrals carry a psychological label and include the common diagnoses of anxiety, phobias, DSH and the most prevalent of depression. 62% of patients have rejectd MH support due to embarrassment and 47% have feared that they would be labelled as unbalanced and were therefore reluctant to consult a doctor (Bebbington et al, 1999) and MH stigma has a serious impact on help seeking behaviour (Wells et al, 1994; Auditor General for Scotland and the Accounts Commission, 2009). People with MH problems are subjected to social isolation, (WHO, 2003; Horesh et al, 2004) and often do not have a sense of belonging, or being engaged in a valued manner (Hagerty et al, 1996), and loneliness increases vulnerability to depression (Perlman et al, 1978). Stigmatised individuals have reported feeling unsure on how they would be received by "normal" people (Goffman, 1963), and became increasingly self conscious (Rush, 1998), perceiving that they were viewed as less trustworthy, incompetent and dangerous (Link et al, 1997; Byrne, 2009) and as a result had less confidence and low self esteem (Wright et al, 2002).

Stigma can also be self-compelling, with the victimised person experiencing shame and guilt (Burns, 2006) and feeling abandonment, desperation (Hendin, 1991) and hopelessness (Williams & Pollock, 2000). Sufferers with mental illness also have stigmatising views regarding psychiatry (Ryan et al, 2001), with depression viewed not as a "real" medical illness, but as a condition that should be under personal control, and therefore perceive that those labelled as depressed have a character flaw (Griffiths, 2004). These views inhibit

professionals such as teachers, lawyers and Army Officers that have suffered from a mental illness from speaking of their experiences (Jamison, 2006). Even when there is a motivated patient, stigma can still detract from seeking MH support (Link & Phelan, 2006), compromising their quality of life (Rosenfield, 1997), and result in depression (Link et al, 1997). Stigma can be a significant factor in DSH and suicides (Jamison, 2006) as it is estimated that 80% of those who commit suicide have a treatable MH disorder (Appleby et al, 1997) although this group were less likely to have had contact with MH services.

Few have examined the effects of reducing the stigma associated with depression (Corrigan et al, 2001b), and the author detected no study within the Armed Forces. The Law offers some protection for blunting the impact of stigma by means such as protecting health information although this does not change attitudes, and most enacted stigma is not prohibited by law, and there is no protection from being ostracised by ones family, spouse or colleagues (Burns, 2006). In the macho military society, soldiers were reluctant to admit that they have a MH problem as they perceived that an admission of psychological distress indicated their weakness (Busuttil, 2010). There are instances where men can break from the hegemonic construct of masculinity when the cause of the distress is seen as valid. An example in the Army would be soldiers suffering from PTSD, so long as the emotional display remained within certain parameters of intensity and duration (Conrad & Warwick Booth, 2010). However, men often internalise their feelings for fear of being laughed at or seen as being weak (Conrad, 2010; Kinder & Boorman, 2010); suspicions that influence soldiers to shun MH care (Hoge et al,2004; Rona et al, 2006b; Jones et al, 2008). These perceptions were compounded by reservations that any disclosure of MH problems would negatively affect their career prospects and a lack of belief in "medical in confidence" within the AMS (Rona et al, 2004; Crawford, 2009).

The negative impact of stigma within the military can be magnified due to the close social culture dynamics and social interactions within the constricted social networks (Link et al, 1989). Social isolation in the military can be a particular problem as soldiers are detached from their family, friends and normal social supports; and shared service accommodation, often in confined spaces, and without the normal civilian outlets, can be detrimental to

their MH (Freeman, 1958). Soldiers were most likely to be ostracised and experience occasional bullying by their peers rather than the chain of command (Crawford et al, 2009). However, Tarn's (2006) appreciation was that "Military Patches" are now viewed with envy by the general population as areas of low crime and better social networking, whilst better transport has resulted in easier access to relatives. The reduction of stigma associated with mental distress remains a necessary challenge for Army medical and welfare services (Crawford et al, 2009).

Gender and Age

The average age of onset of depression is mid 20's (APA, 1994), and rates in Western European females is the second highest in the world (Crawford, 2004), where depression is twice as common in females and women have higher rates of relapse (Angst, 1981; Kessing, 1998). UK statistics indicate that access to MH services for women is 19.1 per cent higher than for men (3,166 for women compared with 2,658 for men per 100,000) and the rate for people over the age of 75 was more than double the overall rate (6,381 for people over age 75 compared with 2,924 per 100,000) (National Statistics, 2004). In Scotland during in 2006/07; 8.4% of people in contact with MH services spent time during the year as a psychiatric inpatient, a rate of 248 per 100,000, with the most common diagnoses for men being 23% with drug and alcohol abuse and 21% with schizophrenia and women were 33% mood disorders (including depression and bipolar disorder) and 16% with dementia (Auditor General for Scotland and the Accounts Commission, 2009).

The rate of access to in-patient care was slightly higher for men at 265 compared with 230 for women per 100,000 of the population. Women accounted for 58.8% of all hospitalizations with a principal diagnosis of depression, and 68 % of stays with depression as a secondary condition. Patients hospitalized principally for depression were 16 years younger than patients without depression (42 years versus 58 years), with those aged 18 to 44 years accounting for nearly half. Therefore, depression-related stays were more likely to occur among younger patients and among females (National Institutes of Health, 2006), although this in part may be due to men's reluctance to acknowledge problems or seek help

(Sayers, 2010). Depression is also the most common MH problem for older people and it has been estimated that 1 in 4 people aged 65 or over have depression severe enough to impair their quality of life (Age Concern and the Mental Health Foundation, 2006).

Why higher numbers of women were admitted to hospital for depression was unclear as there is less disparity in community settings (Office for National Statistics, 2000b; Singleton et al, 2000). Branney & White (2010) offer 3 possibilities: there is an under diagnosis of men; an over diagnosis of women or there are systematic biases in the diagnosis between men and women. Referral and diagnosis seem to focus on overt emotional displays rather than symptoms, and whilst men and women experience depression in similar ways, they have different ways of presenting their distress (Branney & White, 2010). Women are more prepared to show their distress emotionally such as crying whilst men display their suffering through anger or violence (Emslie, 2007), emotional rigidity, exaggerated self-criticism, alcohol and drug abuse, withdrawal from relationships, over involvement in work, denial of pain, and rigid demands for autonomy (Madsen & Burgess, 2010). These symptoms are not included within diagnostic classifications (Dominey & Dominey, 2010), leading to the labels of "*male depressive syndrome*" (Winkler et al, 2005) and "*masked depression*" (Cochran and Rabinowitz, 2000).

These different presentations cause problems for effective diagnosis and referral (Brownhill et al, 2005; White, 2006), which is compounded by differing means of accessing social or healthcare support (Aukett et al, 1988). Men's social support is usually inferior to women (Mickelson & Kubzansky, 2003) who engage in reciprocal and confiding relationships and rely more on family and friends. Then within a healthcare setting, women are willing to seek help (Emslie, 2007) whilst men will try to control and / or mask their emotions (Moynihan, 1998), emphasising physical symptoms over psychological ones and will not ask for help (Dominey & Dominey, 2010). In the Army, Busuttil (2010) stated that soldiers in particular felt that they were unable to consult their military GPs or access MH due to feelings of guilt, shame, stigma and a fear that their career would be compromised.

Research on work-related stress has tended to focus on males and to neglect gender as a variable, with results from male studies being incorrectly generalized to women. This failure to build women into conceptual models has impaired understanding of both work and family role stressors. There are other misconceptions, with the home viewed as a stress-free sanctuary, whereas workplace stress has been overemphasized and seen as particularly dangerous for women, and to better understand the costs and benefits of employment and of multiple tasks for women, and the stressfulness of family roles, more attention to the qualitative aspects of responsibility is needed (Baruch et al, 1987). The Camberwell Study explored the prevalence of depression in females from poor social economic backgrounds (Brown & Harris, 1978), and generated research indicating woman were at greater risk of DSH (although males more likely to commit suicide) (Schmidtke et al, 1996). In a Norwegian study, eating disorders and relationship problems were the primary risk factors leading to depression in females (Wichstrom & Rossow, 2002) whilst data obtained from the 1992 sampling of the Netherlands National Longitudinal Survey of Youth found evidence that young women employed in physically uncomfortable or dangerous jobs were associated with more depressive symptoms (Zimmerman et al, 2004).

US military studies have indicated no statistically significant gender differences in identifying the predisposing factors leading to depression (Williams et al, 2002) or that depressed non-deployed veterans were more likely to be female (Black et al, 2004). Levine (1982) conducted a study using the validated and reliable Beck Depression Inventory (Beck et al, 1961) to collect data from 200 personnel aged between 16 - 63 years old who were admitted to an Army Regional Medical Center, and concluded that the most depressed cohort were aged between 16 and 29 years with the medium age being 19 years old. In another military study, the youngest and lowest-ranking personnel reported the highest levels of stress, more MH problems, and more productivity loss than older or higher-ranking personnel (Hourani et al, 2006).

Cultural and Social Factors

Research has consistently demonstrated that low income and low socioeconomic status are associated with high rates of mental disorder, with depression higher in people with a poor

education, poor income, living in poverty (Schmidtke et al, 1996) and in urban rather than rural areas (Friedman et al, 2007; Gilchrist & Gunn 2007). Risk of self harm and suicide is greater in areas of high unemployment, (Platt & Hawton, 2000; Gunnell et al, 2003) and the number of deaths from suicide for people living in Scotland's most deprived areas is 4 times the number living in the least deprived areas (Scottish Public Health Observatory, 2008). Zimmerman et al (2004) noted that depression increases during spells of unemployment, and conducted a study to understand the job attributes that may be related to depression among employed people early in their careers by examining information regarding depression, social economic status and specific attributes of jobs held by the young adult respondents. Job attributes included measures of social status, interpersonal stressors, and physical conditions. Multivariate analysis revealed that young men with higher job status were less likely to report being depressed and concluded that social economic status and employment were significantly associated with depressive symptoms.

In England, it has been shown that rates of MH problems were higher for black and minority ethnic groups than for the rest of the population (National Resource Centre for Ethnic Minority Health, 2007). A number of factors can make black and minority ethnic people more at risk of developing MH problems, including difficulties in securing employment and housing, the stress of being in a different country, racism, discrimination, and social isolation (Scottish Development Centre for Mental Health, 2005). The British Army has personnel recruited from overseas such as Fiji, Zimbabwe and Nepal, where the local cultural and social supports can be protective (Skegg, 2005). Also, religious beliefs such as coming from a catholic background where acts of suicide is seen as a sin, can shield depressed patients from DSH or attempting suicide (Malone et al, 2000). In a military study the relationship between depression and reasons for living was assessed in 288 soldiers and concluded that Service personnel had higher moral codes than civilian counterparts, which made them less likely to DSH and more likely to cope with life's demand (Ulmer et al, 1992). Other protective military factors include the support provided through Unit Welfare Officers (UWO), welfare centres and wives clubs, offering "*great advocacy when required.*" (Tarn, 2006).

Coping Mechanisms

Coping mechanisms relate to individual strategies that allow a person to respond to a stressor. These methods can be cognitive and / or behavioural, with a positive example being completing physical exercise, whilst a negative example would be consuming excessive amounts of alcohol. The associations between alcohol / substance abuse and MH problems are substantial, with up to 75% of illegal drug abusers and up to 50% of alcohol abusers having a MH problem. People who misuse drugs or alcohol and have MH problems tend to experience difficulties in accessing either MH or drug and alcohol services (Scottish Executive, 2003) although those undergoing rehabilitation often presented with depression and successful support must include recognition, assessment and treatment of the depressive symptomatology (Evans and Sullivan, 2001).

Alcohol plays a central role in the social fabric of Army life (Fernandez et al, 2006), and soldiers' use alcohol to help them deal with emotional problems (Crawford et al, 2009). Soldiers consume more alcohol than comparable civilian populations (Fear et al, 2007) and female soldiers are more likely to engage in heavy episodic drinking than civilian men (Henderson et al, 2009). Within the Armed Forces, the Army has been found to have higher rates of alcohol consumption than the Navy and Air Force (Iversen et al, 2007a), where 80% of violent crime has been identified as being alcohol related (Fear et al, 2007). The 'at risk' sub-group within the military is the young, single, male, lower educational achievement soldier, a profile most often found within the front line troops (Williams, 2002). However drinking patterns change over time with the most pronounced alcohol abuse occurring in older age groups (Wallace et al, 2008).

General Practitioner Competency

GPs are the main people initiating MH assessment, treatment and management of depressed patients, and there are guidelines and incentives available to support them. The National Institute of Clinical Excellence (NICE) (2004 & 2009) has issued guidelines regarding the management of depression in PHC and SHC that aimed to raise awareness and included specific advice about detection as well as treatment. The Quality and

Outcomes Framework (QOF) (RCP, 2008) included an overview of somatic presentations and the correlation with medical conditions and advice on PHC screening for depression in specific long term conditions. The RCP recognised the importance of education, stating that all health practitioners should have training in MH, including doctors in training, and should reflect the relationship between mental and physical health, both in general and in specific conditions. Education and information should be developed and provided in appropriate ways for patients, carers and the public to develop community awareness of the psychological aspects of physical conditions. Service users should be better informed about, and involved in, decisions about their treatment, discharge and self-care, and involved in designing and improving MH services to general hospitals and primary care settings, through audit, research and training.

Since the introduction of the QOF, GPs receive a financial incentive to perform regular health checks on patients with diabetes and coronary heart disease that include screening for depression (DOH, 2004). Generally GPs use a 2 question screen, and if the patient answers positively to either question, this is followed up with a more complete assessment using psychometric tools such as the Patient Health Questionnaire (version 9) (Kroenke et al, 2001) or the Hospital Anxiety and Depression Scale (Zigmond & Sniath, 1983). This screening strategy has been successful in many well organised practices (RCP, 2008), although many healthcare clinicians have reported that they find the screening tools for depression confusing and time consuming (Andersen & Harthorn, 1990). Despite this, under recognition of depression in PHC has been extensively described (Hirschfeld et al, 1997), and has been only correctly identified in 47% of cases (Dowrick & Buchan, 1995; Mitchell et al, 2009), with GPs only documenting their findings in 34% of cases and just 15% were treated (Mitchell et al, 2009). There were more false positives (over detections or misidentification) than either missed or identified cases. Accuracy was improved with multi-step assessment over an extended period rather than a singular assessment, and GPs could rule out depression in most cases when people were not depressed (Mitchell et al, 2009). Severe cases of depression were diagnosed more readily those mild episodes (Nuyen et al, 2005; O'Conner et al, 2001), as exemplified in the Hampshire depression study when 72% of people with mild depression were missed (Thompson et al, 2001).

These results have significant implications within this study where the majority of soldiers presented with a mild depression (Busuttil, 2010).

As many GPs have considerable experience then the exact reasons for the poor diagnosis of depression was unclear and open to conjecture (Harman et al, 2006). Depression is a dynamic condition, and there is the complexity of fitting the continuous variation in depression severity into a categorical definition, especially with threshold depression and unclear cases, and as a result GPs rated over 33% of decisions as not definite (Wittchen et al, 2001). GPs might be reluctant to regard patients as depressed even when they meet the criteria due to factors such as stigma and insurance implications (Rost et al, 1994; Bushnell, 2004). Another reason was that time and resources were limited and short appointment times compromised the opportunities to provide an accurate diagnosis in difficult cases (Barkow et al, 2002), and inhibited patients who then failed to disclose their emotional symptoms and problems (Cape & McCullough, 1999; Pollock & Grime, 2002). 80% of depressed patients consulted their GPs with non-specific physical complaints (Kirmayer et al, 1993), and their mental state was overlooked (Mitchell et al, 2009) as reflected in those depressed patients who volunteer psychological complaints received higher detection rates (Wittchen & Pittrow, 2002), whilst unrecognised major depression was associated with poor treatment outcomes (Rost et al, 1998). Another aspect was whether GPs understand, know, or prioritise the major causes of depression, which in civilian practice were stressful life and occupational issues, including finance and housing (Saltini et al, 2004).

No data suggested that GPs did worse than other medical colleagues (Mitchell et al, 2009) and clinicians in all medical specialities have difficulty identifying MH disorders (Cepoiu et al, 2008), and often over estimated or underestimated levels of distress of their patients (Zastrow et al, 2008), such as 13% of patients who presented within civilian PHC with depression did not have a MH problem (Alonso et al, 2007). Diagnosis improved with a better therapeutic relationship, clinical experience and more contact with the patient (Wittchen et al, 2001; Nuyen et al, 2005; Bushnell, 2004). GPs also have a crucial part to play in encouraging men to communicate their MH problems free from the constraints of

hegemonic masculinity (Conrad & Warwick Booth, 2010). Yet, GPs have been perceived as lacking leadership, displaying medical arrogance and omnipotence creating consultations in which male sexuality, embarrassment and personal relationships were all evaded (Banks, 2001). Confidentiality is often the cornerstone and men feel that they cannot speak openly for fear of being ridiculed (Kinder & Boorman, 2010).

In the UK Armed Forces, Rona et al (2004) undertook a study with 4,500 MOD employed PHC GPs to assess if psychometric questionnaires provided an accurate predictor of MH problems. GPs were required to assess a patient where a questionnaire had indicated psychological problems. The results were mediocre, with high levels of misclassification between the GPs and the questionnaires. The authors' concluded that the validity of a prospective screening programme based on military PHC doctors is unsatisfactory, which may be due to soldiers narratives, and when faced with a GP may over or under report their symptoms. Many clinicians are not neutral and have vested interest (Kinder & Boorman, 2010) and military GPs may also have to respond to commander's concerns, and soldiers may have a MH assessment due to senior Officers being keen to have an "expert" opinion with the referral based on concern about subsequent complaints or litigation (Jones et al, 2008). This will influence whether a soldier seeks help or not. Other factors that can equally impact on the support available to depressed people are the level of accessibility to clinical assistance and the quality of the interventions. Civilian doctors might be frightened of their reactions when dealing with soldiers, and "*ashamed that we weren't there,*" feeling guilt that young men faced danger on behalf of the nation (Wessely, 2005) and fail to take a sufficient history, being bewildered of military life, slang and jargon (Busuttil, 2010).

Accessibility and Bed Occupancy

There was limited information on MH staffing, vacancy levels, caseloads and waiting times as no national data was collected, and where information was available there were significant variations in how long it took to access services. However, in civilian practice out-of-hours access to services and insufficient numbers of specialist MH staff was a major

problem, and the recommended Cognitive Behavioural Therapy (CBT) was often not available or was restricted by excessive waiting lists (Bisson, 2005) leading to worsening of an individual's symptoms. In 2008, 40% of people referred to psychology services were waiting for over 18 weeks in one Community Health Partnership area in NHS Tayside, with the longest wait almost one year, and agencies involved in delivering MH services need to provide more joined-up care and improve how they share information (Auditor General for Scotland and the Accounts Commission, 2009). As a result, the patients' first point of contact was with NHS Direct or hospital accident and emergency departments where non-specialist staff do not always understand how best to deal with MH problems, and do not have the skills to recognise when MH problems are getting worse and therefore did not provide the appropriate treatment (Social Work Inspection Agency, 2009).

The police were sometimes the only service available in crisis situations during the out-of-hours period (Auditor General for Scotland and the Accounts Commission, 2009). All of these issues need to be accommodated within a theoretical model to support soldiers with MH problems, for without speedy access to appropriate MH facilities, the clinical quality of the MH clinicians is largely irrelevant. Another factor that can also impede access to MH service is the negative impact of stigma associated with MH problems.

Screening and Identifying Depression

This chapter has provided evidence that psychological problems associated with warfare are well recognised (Jones et al, 2003). To ensure that people who wish to enlist are mentally capable of undertaking operational duties, and to reduce the associated cost of training personnel who then cannot function as an active solider, has led to significant impetus to develop a screening tool to exclude the psychologically vulnerable civilian population (Rona et al, 2005 & 2006a). The UK and the USA have long histories stemming back to WWI in attempting to identify troops who were susceptible to the psychological impact of warfare, and this process continues in both the USA and Australian forces. But does it work? Rona et al (2006a) undertook a study to assess if pre-deployment screening of British Armed Forces personnel during the second Gulf War

(2002) would predict subsequent MH disorder. From an initial cohort of 2,820 who completed a pre deployment questionnaire, 67% completed the post tour questionnaire on return to their base. The results replicated those from studies undertaken over the last 50 years, in that screening does not appear to highlight those who will or will not cope (Egan et al, 1951). Rona et al's (2006a) study had the advantage that the pre operational deployment MH data was available, and this was useful for identifying PTSD, but not other mental illnesses, and not depression.

As such, no instrument has even been devised that will accurately predict which troops will develop combat stress reactions (Jones et al, 2003), and there remains insufficient empirical evidence to indicate that they work (Wright et al, 2002). Therefore screening is not supported within the British Army (British Medical Journal (Editorial), 2006) and personality characteristics are rarely formally assessed, although MMH clinicians acknowledge that certain traits, for example, obsessive-compulsive, antisocial, dependant or paranoid, may interfere with some soldiers' resilience, in particular in operational situations (Deu et al, 2004).

The Army does have measures in place to protect vulnerable personnel which is reflected in relatively low numbers of regular soldiers having MH problems, and they are a fit population (Busutill, 2010). It is recognised that there is pre-enlistment vulnerability (Iversen et al, 2007b), and to combat this, the AMS have a selection policy, and those with significant mental illness are excluded from enlistment and those who have showed vulnerability through actions such as DSH are ineligible for a period of time, and then must have a full MH assessment from a military psychiatrist before being allowed to join. However, this policy can be distorted when some soldiers do not provide a full or truthful attestation of their mental state at the military entrance medical examination, and they may still get in. However, basic training is a very stressful and demanding time, and those with severe MH problems either begin to present with obvious difficulties or their behaviour is noted by experienced training staff (British Medical Journal (Editorial), 2006). Once soldiers have qualified, they become one of the military family, and do not go straight to war but spend a period of time with their new unit, so their behaviour and mental state is again open to scrutiny (Rona et al, 2006a) and if they access MH support then they will be

assessed within PHC and / or a DCMH who then medically downgrade personnel when this is appropriate. Therefore, troops that reach the battlefield have high levels of physical and mental strength; the "*healthy warrior*" (British Medical Journal (Editorial), 2006).

Treatment

Treatment of depression in the military reflects civilian protocols, where most patients improved with current interventions (Ebmeier et al, 2006). NICE (2004) recommended psychological treatment such as CBT for mild and moderate depression. Anti-depressants were not recommended although Selective Serotonin Reuptake Inhibitors (SSRI) such as fluoxetine or citalopram are particularly effective in treating severe depression of prolonged duration (Committee of the Safety of Medicines, 2004). However, these drugs have been associated with an increased altered mental status (Gillman, 2006) and may increase the risk of suicide (Dubicka et al, 2006; Gunnell, 2006). The mechanism of antidepressants is not fully understood (Ebmeier et al, 2006) and other anti-depressants such as Serotonin – Noradrenalin Reuptake Inhibitors (SNRI) should only be prescribed by GPs with a special interest in MH or specialist MH clinicians, due to the risk of side effects. Psychotherapies such as CBT can be used in combination with medication to maximise effectiveness. A brief summary of the NICE (2004) guidelines are in Table 2.7 and the full guidelines are at Appendix 2.3 (NICE, 2009)[7].

However, NICE guidelines may not improve the care of patients unless there is a significant human and financial investment (Whittey & Gilbody, 2005), and the WHO have expressed concerns over the relatively low level of funding made available for MH services in many countries (Crawford, 2004). Providing a truly supportive model requires an organisational commitment supported by speedy access to specialist MH facilities, and pro-active interventions that monitor and support individuals identified as high risk to depressive symptoms or have a recent history of DSH (Rose, 2001). A reduction in stigma requires multiple interventions (Byrne, 2009), encompassed within a language of inclusion, supported by legal and organisational reforms and cultural changes established on

[7] NICE amended the guidelines for Depression in October 2009. The respondent's point of reference within this study referred to the NICE guidelines issued in 2004, and therefore the 2004 direction are included within this report.

For Mild and Moderate Depression.

- Psychological Assessment Specifically focussed on Depression such as: Problem Solving Therapy; CBT or Counselling
- These interventions can be as effective as drug treatments and should be offered as treatment options.
- Anti-Depressants should not be used for initial treatment of mild depression.

For Moderate to Severe Depression.

- Anti – depressant drug of choice should be an SSRI. These drugs are as effective as tri-cyclic anti-depressants and are less likely to be discontinued because of side effects.

SUMMARY

- Treatment should be modified to the severity of the depression.
- Psychological treatments can be used alone or in conjunction with anti-depressants.
- Patient's views should be acknowledged and they must be informed of anti-depressant side effects.

Table 2.7 National Institute for Clinical Excellence Guidelines For Depression (2004): Key Points.

providing personal empowerment (Byrne, 2009). There have been major UK public health initiatives to raise awareness and a plethora of health promotion interventions (Griffiths et al, 2004) that encourage help seeking behaviour in young people (Oliver et al, 2005). These included contact with people with mental illness and this has been reported to be effective in influencing stigma change (Alexander & Link, 2003; Couture & Penn, 2003). It is well reported that educational programmes can be effective in reducing stigma and attitudes for mental illness (Holmes et al, 1999; Corrigan et al, 2001b; Pinfold et al, 2003), although there was little empirical evidence of the efficiency of educational interventions as these studies were mainly based on personal attestations from health professionals or members of the public without MH problems (Griffiths et al, 2004). Any developments should aim to change the way that men are viewed within the media and male stereotyping (Conrad & Warwick Booth, 2010).

Treatment must encompass efforts to resolve underlying stressful factors (Skegg, 2005) and alleviation of depression has resulted in a reduction in self harm attempts (Townsend et al, 2001). Management includes developing a trusting relationship, identifying the predisposing stressors, ensuring that support is available, particularly during a psychiatric illness when families and friends can provide care and assistance. However, as men are

often reluctant to seek MH support, then there is a need to find alternative ways of providing assistance (Anderson, 2010). Options include practical interventions with physical and artistic exercises, hobbies and educational interests, good relationships, social support and financial management, reducing work stress, health and nutrition and alcohol management and education. Men are also more likely to use an anonymous source of health advice such as websites (Appleby, 2010), and there are specialist internet sites, such as Bluepages which offers a CBT based intervention for depression that has the benefit in reducing stigma by detailing famous people who have suffered with depression and providing biomedical explanations (Christensen et al, 2004; Griffiths et al, 2004). Another programme is Moodgym that focuses on training the participants to develop strategies for coping with events and circumstances that may activate depression such as coping with a relationship break-up. There are also reports of success provided by outreach facilities (Sayers, 2010) especially when they involve families and friends (Anderson, 2010).

Within the military, there is a need to focus on the identification of problems and the subsequent management of MH within unit lines, PHC and the utilisation of the various available care resources. This can be achieved when PHC successfully recognise depression symptoms and utilise lay person support within the clinical management plan (Angermeyer et al, 2001). The Army is increasingly adopting a Trauma Risk Management Model (TRiM) (Jones N et al, 2003) supported by MOD Suicide Vulnerability Risk Management (SVRM) policy (Adjutant General Administrative Instruction (AGAI), 2004), which ensures that the military chain of command accept responsibility for supporting at risk troops locally and formally engaging with the medical services. A US air force study has indicated that interventions aimed at reducing the rate of suicide showed that early detection and management was associated with a 33% relative risk reduction in suicide over a 10 year period (Knox et al, 2003), therefore the aim is to intervene before the situation is so desperate that self harming behaviour is committed.

This completes the literature search, and the thesis will continue with the first survey which provides an exploration of MMH hospital admissions.

Chapter 3

Survey One

A Review of

British Armed Forces Hospital

Admissions

INTRODUCTION

On the 1 April 2004, the British Armed Forces psychiatric in patient facility at the DKPH was closed and DMSD acquired responsibility for the DMHS in the UK. DMSD aimed to provide clearly defined integrated care between PHC, military DCMHs and SHC. There were 15 DCMHs in the UK, and service-personnel serving in Germany, Cyprus and Gibraltar were supported in their host country or could evacuate back to the UK for continuing support.

To replace the void left by the closure of the DKPH, a contract for the provision of in-patient MH care was established with an ISP; The Priory Group of Hospitals following the completion of a tendering process. This agreement did not dilute the responsibilities of the NHS in treating Service personnel, which could still be accessed for psychiatric emergencies. The Priory Group provided 18 Hospitals throughout the UK (see Table 3.1), and thereby offered extensive geographical access that ensured that Service personnel could be treated near to their own unit.

Altrincham	Birmingham	Bristol	Cheadle*
Chelmsford	Glasgow	Hayes Grove	Hove
Marchwood (MSG)	MSG Darlington*	Nottingham	Bromley
Preston	Roehampton	Southgate	Ticehurst
Thomford Park	Woking		

Table 3.1 Priory Hospital Group Locations (*Affinity Hospitals)

The DMHS provided an occupational MH service, and PIs outlined in the Defence Healthcare Programme specified that urgent PHC GP referrals would be assessed by a member of the DCMH clinical staff on the next working day and routine admissions within 20 working days of the DCMH receiving a referral. Local DCMHs offered urgent support or advice during working hours and a local national support line for out of hour's support. ISPs were contracted to identify an admission bed within 4 hours.

MMH and the factors that lead to depression within the Army was a significantly under researched area. Little data was available regarding MMH hospital admissions, and the

survey and service evaluation described within this study laid the foundations for the overall thesis; collecting data that specifically provided the information to answer the first study objective of recognising trends and risk factors leading to depression in the Army, including gender, age and rank, and indicating if there were vulnerable groups who were more prone to depression. This paper provides a detailed evaluation and analysis of MMH hospital admissions during a 40 months period dating from 01 December 2003 until 31 March 2007, during which 1,030 tri-Service personnel were admitted to hospital.[1]

Background

The author was posted to Headquarters Army Primary Healthcare Service (APHCS) as the Staff Officer (Grade 1) (Mental Health) in October 2004. This role was annotated as a Nurse Consultant in MMH and the terms of reference for this employment was modified to include responsibility for monitoring demographic / clinically associated data for MMH hospital admissions. The author was directed to provide a monthly overview of: demographic data relating to monthly admission rates; Service background and rank; details of DCMH and ISP clinical activity; diagnostic information; specify ISP compliance with the contractual PIs, and to provide recommendations to improve the service.

This information provided clear detail to identify a number of factors that were essential in meeting the research objectives, such as detailing demographic trends related to hospital admissions. In addition, the service evaluation was intentionally aimed at an operational level and being a dynamic document, with results and recommendations for changes in service disseminated on a monthly basis. This was to ensure appropriate, cost effective care was provided in the optimum environment. These monthly and then annual reports outlined developing themes and compliance with contractual agreements such as speed of access to hospital beds; providing benchmarking information that

[1] In 2009, in patient services passed from the priory group of hospitals to an NHS consortium managed by the Staffordshire and Shropshire NHS Foundation Trust.

indicated differences between DCMH admission rates. This data was the most comprehensive information collected in relation to military ISP hospital admissions, and the demographic results plus the empirical reference to the predisposing factors and symptoms associated with depression in the Armed Forces provided a valuable baseline regarding the impact of a number of factors on operational capability; reinforcing the few peer reviewed papers that were available regarding British soldiers operational MH casualties (Turner et al, 2005, Jones et al 2008) and was in line with DOH initiatives (DOH, 2006).

AIM

The aim was to advance Armed Forces MH understanding of the diagnosis and predisposing factors that resulted in Service personnel requiring a MH hospital admission, with an emphasis on depressive admissions.

The objectives were:

1. Recognise trends and risk factors including gender, age and rank and indicate if there were vulnerable groups who were more prone to depression.

2. Provide a hierarchical recognition of the predisposing factors associated with Armed Forces hospital admissions.

3. Determine whether occupational aspects such as the role of the MMH Services and operational stressors were significant contributing factors influencing access to MH services.

4. Identify themes that could be incorporated into a theoretical (predictive) model that could be utilised at an operational level to identify soldiers who are more susceptible to developing depression.

METHOD

The research cohort were drawn from the 1,030 sailors, soldiers, airmen and entitled civilian personnel admitted to an ISP for a MH related disorder during the period 1 December 2003 until 31 March 2007. Each DCMH nominated an experienced nurse to fulfil the role of Service Liaison Officer (SLO) who had responsibility for supporting hospital admissions and collecting the research data by completing a cross-sectional survey. The survey template was designed to answer operational questions and identify trends such as which DCMH had referred patients to an ISP, the duration of stay in hospital and diagnosis. This form ensured conformity from different data collectors spread throughout the UK. The questionnaire was subjected to extensive external consultation with both clinical and lay personnel, and was exposed to a pilot study. Due to the operational nature of the service evaluation, the form was modified on an annual basis as the monitoring of hospital admissions improved and to increase visibility of identified problematic trends. This resulted in 3 identifiable parts:

a. 01 December 2003 until 31 March 2005. Initial data collection, primarily to identify demographic trends such as rank and diagnosis.

b. 1 April 2005 to 31 March 2006. Questionnaire altered to provide more detail through risk assessment and significant events reporting.

c. 1 April 2006 to 31 March 2007. Questionnaire altered to capture the predisposing factors leading to a hospital admission.

The author was made responsible for monitoring hospital admissions after the ISP contract was established, and therefore the initial data collection was undertaken retrospectively. Excluding data collected prior to the author's initial contact with the University of Central England in July 2005 would not have significantly compromised the research but may have reduced the occupational influence within the military. The

option to undertake retrospective research of this nature was not unusual, and a similar study to develop a predicative model to identify vulnerability factors leading to DSH was obtained from exclusively analyzing retrospective data from the National Audit Office (Gunnell et al, 2003). The key aspect was that the data regarding predisposing factors was only collected after PhD enrolment, and retrospective information did not impinge on patient confidentiality. This retrospective analysis was approved by a MOD Research Ethical Committee and the BCU Faculty of Health Panel and the BCU Degrees Research Committee.

Following supervisory discussions, a final adjustment to the data collection form was instigated from 1 April 2006 to capture the predisposing factors leading to a MMH hospital admission. A number of tick boxes that contained the biographical and empirically recognised causative factors of depression (Beck, 1961; WHO, 1996), together with known military stresses such as the influences of operational tours (Hoge et al, 2004) and unresolved traumatic events (Scott & Stradling, 1992) were added to the evaluation form, which had to be designed as no "off the shelf" templates were available. To improve validity, 5 experienced colleagues critically analysed the survey questionnaire and suggested additional fields that were case sensitive to the military community such as the unhappy soldier whose distress was caused by being unable to leave the Army due to terms and conditions of service. The 15 SLOs were then provided with a draft copy of the form and they had the opportunity to critically appraise the questionnaire. Once feedback had been received, additional variables were added to the form and to ensure that no factors were missed, a section was included where the SLO could write other predisposing factors and symptoms as they emerged. The SLO data collection form is at Appendix 3.1.

Completed templates were faxed by the SLO to the DCMH in Donnington where the author was employed 1 day per week. To ensure confidentially, the only people who had access to the information were the author, the SLO, the medical receptionist at the DCMH and 1 person from the Priory Group of Hospitals. The author coded the information and added to a specially designed database, and patient identifiable detail

was removed. In addition, no reports or published material contained references attributable to the patient group. The author followed the National Statistics Code of Practice (2004) and its associated protocols as best practice when compiling these reports, and has taken steps to minimise the risk of any person being identified from the results. The main control methods to avoid data disclosure was the design of individual tables that avoided small numbers and the use of primary number suppression. However it was not possible to completely avoid small numbers, so in line with NHS Information Centre (2009) guidelines, numbers of less than 6 were suppressed.

Evaluation indicated that in certain instances that forms were not being completed by the SLOs, and there was no audit mechanism in place to ensure compliance. This would negatively affect the results, but more importantly may reflect that SLOs were unaware of a patient admission and Service personnel were being denied their entitled support. To resolve this issue, and with approval from the MOD MH Services Executive Committee, an ongoing audit was commenced with the author cross referencing SLO returns with a nominated member of the ISP clinical team. If a patient was admitted and no form received, or insufficient or confusing information conveyed, then the author contacted the relevant SLO and would validate and confirm anomalies. In isolated instances, the SLO was unaware of a patient admission, and this contact ensured that patients were correctly supported.

SPSS Version 17 was used for the management and analysis of quantitative data with the information within this paper being exposed to descriptive and inferential statistical examination.

Results

During the reporting period of the 1 December 2003 to 31 March 2007 there were 1,030 admissions. The results are separated into 3 distinctive sections, providing detail on:

1. Diagnosis, gender, age, rank and Service.

2. Occupational features including hospital bed occupancy, risk assessment and significant events reporting.

3. Predisposing factors effecting MH hospital admissions, with a focus on depression.

This report is now separated into these 3 sections, with results and discussion provided for each. The conclusion to this chapter will then draw together the key findings from each of these sections and bring to a close this first survey,

SECTION 1

ADMISSION DIAGNOSIS INCLUDING AN ANALYSIS OF GENDER, AGE RANK AND SERVICE

RESULTS

The results were drawn from 1,030 tri-Service hospital admissions.

Diagnosis

The most common primary diagnosis resulting in 38% (N=389) of MH hospital admissions was depressive illness. 24% (N=249) were for alcohol related disorders, 12% (N=119) for adjustment reactions, 8% (N=77) with a psychotic illness and 5% (N=53) with PTSD. When including co-morbidity, depression remained the most common MH disorder leading to a hospital admission, diagnosed in 38% (N=476) of all cases. The diagnosis leading to a MH admission is presented graphically in Chart 3.1 and Table 3.2, which separates the diagnostic criteria into three categories:

a. Primary Diagnosis. This was the main MH disorder leading to the hospital admission. If the patient had a single diagnosis then this is included in this column. If there was co-morbidity, then the main diagnosis leading to the admission is the only figure added to this list. Other co-morbid factors are included in Paragraph C below. For example, if the patient had a primary diagnosis of depression but also PTSD and an alcohol related disorder then only depression is recorded.

b. Single Diagnosis. The patient presented with one psychiatric condition. There was no co-morbidity.

c. Co-Morbidity. This is the sum of each time the diagnosis was listed as either the single diagnosis or if the patient had two or more psychiatric conditions. For example,

if the patient had a primary diagnosis of depression but also PTSD and an alcohol related disorder then each diagnosis is included in the total.

		Primary		Single		C0-Morbidity	
Ser (a)	Diagnosis (b)	Total (c)	Valid % (d)	Total (e)	% (f)	Total (g)	% (h)
1	Depression	389	38.2	291	36.8	476	37.7
2	Alcohol Related	249	24.4	203	25.7	316	25
3	Adjustment Reaction	119	11.7	95	12	133	10.5
4	Psychotic Illness	77	7.6	73	9.2	82	6.5
5	PTSD	53	5.2	31	4	71	5.6
6	Stress Reactions	47	3.4	24	3	65	5.2
7	Substance Abuse	19	1.9	18	2.3	26	2.1
8	No Psych Diagnosis	17	1.7	17	2.2	17	1.3
9	Personality Disorder	15	1.5	11	1.4	27	2.1
10	DSH	11	1.1	7	0.9	13	1
11	Eating Disorders	10	1	10	1.3	18	1.3
12	OCD	5	0.5	4	0.5	9	0.7
13	PND	2	0.2	1	0.1	2	0.2
14	Somatoform Disorder	2	0.2	1	0.1	2	0.2
15	Organic	1	0.1	1	0.1	2	0.2
16	Not Known	3	0.3	3	0.4	3	0.2
17	Total	1019	100	790	100	1262	100
18	Missing	11					
19	Combined Total	1030					

A. Serial number
B. Diagnosis
C. Primary diagnosis (main diagnosis leading to admission)
D. Primary diagnosis: presented as a percentage of total admissions
E. Single diagnosis: 1 diagnosis leading to admission: no co-morbidity
F. Single diagnosis: percentage in relation to single diagnosis admissions
G. Co - morbidity: number of times the condition was diagnosed in both single diagnosis admissions or 2 or more conditions diagnosed
H. Co – morbidity: percentage of admissions.

Table 3.2 Diagnosis Leading to a Hospital Admission – with Details of Co-Morbidity

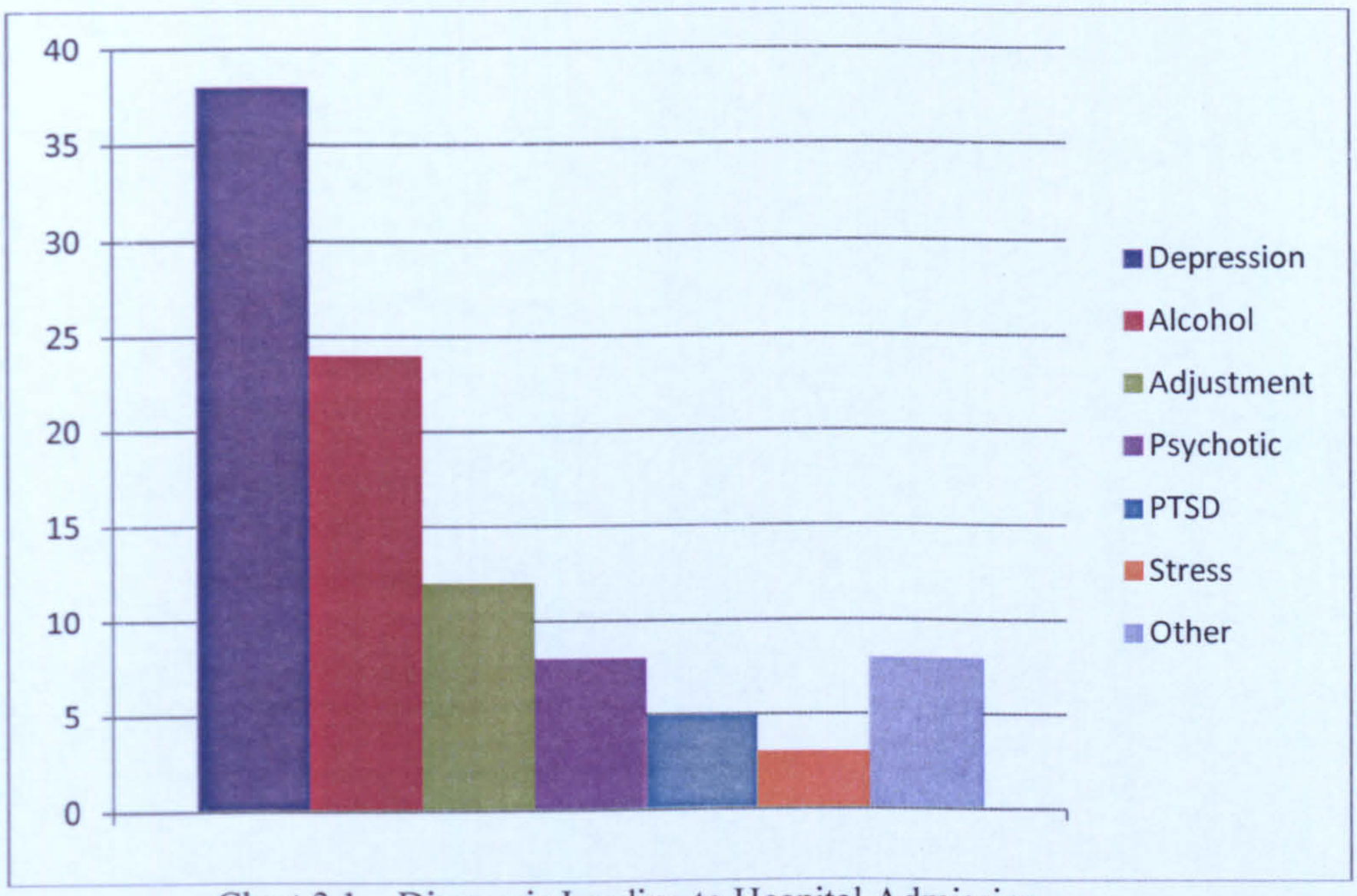

Chart 3.1 – Diagnosis Leading to Hospital Admission

Gender

The Armed Forces population was 90% male, and in this survey 84% (N=866) men and 16% (N=160) women were admitted to hospital. Applying a non-parametric, binominal test indicated that significant gender issues existed, such as females being disproportionally high in hospital admissions (P<.001). Also variances in primary diagnosis and gender indicated that women were more likely to be admitted with depression (P< .001) and stress disorders (P<.001), whilst men with alcohol related disorders (P<.001). Table 3.3 provides detail of admissions by gender and Chart 3.2 is a 100% stacked column chart comparing the percentage that males and females contributed to the total across the admission diagnostic categories.

		Gender						
Diagnosis	Total	Male			Female			P Value
(a)	(b)	Total (c)	% all (d)	% males (e)	Total (f)	% all (g)	% females (h)	(i)
Depression	387	317	82	37.1	70	18	43.7	.001
Alcohol Related	249	232	93.2	27	17	6.8	10.6	.001
Adjustment Reaction	119	99	83.2	11.6	20	16.8	12.5	.443
Psychotic Illness	77	67	87	7.8	10	13	6.2	.294
PTSD	53	45	85	5.3	8	15	5	.520
Stress Reactions	46	36	78.3	4.2	10	21.7	6.2	.001
Substance Abuse	19	16	84.2	1.9	3	15.8	1.9	.638
No Psych Diagnosis	16	13	81.2	1.5	3	18.8	1.9	.484
Personality Disorder	15	11	73	1.3	4	27	2.5	.209
DSH	11	10	91	1.1	1	9	0.6	.455
Eating Disorders	10	2	20	0.2	8	80	5	.492
OCD	5	1			4			
PND	2	0			2			
Somatoform Disorder	2	2			0			
Organic	1	1			0			
Not Known	3	3			0			
Total	1015	855			160			
Missing	15							
Combined Total	1030							

A. Primary diagnosis
B. Total number of admissions
C. Total number of all male admissions
D. Percentage of all admissions
E. Percentage of male admissions
F. Total of all female admission
G. Percentage of all admissions
H. Percentage of all female admissions
I. Statistical significance: P value obtained from non parametric binomial test

Yellow shaded areas: Numbers too small for worthwhile analysis (National Statistics Code of Practice, 2004).

Males comprise 84% of the research sample, females 16%.

Table 3.3 Diagnosis Leading to a Hospital Admission – Gender Details

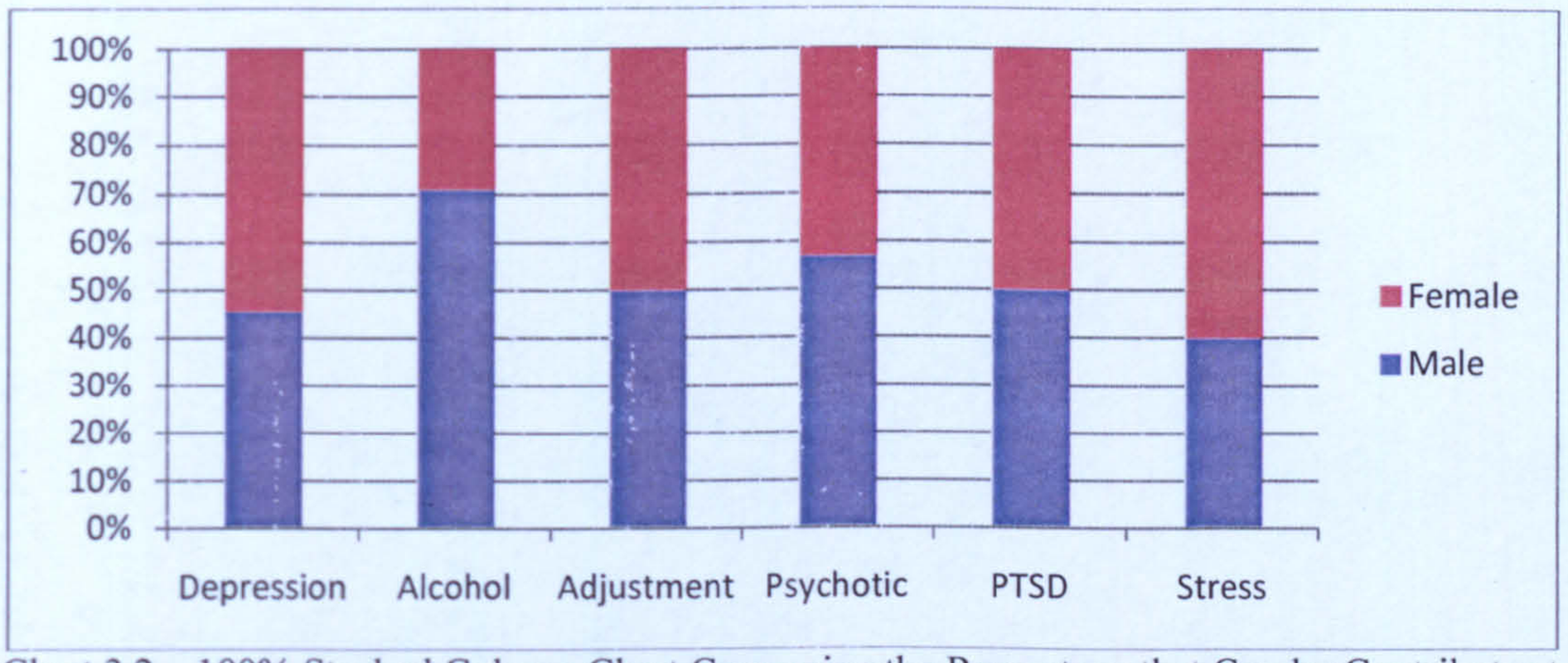

Chart 3.2 – 100% Stacked Column Chart Comparing the Percentage that Gender Contributes to a Total across the Diagnostic Categories

Age

Age details were available for 647 admissions. The mean age of admissions was 28.7 years old, with a median of 28 years, mode of 21 years and a Standard Deviation (SD) of 7.875. The mean age of admission for depression was 28.9 years old, median of 28 years, mode of 19 years with a SD of 7.831 and range of 16 to 52 years. See Table 3.4.

Diagnosis	Number	Mean	SD	Range
Depression	237	29	7.8	16-52
Alcohol Related	143	31	8.5	19-53
Adjustment Reaction	81	28	7.5	17-47
Psychotic Illness	54	27	6.5	19-52
PTSD	43	29	7.3	19-49
Stress Reactions	30	28	6.7	19-42
Substance Abuse	13	21	2.5	19-28
No Psych Diagnosis	14	26	8	18-45
DSH	11	24	7.6	17-41
Personality Disorder	9	28	7.3	18-39
Eating Disorders	5	23	3.7	20-29
OCD	2	36	2.8	34-38
PND	2	22	2	21-24
Somatoform Disorder	2	28	11.3	20-36
Organic	1	20	x	x
Total	647			

Table 3.4 Primary Diagnosis Leading to a Hospital Admission: Age Details

Analysis of depressive admissions, both as a primary diagnosis and with co-morbidity are in Table 3.5. MH hospitals admissions for a primary diagnosis of depression are in Chart 3.3, where the columns represent the percentage of admissions.

Age	Primary Diagnosis Total	%	Accumulative %	Co-Morbidity Total	%	Accumulative %
<18	3	1.3	1.3	3	1	1
18-21	51	21.5	22.8	60	20	21
22-25	40	16.9	39.7	54	18	39
26-29	37	15.6	55.3	50	16.7	55.7
30-33	38	16	71.3	45	15	70.7
34-37	35	14.8	86.1	46	15.3	86
38-41	18	7.6	93.7	25	8.3	94.3
42-45	8	3.4	97.1	8	2.7	97
46-49	6	2.5	99.6	8	2.7	99.7
50-53	1	0.4	100	1	0.3	100
Total	237	100		300	100	

Depression was included in the diagnosis of 476 admissions, and in 63% (N=300) the age details were available.

Table 3.5 Depression Hospital Admissions: Age Details

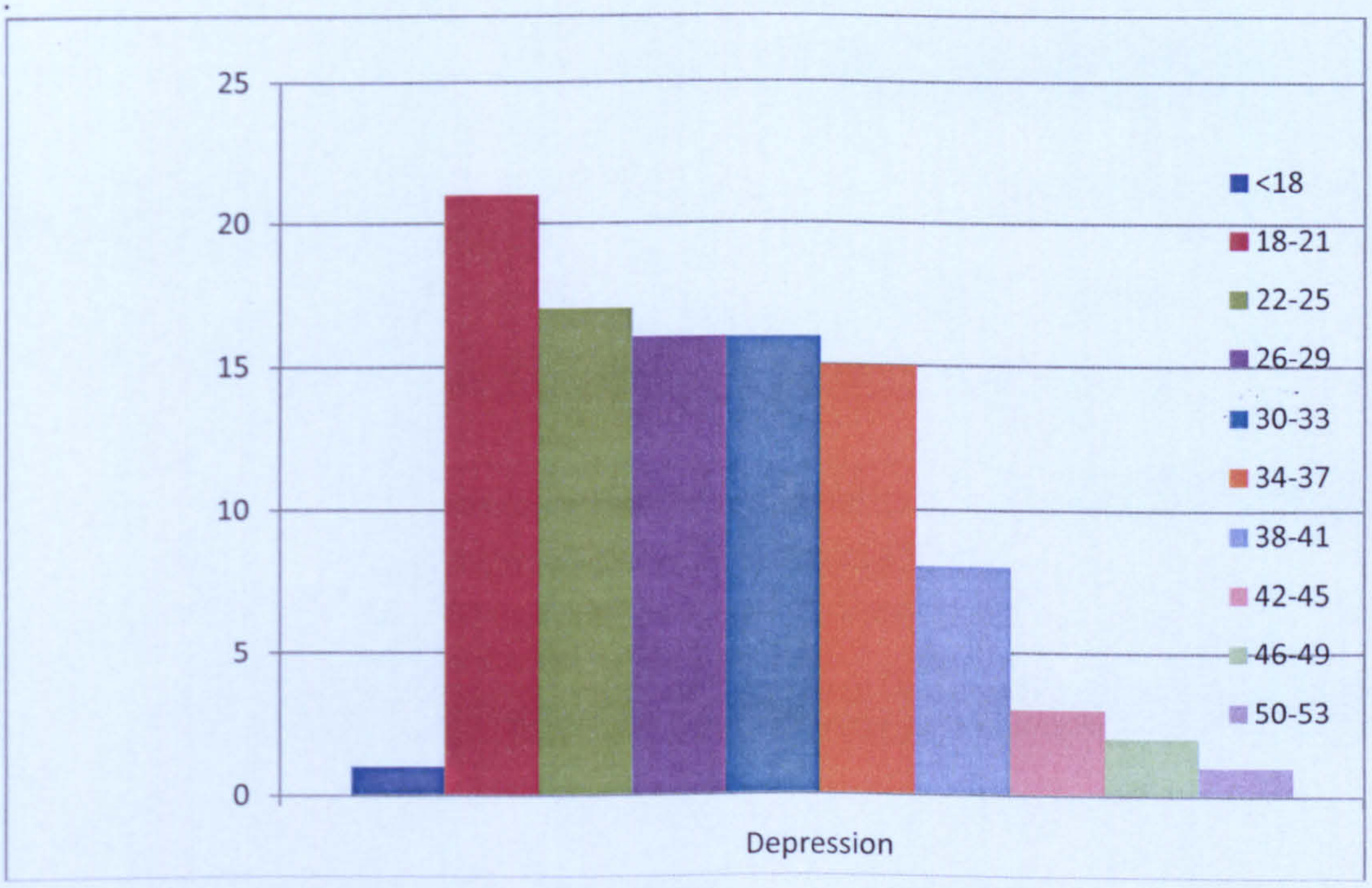

Chart 3.3 Depression Hospital Admissions: Age Details

Rank

Military rank[2] details was available for 651 admissions, of which 50% (N=324) were private soldiers. Results for all admissions are in Table 3.6 and Chart 3.4 where the columns represent the percentage of admissions.

Rank	Frequency	Percent	Accumulative %
Private	324	49.8	49.8
Lance Corporal	73	11.2	61
Corporal	93	14.3	75.3
Sergeant	69	10.6	85.9
Staff Sergeant	28	4.3	90.2
Warrant Officer	14	2.1	92.4
Lieutenant	3	0.5	92.9
Captain	17	2.6	95.5
Major	14	2.1	97.7
Lieutenant Colonel	7	1.1	98.8
NA	7	1.1	99.9
Recruit	2	0.3	100
Total	651	100	

Table 3.6 Hospital Admissions: Rank Details

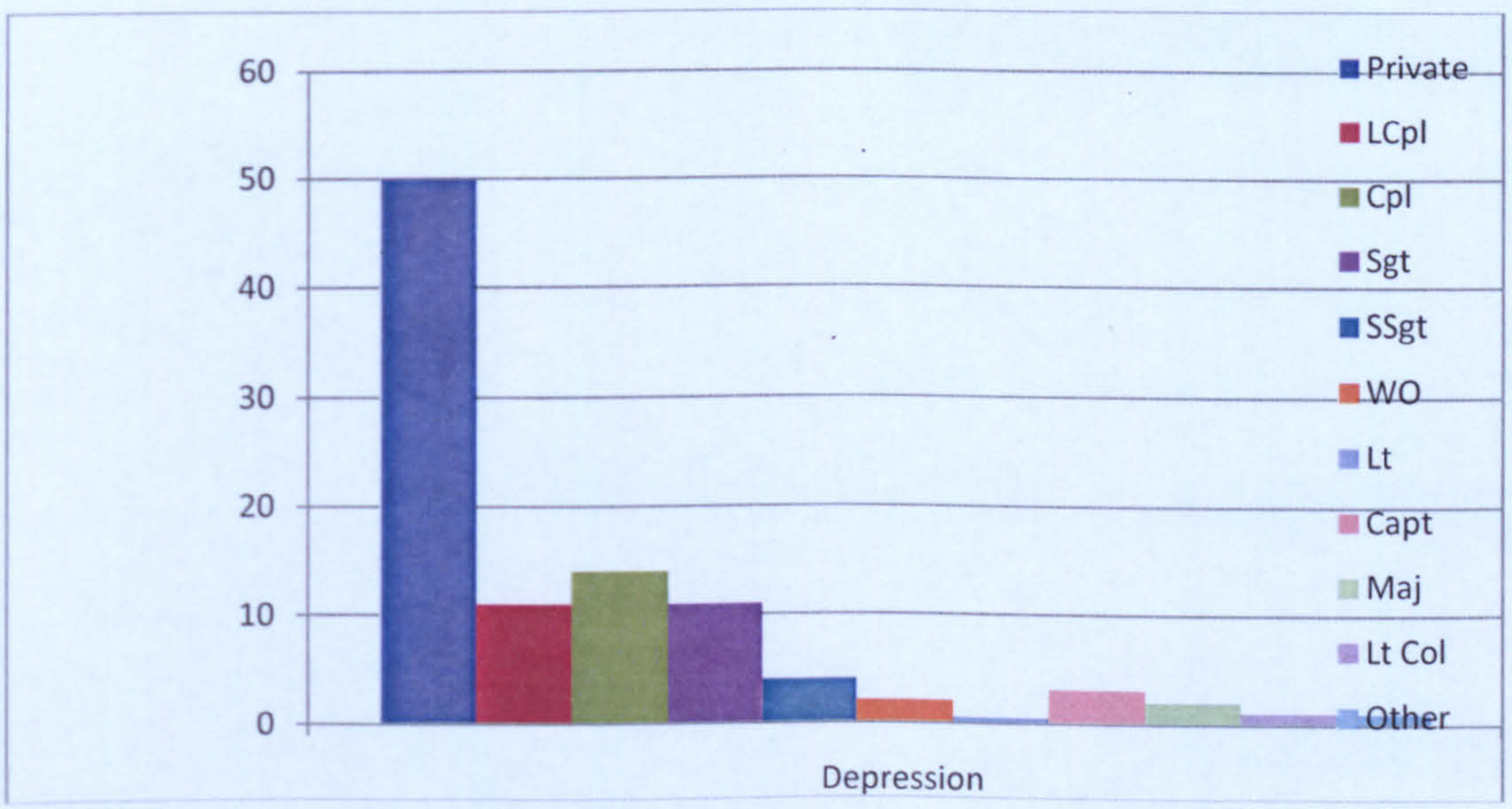

Chart 3.4 Hospital Admissions: Rank Details

[2] Army ranks are used for all 3 Services.

The rank of those patients admitted to hospital with depression and a selection of other diagnostic criteria are presented in Table 3.7, and depression only admissions in Chart 3.5, where the columns represent the percentage of admissions.

Rank	Depression		Alcohol		Adjustment Disorder		PTSD		No Psych Disorder	
	Total	%	Tot	%	Tot	%	Tot	%	Tot	%
Private	125	52.5	57	39.3	35	43.7	22	51.2	8	57.1
Lance Corporal	26	10.9	21	14.5	10	12.5	1	2.3	2	14.3
Corporal	23	9.7	25	17.2	18	22.5	9	21	2	14.3
Sergeant	22	9.2	23	15.9	9	11.2	10	23.2	1	7.1
Staff Sergeant	17	7.1	5	3.4	3	3.7	0	0	1	7.1
Warrant Officer	3	1.3	6	4.1	2	2.5	0	0	0	0
Lieutenant	2	0.8	0	0	1	1.2	0	0	0	0
Captain	9	3.8	0	0	1	1.2	1	2.3	0	0
Major	3	1.3	5	3.4	1	1.2	0	0	0	0
Lt Colonel	3	1.3	3	2.1	0	0	0	0	0	0
Civilian	4	1.7	0	0	0	0	0	0	0	0
Recruit	1	0.4	0	0	0	0	0	0	0	0
Total	238	100	145	100	80	100	43	100	14	100

Diagnosis Leading to a Hospital Admission: Rank Details

Table 3.7

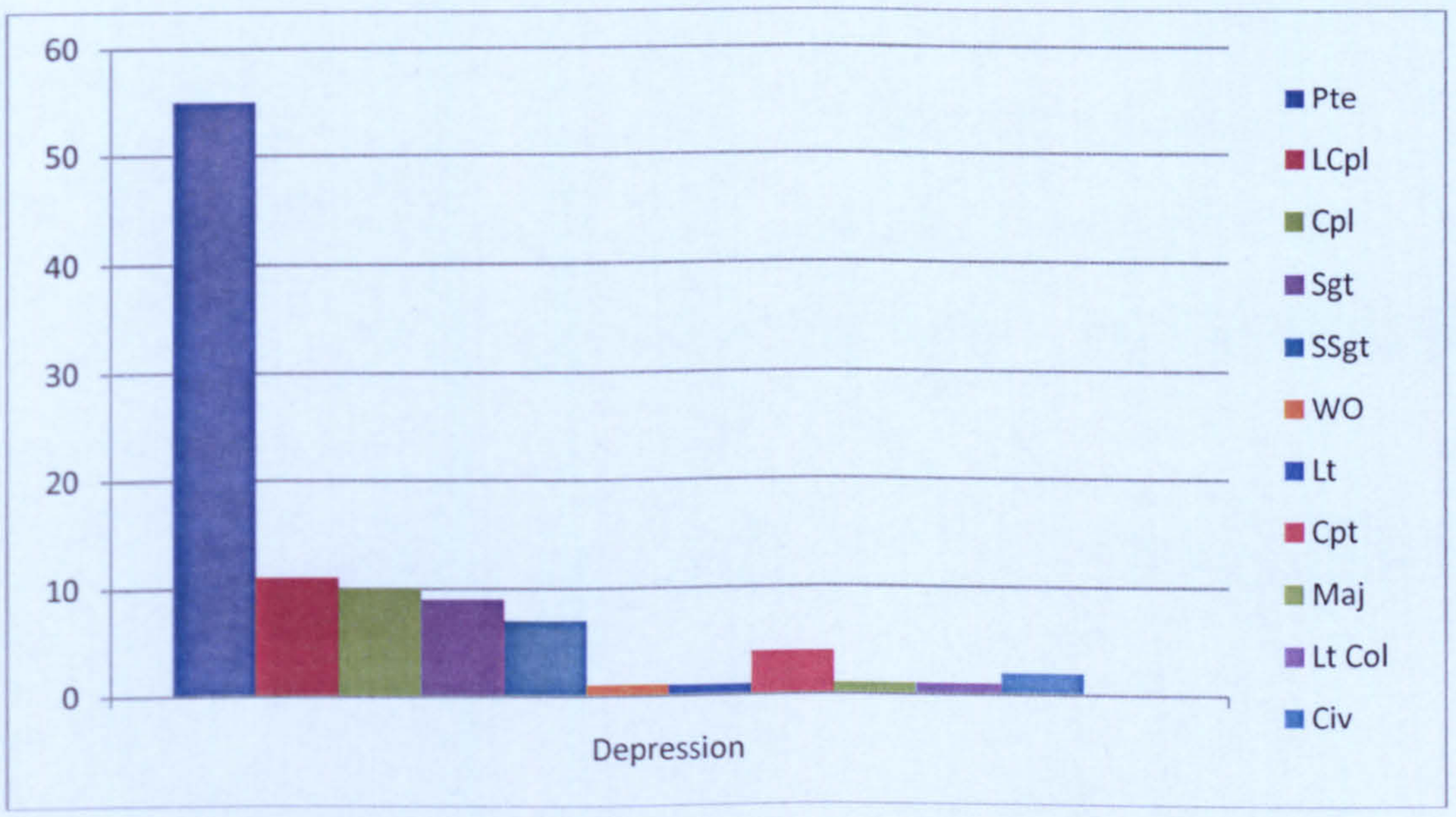

Chart 3.5 Depressive Hospitals Admissions: Rank Details (%)

Service

The distribution of admissions were representative of the Service population, with 565 (55%) being Army personnel. The results are in Table 3.8.

Serial	Service	Frequency	Percent
1	Royal Navy / Royal Marine	253	24.5
2	Army	565	55
3	RAF	190	18.5
4	Other	20	2
5	Total	1028	100

Table 3.8 Hospitals Admissions: Service Details

The Service details of patients admitted to hospital and their diagnosis are in Table 3.9.

		Service							
Diagnosis (a)	Total (b)	RN / RM (c)		Army (d)		RAF (e)		Other (f)	
		Tot	%	Tot	%	Tot	%	Tot	%
Depression	388	107	27.6	208	53.6	64	16.5	9	2.3
Alcohol Related	249	76	30.5	110	44.2	63	25	0	0
Adjustment Reaction	118	25	21.2	74	62.7	18	15	1	0.8
Psychotic Illness	77	15	19.5	49	63.6	10	13	3	3.9
PTSD	53	10	18.9	35	66	7	13.2	1	1.9
Stress Reactions	47	6	12.8	29	61.7	8	17	4	8.5
Substance Abuse	19	5	26.3	13	68.4	1	5.3	0	0
No Psych Diagnosis	17	2	11.8	12	70.6	3	17.6	0	0
Personality Disorder	15	0	0	7	46.7	7	46.7	1	6.6
DSH	11	1	9.1	9	81.8	1	9.1	0	0
Eating Disorders	10	0	0	6	60	4	40	0	0
OCD	5	2	40	2	40	0	0	1	20
PND	2	0	0	2	100	0	0	0	0
Somatoform Disorder	2	1	50	1	50	0	0	0	0
Organic	1	0	0	1	100	0	0	0	0
Not Known	3	1	33.3	1	33.3	1	33.3	0	0
Total	1017	251	24.7	559	55	187	18.4	20	2
Missing	13								
Combined Total	1030								

A. Primary Diagnosis
B. Total Admissions
C. Service: Royal Navy / Royal Marine.
D. Service: Army Personnel.
E. Service: RAF Personnel
F. Service: Other entitled personnel.

Table 3.9 Diagnosis Leading to a Hospital Admission: Service Detail

DISCUSSION

Section 1 of this survey provides key demographic detail regarding admission diagnosis and analysis including differences in presentation influenced by gender, age, rank and Service.

The results indicated that the most common diagnosis leading to 38% of all hospital admissions was for depression; which was also a prominent clinical diagnostic reason why Armed forces personnel were referred to Military DCMHs, and for operational MH casualties (Turner et al, 2005, Jones et al, 2008). Depression is therefore a significant MH factor in reducing the fighting capability of the British Armed forces. The other significant diagnoses leading to hospital admissions were 24% admitted due to alcohol misuse, 12% with adjustments reactions, 8% with psychotic illness, 5% with PTSD and 3% with stress reactions. These results present certain significant differences to the findings published by Neal et al (2003) who outlined the admission diagnosis to the last military psychiatric hospital, see Table 3.10. These DKPH results will provide a benchmark for comparing results within the rest of this section.

Ser	Condition	%
1	Neurotic, Stress Related and Somatoform	33
2	Alcohol or Drug Misuse	27
3	Psychosocial and Environmental Problems	13
4	Depressive Episodes	12
5	Personality Disorders	10
6	Schizophrenia, Schizotypal and Delusional Disorders.	3
7	Organic Personality Change	1
8	Bipolar Affective Disorder	1

Distribution of Primary Psychiatric Disorders from 309 Army Personnel Admitted to the Duchess of Kent's Psychiatric Hospital from 1 Jan 96 to 1 Jan 99

Table 3.10 From Neal et al, 2003

Admissions for certain disorders such as alcohol related ailments remained relatively stable, although depressive illness had risen from 12% compared to the total presented in this survey at 38%, although the reason for the increase were not clear. The

diagnosis of depression was not straight forward, and was only correctly identified and diagnosed by GPs in PHC on 47% of occasions (Mitchell et al, 2009), and some colleagues believe that the difference in admission diagnosis was due to differences in recording patterns and the tendency of ISP civilian psychiatrists to diagnose a condition as depression rather than an adjustment disorder. However, there were a number of ex-military consultant psychiatrists working within the Priory Hospitals who would identify the differences between these conditions so this might not have been the case, and the patients were receiving ongoing assessment and treatment, and therefore the diagnosis was likely to be correct. Therefore the reason for this shift was not clear and the common perception of MMH clinicians, although the results in this paper may suggest otherwise, was that there had not been a significant change in the type of MH disorders within the Armed Forces population, and this despite the notable increase in operational commitments since 2003. These issues, along with other questions raised by the emergence of themes within this study were explored within the taped interviews in Chapter 7.

Admission figures when categorised by Service was representative of the military population where approximately 55% are Army personnel. However, at the DKPH, Army admissions averaged 260 per year (Neal et al, 2003) compared with 186 per year in this report, reflecting a reduction of 29%. A contributing factor could be that Army DCMHs had been enhanced with extra staff, thus providing a better skill mix which was supported by a clear educational pathway that promoted community based treatment in preference to hospital care. If this was the reason, then caution needs to be taken in predicting any long term reduction as the advancements were contained within a dynamic medium, and under-manning, increased operational tempo, reduction in morale and mounting workloads could result in a reversal in this positive trend. The higher percentage of junior ranks admitted to hospital was expected as this group form the critical mass of military personnel.

At the time of this research, 10% of the Armed Forces were women, but within this study there were notable statistically significant differences attributable to gender, with

females forming 16% of hospital admissions and therefore disproportionally high (P<.001). It was acknowledged that civilian research has identified similar discrepancies, such as women being significantly more likely to develop depression (Kessler et al, 2003), or men being more than twice as prone to die from an alcohol related disorder (Office for National Statistics, 2005), and these trends were reflected within the military population of this study where both provide a P value <.001. However, the exact reason for the overall greater proportion of Armed Forces female admissions was unclear, and represented a large increase on the 6.5% of women admitted to the DKPH. Whether women faced greater stressors, were more isolated, were less affected by stigma, or were just more willing to seek support were all potential reasons.

The mode age of those admitted to hospital with depression was 19 years old, an age group representative of those that were usually new to the Armed Forces and a cohort most affected by the restrictive opportunities to leave the forces due to the military's terms and conditions of Service, and these constrictions may be a factor. This assumption was reinforced with the exploration of rank where 50% of all admissions were private soldiers.

The mean age of admission for depression was 29 years old, reflecting an age group containing experienced personnel who often face a number of occupational, social and environmental stressors. The average age for alcohol admissions was 31 years old, which was still relatively young, compared with civilian practice, and this trend will be discussed in more detail later in this paper. The overall age for all admissions had risen from the DKPH average of 26 years old to 29 years old, and due to the disproportionally higher number of young people within the Army, these figures were understandably significantly lower than the national average for depressive illness recorded at 42 years old for a single diagnosis of depression and 58 years old where there is depressive co-morbidity (NHS Information Centre, 2009).

The key findings from this section, together with identification of study limitations, will be combined with the key findings from Sections 2 and 3 in the concluding part of this aspect of the thesis on page 118.

SECTION 2

OCCUPATIONAL FEATURES INCLUDING DURATION OF STAY IN HOSPITAL, RISK ASSESSMENT AND SIGNIFICANT EVENTS REPORTING

INTRODUCTION

Occupational related data was a key aspect of this study, providing information and recommendations that dynamically informed policy and contractual arrangements. This data also provided benchmarking information to compare and contrast between different DCMHs and ISPs. The findings also provided detail that would fulfil a key objective of the overall research study in the production of a predictive model that encompassed the predisposing factors that resulted in hospital admissions for depression. These results advance the model past purely detailing situational stressors to recognising external influences such as psychiatrist risk assessment and referral styles. The results were obtained by exploring a number of areas, including ISP bed occupancy, DCMH referral rates, access to beds, risk assessment and significant events reporting.

RESULTS

Duration of Stay in Hospital

27% (N=282) of all Armed Forces and entitled personnel admitted to hospital remained as in-patients for 10 days or less, with 50% (N= 512) discharged within 20 days, 70% (N= 730) within 30 days, 82% (N=843) within 40 days and 88% (N=905) within 50 days. The remaining 12% (N=44) received in-patient care for more than 50 days. The average bed occupancy for all admissions was 28.7 days, with a SD 34.7 and a range of 1 to 533.

In 476 cases where depression was either a contributing factor or associated with co-morbidity, the average length of stay was 32 days, with a SD 36.8, and a range 1–533.

Depression as the primary diagnosis accounted for 389 admissions, with these details and other primary diagnosis information contained within Table 3.11.

			Duration of Stay in Hospital		
Ser (a)	Diagnosis (b)	Total (c)	Mean (d)	Range (e)	SD (f)
1	Depression	389	31	1-189	30.1
2	Alcohol Related	249	23	1-207	23.9
3	Adjustment Reaction	119	21	1-144	22.7
4	Psychotic Illness	77	40	1-236	44.7
5	PTSD	53	37	2-106	26.8
6	Stress Reactions	47	34	3-533	77
7	Substance Abuse	19	13	1-29	9.7
8	No Psych Diagnosis	17	6	1-20	5.9
9	Personality Disorder	15	19	6-50	10.8
10	DSH	11	11	2-28	8.9
11	Eating Disorders	10	96	10-355	105.3
12	OCD	5	28	7-58	25.9
13	PND	2			
14	Somatoform Disorder	2			
15	Organic	1			
16	Not Known	3			
17	Total	1019			
18	Missing	11			
19	Total	1030			
A. Serial number. B. Primary diagnosis C. Total number of primary diagnosis		D. Duration of stay: mean bed nights E. Duration of stay: range F. Duration of stay: SD			
Blanked off Areas. Sample size assessed as being too small for meaningful analysis.					
Table 3.11 Diagnosis Leading to a Hospital Admission and Duration of Stay					

Admission Source

The clinical source of the hospital admissions was available for 649 patients. The majority were admitted directly from a DCMH by a military psychiatrist, accounting for 60% (N=389), followed by 25% (N=165) admitted directly by GPs. Details are in Table 3.12.

	Frequency	Percent
GP/UMO	165	25.4
DCMH	389	59.9
NHS	27	4.2
Casevac	62	9.6
Germany	2	.3
Other	4	.6
Total	649	100.0

Table 3. 12 Source of Hospital Admissions

The DCMH analysis indicated significant differences in admission rates in departments serving similar populations at risk (PAR), the most extreme difference highlighted a department admitting 10.5% (N=36) compared to a similar department that admitted 3.2% (N=11).

Access

The ISP was contracted to provide a bed within 4 hours of referral, and this was achieved on 95% of occasions.

Duration of Stay in Hospital by Independent Service Provider

Of those hospitals that received more than 5 admissions, individuals admitted to the ISP in Woking stayed in hospital for the longest periods at an average of 42 days per patient. The ISPs in Cheadle and Nottingham had the lowest average stay at 13 days each. Examples of the differences are in Table 3.13 and Chart 3.6.

Ser	ISP	Number of Admissions	Mean Days
1	Woking	18	42
2	Hayes Grove	21	33
3	Glasgow	35	31
4	Birmingham	22	31
5	Bristol	71	31
6	Altrincham	12	30
7	Chelmsford	37	21
8	Marchwood	51	18
9	MSG	18	16
10	Nottingham	8	13
11	Cheadle	6	13
12	Total	131	

Table 3.13 Independent Service Provider Hospital Admissions and Average Duration of Stay

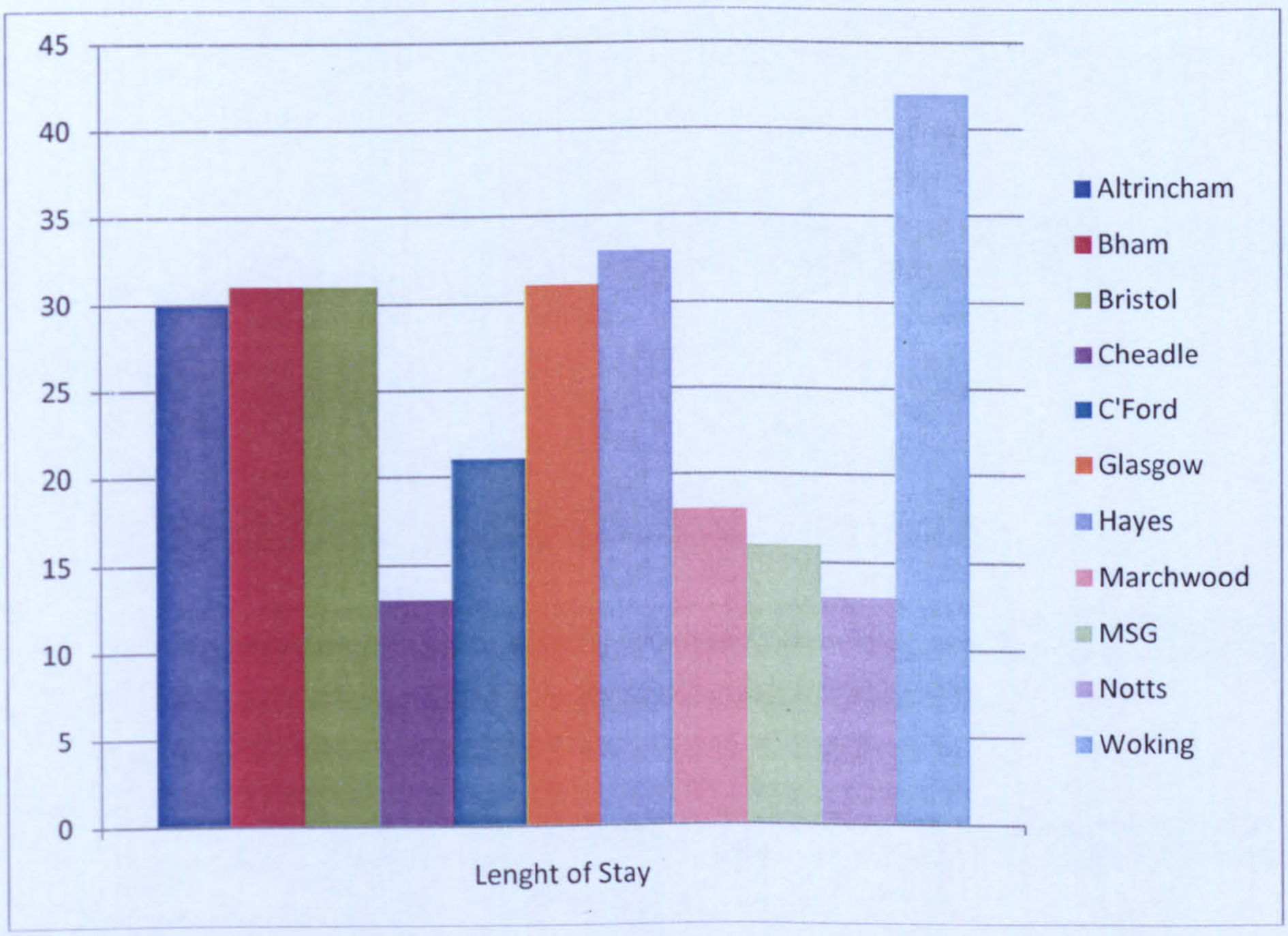

Chart 3.6 Independent Service Provider Admissions and Average Duration of Stay

Risk Assessment

Risk assessment for depressive illness was assessed by SLOs who graded the probability of a patient self-harming, and from an examination of 111 patients, 20% (N=22) were graded as either low or no risk.

Significant Events Reporting

SLOs had the option to record significant events, and this opportunity was taken on 285 (45%) out of 633 returns, highlighting policy, administrative and clinical problems, and on occasion's provided examples of excellent practice. The author made occupational recommendations regarding the emerging themes, and completed root cause analysis regarding serious or regularly reoccurring issues. This detail was case sensitive, and therefore only a small amount of examples are provided in Box 3.1.

Diagnosis	Significant Event Report
DSH	Admission on minor laceration to wrists. Situational factors – trainee 8 weeks ITC. Likely discharge ASAP.
Alcohol Abuse	As this dept was unaware of the admission, better communication is necessary. Admission protocols by passed by the admitting GP.
Depression	This patient awaits a medical board review. This is her third admission.
Depression	Patient felt she was not ready for discharge and took a small overdose and cut wrists two days before planned discharge date. Case conference was held and it was agreed that the best option was to discharge her on the planned date however for her to attend day care for specific groups for a period of 3 weeks and then she will have gone through Med Board and possibly heading for S8 discharge. This was cleared with xxxx at DMSD.
PTSD	Admitted on multiple of occasions for EMDR.[3] *Personal Note: Suitable qualified EMDR nurses may result in length of stay being reduced.*
Depression	Took self discharge today without medical authorisation (not detainable). CPA was due for 13 12 06.
Depression	Not totally appropriate given the initial apparent presentation and assessed risk of DSH - however a young unhappy soldier needed to be taken out of the military environment - in retrospect may have been managed sick at home with review by local DCMH with reassurance a TU recommendation could be made and indeed this is now the plan. Priory did provide him with "time out" away from the unit where his mental state very quickly settled and assessment quickly showed his mental state to be situational rather than clinical. Arguably an expensive way of doing it! A military mental health unit would have been more appropriate - his unit MRS could have been used but would not have been an appropriate alternative as too near the problem. Note the diagnosis given by the in-patient consultant was "loose" and in his own words a way of "labelling the situation" but (although he did attend the groups) did not require clinical treatment.
Anxiety and suicidal ideation	System worked well. All sorted in just over 1 hour.

Box 3.1 ISP: Examples of Significant Event Reports

[3] EMDR – Eye Movement Desensitization and Reprocessing (Shapiro, 1995).

DISCUSSION

Section 2 explored occupational issues relating to hospital admissions reflecting the Armed Forces aim to provide a safe and responsive MH service focused on community care. When a patient required admission, performance data indicated that on 95% of occasions a bed was identified within 4 hours of referral. This has important implications for this study, for the production of a theoretical model to support the identification and assessment of depression within the Army is of little value if hospital beds are not readily available as part of a comprehensive service, and this very high result reflected an excellent, responsive clinical provision.

The average duration of each patient's stay in hospital was 29 days, with 50% discharged within 3 weeks, 70% within a month and only 12% staying in hospital for more than 50 days. It was not possible to make robust comparisons with other similar populations as the information did not exist. There was however reference points to civilian populations, with data from the USA indicating that the average length of stay for depression is 6.6 days although these admissions were almost exclusively aligned to physical problems with an average age of 49 years old (Russo et al, 2005). Data from the NHS Information Centre (2009) provided a breakdown of admissions by month rather than days, and indicated that 53% of admissions were discharged within 1 month, and 70% in 2 months, but these included seriously mentally ill patients which were relatively few in this study. The NHS information centre data collection method also had limitations caused by detailing results based on an annual calendar, yet still including those patients who were already in hospital before the start of the year, and other cases were still open at the end of the year, and therefore the calculation probably under-estimated the average duration of stay in hospital. Therefore the mean duration of stay for the military population appears relatively low; suggesting that GPs and MH clinicians did not have to take excessive risks in proving community based care, preferring admission to this highly responsive service that provided brief assessment and treatment within a safe therapeutic environment. This service meets the military doctrine of proximity, immediacy and expectancy, and offered shorter periods in hospital than the average bed occupancy to the DKPH which was 107 days.

From a clinical governance perspective, the importance of significant event reporting in highlighting problems was widely acknowledged (Vincent, 2001). This non-punitive technique permitted individuals to express their concerns in an independent way and could demonstrate the actions taken to resolve the problematic issues (Secker-Walker & Taylor-Adams, 2001). Forty five percent of SLO returns took the opportunity to include significant events information that resulted in a number of policy changes which have improved patient care, and may be a factor in reduced admission rates and for producing a better interface with the NHS. Reports highlighted isolated instances of patients remaining in hospital for extended periods for non clinical reasons, a lack of communication between DCMHs and problems with inappropriate transport, all of which have been addressed.

This paper also highlights an area that was both under-researched and not frequently attributed as a significant factor in MH hospital admissions, that being the value of psychiatrists clinical competencies and opinion. Clinicians in all medical specialities have difficulty identifying MH disorders (Cepoiu et al, 2008), and under recognition in PHC has been extensively described (Hirschfeld et al, 1997); indicating that GPs correctly identified depression in 47% of cases and then went on to document the findings in 34% of cases (Mitchell et al, 2009). There were also more false positives (over detections or misidentification) than either missed or identified cases, although in 80% of cases GPs could rule out depression in most cases when people were not depressed (Mitchell et al, 2009). Recommendations for improving accuracy was through prospective examination over an extended period rather than a singular assessment, but there was an assumption that trained psychiatrists arrived at a correct diagnosis, which raised questions in this study regarding differences in DCMH admission rates and risk assessment.

Data available to this study indicated that DCMH referrals accounted for 60% of hospital admissions, but there were significant differences regarding DCMH admission rates taking into account factors such as PAR and referral rates. It should be noted that

such disparities exist throughout the UK, as amplified in Figure 3.1, although these were attributed to higher rates in poor social circumstances, high ethnic populations or urban rather than rural settings (Gilchrist & Gunn, 2007; Friedman et al, 2007).

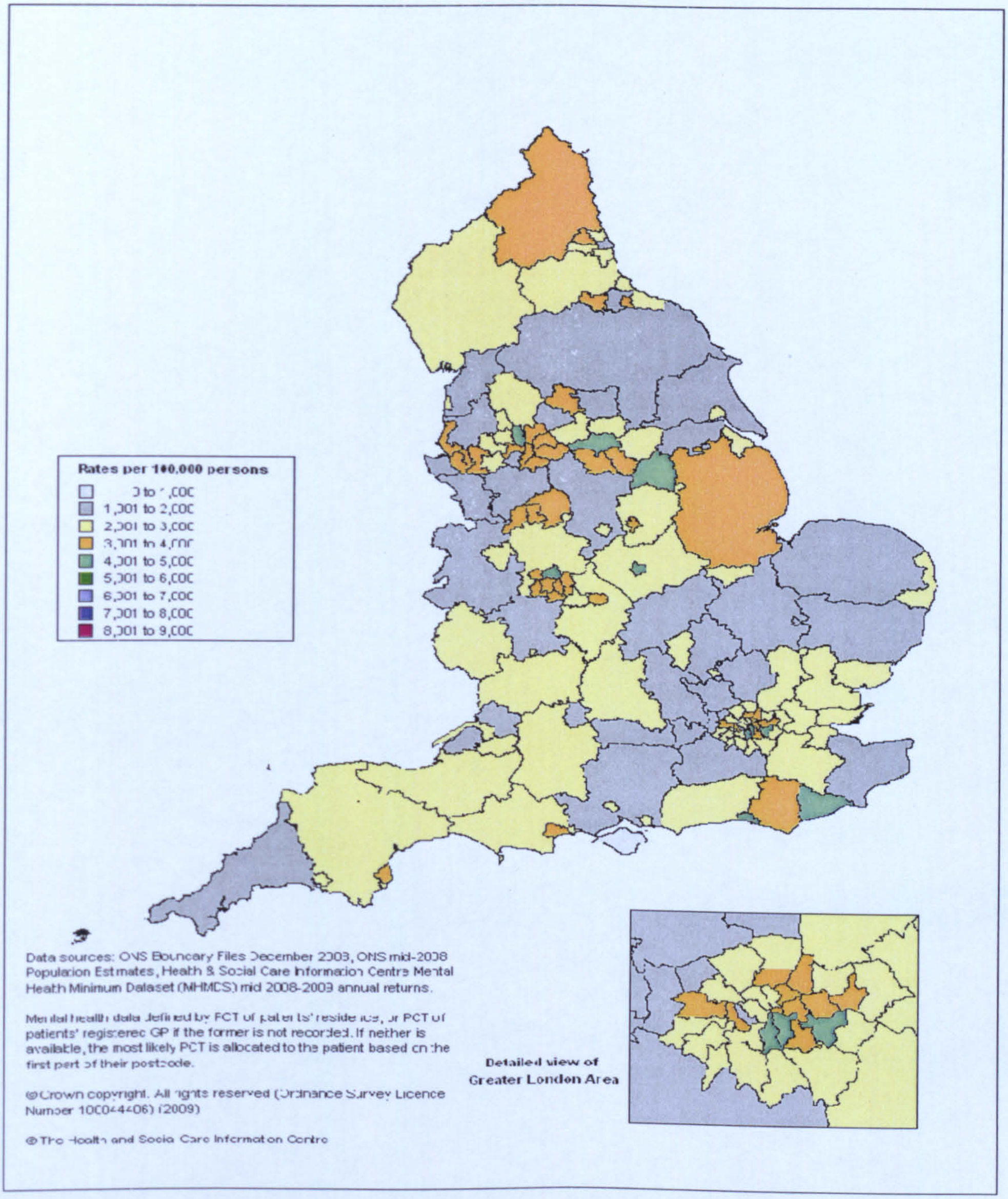

Figure 3.1. UK NHS Mental Health Hospital Admissions

However, these social demographic differences were not aligned to the military sample in this study, and raised the possibility that the admission rates were directly linked to differing MH clinical assessment and management. The author is not suggesting that lower admission rates equate to appropriate care, as it could be an indication of excessive risk-taking. However, individual results, although not published here by department, have been relayed back to each DCMH and provided clear visibility of differences, promoting communication and bench-marking. The results for the first 9 months of 2006/2007 indicated a 17% reduction in MMH hospital admissions, and improved communication might be a contributing factor.

DSH was indicated in 1% of admissions, and 20% of patients admitted to hospital for a depressive illness presented with either low or no risk of self-harm. These admissions on face value may appear to be contrary to NICE guidelines that advocated watchful waiting and community care (NICE, 2004). However, there were a number of prudent clinical reasons why this may have occurred, and the relatively low average duration of stay in hospital indicated a service that provided military patients with a temporary safe haven whilst a more detailed assessment was obtained. To promote further awareness, stringent methods have been developed leading to better GP induction programmes, PHC educational seminars based on the latest evidence based research, and the establishment of MH web-pages that included NICE and WHO guidelines. In some areas, a MH nursing peripatetic service providing local evidence-based guidance regarding risk management had further enhanced this improved service.

There were also notable differences in duration of stay dependent on which of the 18 independent sector hospitals was caring for the patient, with the mean duration of stay in hospital varying from 13 to 42 days. Obviously diagnostic criteria was a significant factor, but the results also appeared to be partly attributable to a learning process whereby SLOs needed time to develop their liaison skills, and the ISP consultants to become fully aware of military doctrine, and of the high level of easily accessible, multi-disciplinary community based clinical care that was available within military DCMHs. The important aspect is that clear visibility of these differences, both across

military DCMHs and the Priory Executive, reinforced with robust significant events reporting system had further improved the service and led to reductions in the length of hospital based care.

Significant events reporting identified emerging themes or provided the reference point for the commencement of a root cause analysis. Examples of these recommendations are:

- Admissions Rates. There were differences in DCMH admission rates, which were not reflective of the PAR. Single Services should take the opportunity to compare and contrast differences in areas such as community based approaches, induction programmes and educational support programmes to PHC in an attempt to further reduce in-patient stays and provide increased benefits to military patients.

- Data Collection. Reporting to be further defined to identify, in detail, specific aspects of the ISP contract and to highlight areas where PHC and DCMH efforts could be best channelled. This would include a risk assessment on every admitted patient.

- Communication. It remained vitally important to ensure good communication was maintained regarding all levels of the ISP contract. SLO and Priory contract meetings provided a useful medium but maximum use was to be made of website information to provide timely guidance on educational issues and address knowledge shortfalls.

- ISP Interface. Opportunities existed for DCMHs to further improve the interface with their local ISP. These included acquaint visits in both directions, invitations to study periods and work placements.

- Risk Assessment. Over the reporting period, a risk assessment monitoring self harm risk for patients who were depressed had been monitored against NICE (2004) guidelines. Twenty percent of depressive admissions had presented with either low or no self harm risk, contrary to the NICE (2004) guidelines which recommend community care. There were a number of sound clinical reasons why this occurred but it would still prove beneficial to ensure all clinicians had easy access to MH web-pages with NICE and WHO guidelines including extensive patient information. This should be enhanced with evidence-based guidance regarding risk management to all PHC GPs.

The key findings from this section, together with identification of study limitations, will be combined with the key findings from Sections 1 and 3 in the concluding part of this aspect of the thesis on page 118.

SECTION 3

PREDISPOSING FACTORS EFFECTING MENTAL HEALTH HOSPITAL ADMISSIONS, WITH A FOCUS ON DEPRESSION

INTRODUCTION

This aspect of the study specifically addresses the research aim of defining the predisposing factors associated with depression in the Army. This section collected data from 349 MMH hospital admissions between 1 April 2006 and 31 March 2007.

RESULTS

The primary diagnosis for MMH hospital admissions was 43% (N=150) of cases with depressive illness, 16% (N=56) with alcohol related problems, 11% (N=39) with an adjustment disorder and 7% (N=23) with PTSD. Including co-morbidity, those diagnosed as depressed rise to 181. These results reflect all admissions with a focus on depression. The rationale was that if the results are strongly correlated then the predicative model for depression presented in Chapter 8 may be transferable to all admissions.

Predisposing Factors

Analysis of the predisposing factors includes descriptive tests such as frequency counts and percentages, and inferential statistical examination using chi-square and non parametric tests. All results are presented in either a table or chart.

The number of predisposing factors leading to a hospital admission ranged from 2 patients who reported 0 factors to 4 patients who reported 7 contributing issues. The percentage of patients admitted for all conditions was closely aligned to depressive admissions. Less than 18% of depressed patients reported 0 or 1 factor, and the mode number of reported factors was 2, as indicated by 32% (N=109) of all admissions and

29% (N=52) of those depressed. Most patients presented with 2 or more significant issues. See Table 3.14 and Chart 3.7.

Factors	Total Frequency	Valid %	Accumulative %	Depressed Frequency	Depressed Valid %	Depressed Accumulative %
0	2	0.6	0.6	0	0	0
1	51	14.8	15.4	31	17.2	17.2
2	109	31.6	47	52	28.9	46.1
3	88	25.5	72.5	41	22.8	68.9
4	56	16.2	88.7	33	18.3	87.2
5	22	6.4	95.1	16	8.9	96.1
6	13	3.8	98.8	7	3.9	100
7	4	1.2	100	0	0	100
Total Cases	345	100		180		

Table 3.14 Number of Predisposing Factors Associated with a Hospital Admission

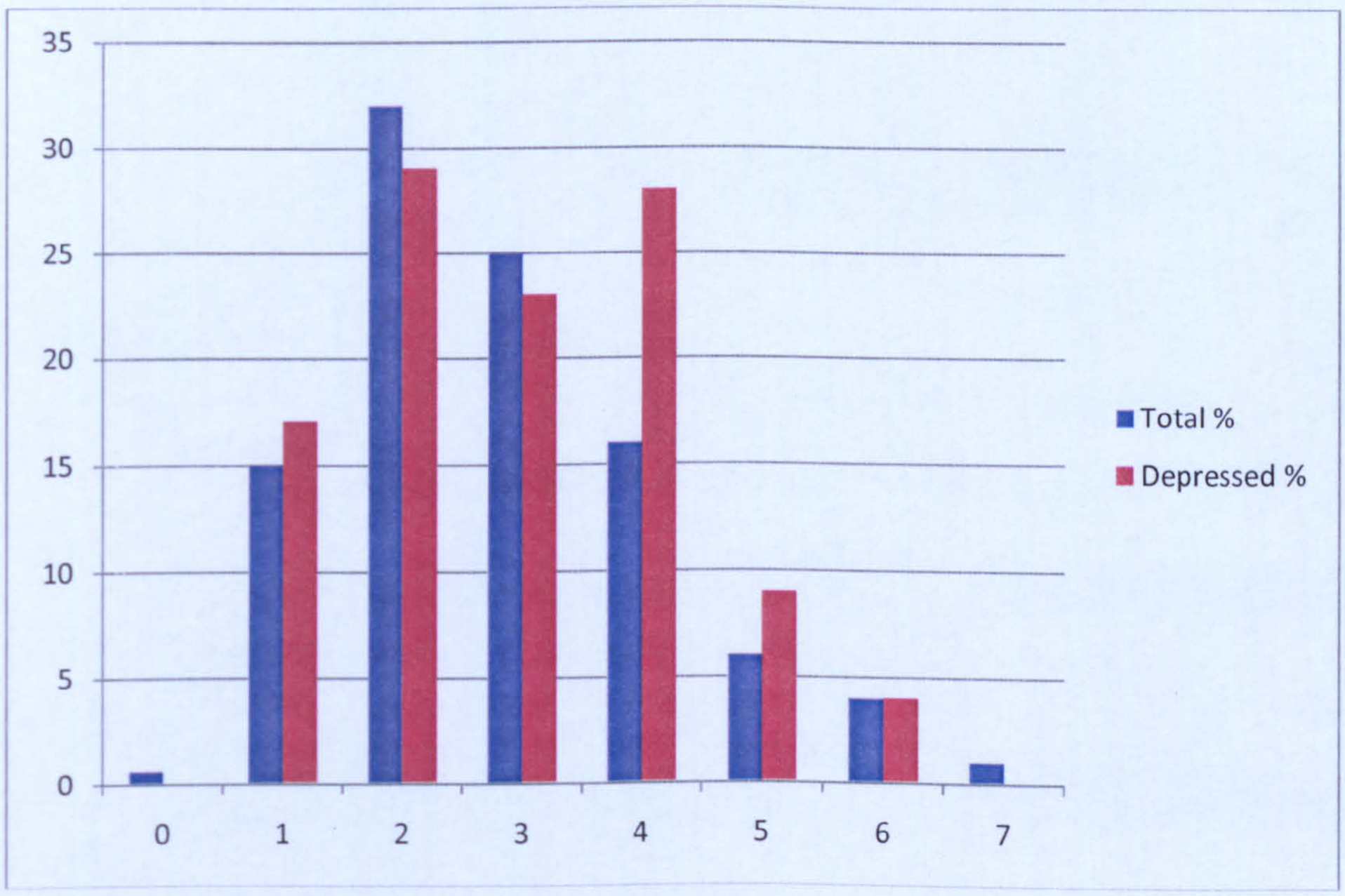

Chart 3.7 Number of Predisposing Factors Associated with a Hospital Admission

Situational stressors related to relationship problems, family difficulties and occupational issues were the most commonly reported factors resulting in a MH hospital admission. The most frequently reported factor, detailed in 44% of admissions was regarding relationship problems, followed by 42% with family difficulties and 40% with general military stresses (excluding operational and traumatic associated factors). Alcohol was a contributing feature in 26% of hospital admissions and 18% of those depressed. For those admitted with depression, the factor most frequently reported was 53% with relationship problems, followed by 46% with family difficulties and 43% with occupational issues. Twenty one percent were admitted due to childhood problems and 20% were admitted due to wanting to leave the Army. Isolation was a factor in 8% of depression admissions. See Table 3.15 and Chart 3.8.

Factor	Reply	Total	Overall %	Depressed Total	Depressed Total	Depressed %
Relationship Problems	342	155	44.4	179	94	52.5
Family Stresses	343	145	41.5	180	82	45.5
Other Military Stresses	343	138	39.5	180	78	43.3
Alcohol	344	89	25.5	179	32	17.9
Childhood Factors	342	66	18.9	179	37	20.7
Wants to Leave the Army	342	58	16.6	179	35	19.5
Unresolved Trauma	342	53	15.2	179	29	16.2
Operational Factors	342	51	14.6	179	15	8.4
Past Family History	326	43	12.3	170	21	12.3
Physical Problems	332	41	11.7	171	19	11.1
Legal problems	331	36	10.3	173	17	9.8
Financial Problems	342	29	8.3	179	14	7.8
Isolated	332	18	5.2	171	13	7.6
Substance Abuse	327	12	3.4	171	5	2.9
Cultural Problems	342	10	2.9	179	5	2.8
Not Known	346	7	2	180	1	0.5
Other	349	2	0.6			

Table 3.15 Contributing Factors Leading to a Hospital Admissions in Order of Prevalence: Total and Depression Only

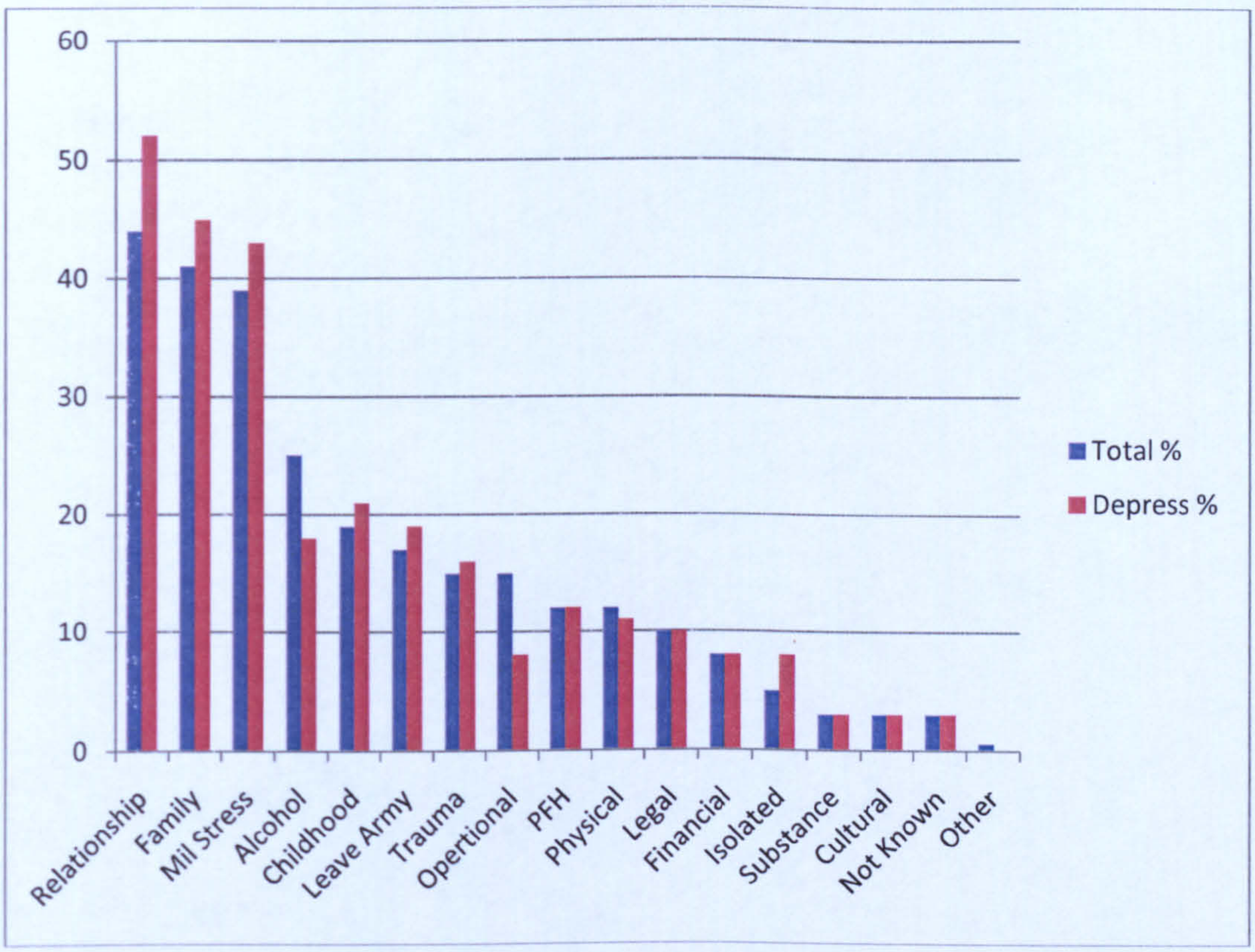

Chart 3.8 Factors Leading to Hospital Admission: Total and Depression Only

Correlation Between Predisposing Factors

Multi-variant inferential statistical examination utilising a chi square test were applied to the data. Analysis of all admissions indicated significant associations between those experiencing family problems with relationship problems ($P<.001$), physical disorders ($P<.001$) and childhood issues ($P<.005$). Other significant correlations linked operational factors with unresolved trauma ($P<.001$) and alcohol ($P<.001$). Also relationship problems with unresolved trauma ($P<.001$) and involving childhood problems with PFH ($P<.001$). Poor correlation was identified between wanting to leave the army and unresolved trauma and also wanting to leave the army and being isolated.

For depressive admissions, significant links were also noted between operational factors and unresolved trauma (P<.001). Also a correlation between relationship problems with family stresses (P<.001) and unresolved trauma (P<.003). Further links were noted between childhood issues with family stresses (P<.002) and problems associated with a PFH of MH problems (P<.001).

Poor correlation was identified with:

a. Alcohol was a standalone issue, and poorly correlated with other military stresses, relationship problems and wanting to leave the Army.
b. Wanting to leave the Army with other military stresses.
c. Operational problems and childhood issues.
d. Childhood factors with other military stresses.
e. Isolated and financial problems.

Gender

Three hundred and forty nine patients were admitted to hospital of which 81.9% (N=286) were male and 18.1% (N=63) female. Of the 181 admitted with a diagnosis of depression, 81.8% (N=148) were male and 18.2% (N=33) female. See Chart 3.9.

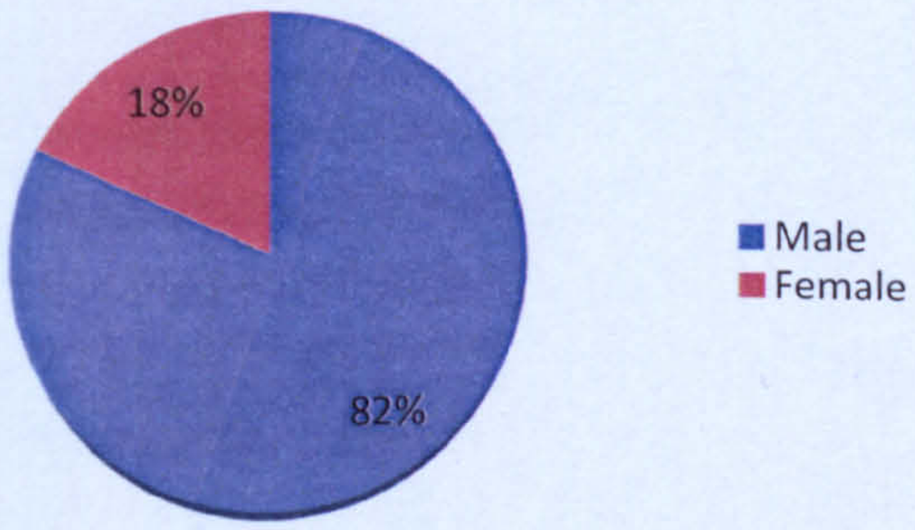

Chart 3.9 MH Hospital Admissions: Gender of Sample in Predisposing Factors Study

Univariate gender results for the predisposing factors leading to a hospital admission for depression are displayed in Table 3.16 and Chart 3.10. Due to the non parametric division of the sample, Table 3.16 provides detail on the total affected; that number as a percentage of admissions and then the percentage within the gender group. Chart 3.11 provides a 100% stacked column chart comparing the percentage that males and females contributed to a total across the predisposing factors categories.

Factor	Reply	Present	Overall %	Total Male	Total %	% male	Total Female	Total %	% female	P value
				Males - 148			Females - 33			
Relationship Problems	179	94	52.5	75	80	51	19	20	58	.327
Family Stresses	180	82	45.5	66	80	45	16	20	49	.404
Other Military Stresses	180	78	43.3	64	82	43	14	18	42	.566
Childhood Factors	179	37	20.7	26	70	18	11	30	33	.056
Wants to Leave the Army	179	35	19.5	32	91	22	3	9	9	.103
Alcohol	179	32	17.9	26	81	18	6	19	18	.528
Unresolved Trauma	179	29	16.2	22	76	15	7	24	21	.258
Past Family History	170	21	12.3	16	76	11	5	24	15	.323
Physical Problems	171	19	11.1	15	79	10	4	21	12	.455
Legal problems	173	17	9.8	15	88	10	2	12	6	.328
Operational Factors	179	15	8.4	14	93	9	1	7	3	.219
Financial Problems	179	14	7.8	11	79	7	3	21	9	.474
Isolated	171	13	7.6	11	85	7	2	15	6	.577
Substance Abuse	171	5	2.9	5			0			
Cultural Problems	179	5	2.8	5			0			
Not Known	180	1	0.5	1			0			

Shaded areas to small for worthwhile analysis.

Table 3.16 Predisposing Factors Leading to Depression Hospital Admission: Gender Details

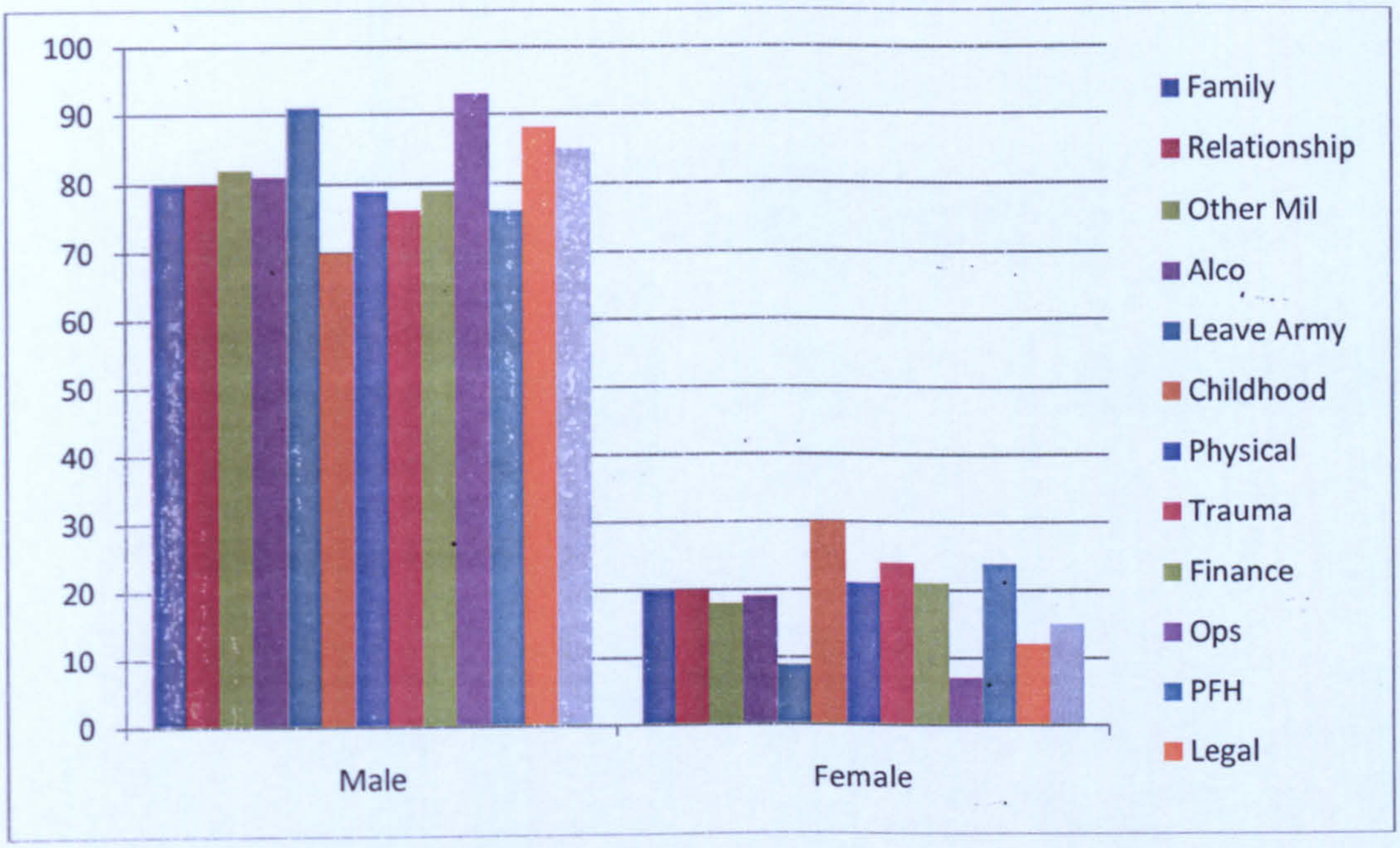

Chart 3.10 Total Predisposing Factors Leading to Admissions by Gender

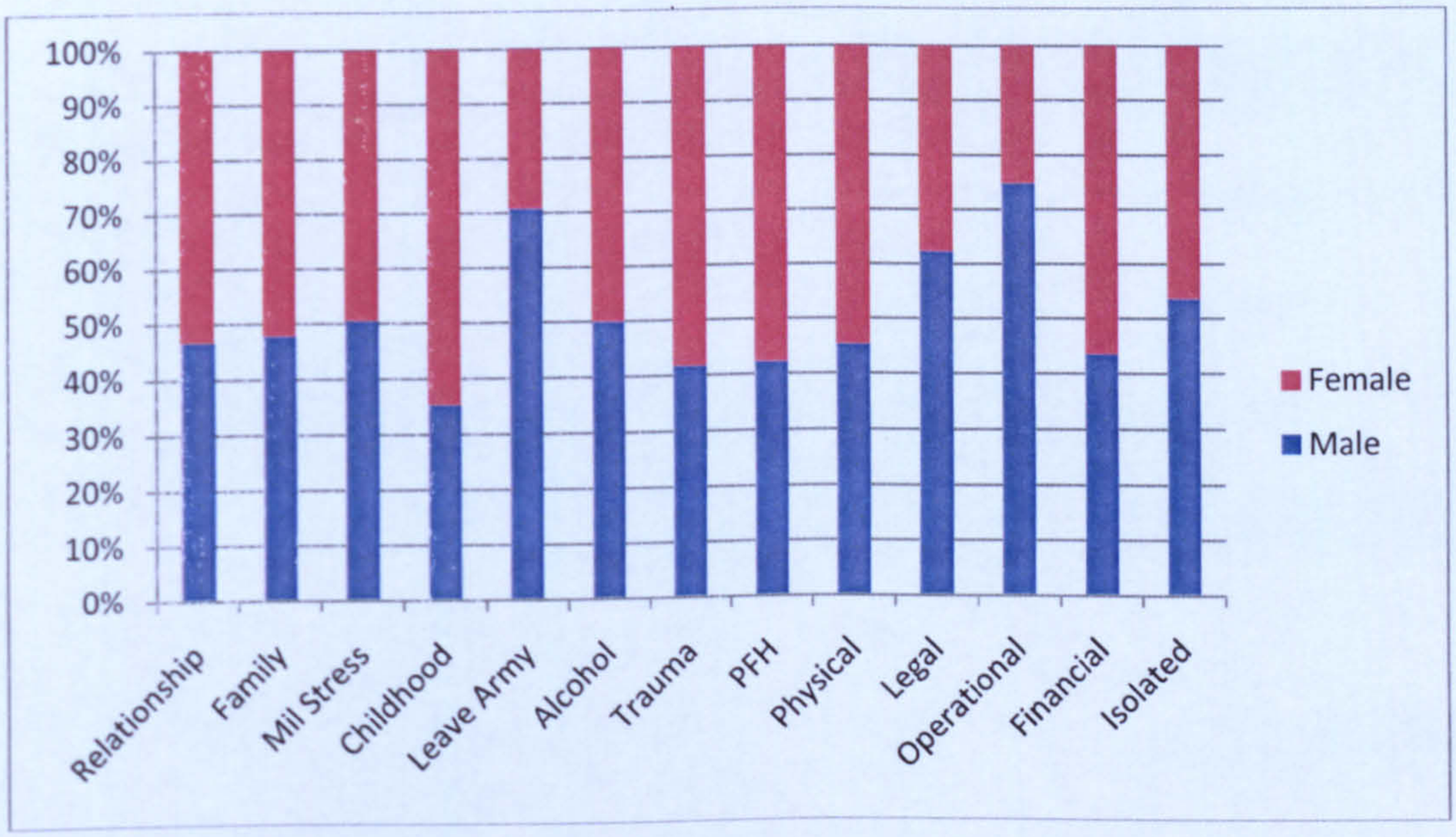

Chart 3.11 100% Stacked Column Chart Comparing the Percentage that Gender Contributes to a Total Across the Predisposing Factors Categories

Age

Patient's ages ranged from 17 to 52 years old, with a mean of 29, and a SD of 7.762. The age groups were divided into 4 yearly groups, i.e. 18 to 21, 22 to 25 years old. Frequency details are presented in Table 3.17, univariate analysis in Table 3.18 and Chart 3.12 indicates the percentage that age groups contributed to a total across the predisposing factors categories.

Ser	Age	Number	Percent
1	<18	1	0.6
2	18-21	38	21
3	22-25	31	17.1
4	26-29	37	20.4
5	30-33	21	11.6
6	34-37	28	15.5
7	38-41	16	8.8
8	42-45	4	2.2
9	46-49	4	2.2
10	50 and above.	1	0.6
11	Total	181	100

Table 3.17 Predisposing Factors: Depressive Admissions: Patients Ages

Factor	Total	Factor Present	Overall %	< 18	18-21	22-25	26-29	30-33	34-37	38-41	42-45	46-49	50 >
Relationship Problems	179	94	52.5	1	16 (42%)	19 (61%)	17 (46%)	13 (62%)	11 (39%)	11 (69%)	2	3	1
Family Stresses	180	82	45.5	1	13 (34%)	18 (58%)	17 (46%)	10 (48%)	11 (39%)	8 (50%)	1	2	1
Other Military Stresses	180	78	43.3	0	18 (47%)	17 (55%)	15 (40%)	8 (38%)	10 (36%)	7 (44%)	2	0	1
Childhood Factors	179	37	20.7	0	8 (21%)	8 (26%)	10 (27%)	3 (12%)	6 (21%)	1 (6%)	0	1	0
Wants to Leave the Army	179	35	19.5	0	14 (37%)	9 (29%)	6 (16%)	2 (9%)	2 (7%)	2 (12%)	0	0	0
Alcohol	179	32	17.9	0	4 (10%)	5 (16%)	10 (27%)	5 (24%)	2 (7%)	3 (19%)	1	2	0
Unresolved Trauma	179	29	16.2	0	4 (10%)	2 (6%)	10 (27%)	6 (29%)	4 (14%)	2 (12%)	0	1	0
Past Family History	170	21	12.3	0	4 (10%)	6 (19%)	5 (13%)	3 (14%)	3 (11%)	0	0	0	0
Physical Problems	171	19	11.1	0	3 (8%)	4 (13%)	3 (8%)	2 (9%)	4 (14%)	2 (12%)	0	1	0
Legal problems	173	17	9.8	0	8 (21%)	1 (3%)	2 (5%)	0	4 (14%)	2 (12%)	0	0	0
Operational Factors	179	15	8.4	0	5 (13%)	1 (3%)	3 (8%)	3 (14%)	2 (7%)	1 (6%)	0	0	0
Financial Problems	179	14	7.8	0	4 (10%)	3 (10%)	2 (5%)	0	3 (11%)	1 (6%)	1	0	0
Isolated	171	13	7.6	1	5 (13%)	2 (6%)	1 (3%)	1 (5%)	0	2 (12%)	0	1	0
Substance Abuse	171	5	2.9										
Cultural Problems	179	5	2.8										
Not Known	180	1	0.5		Shaded Areas – Cohort Too Small for Analysis								

Table 3.18 Factors Leading to Hospital Admission: Age Distribution

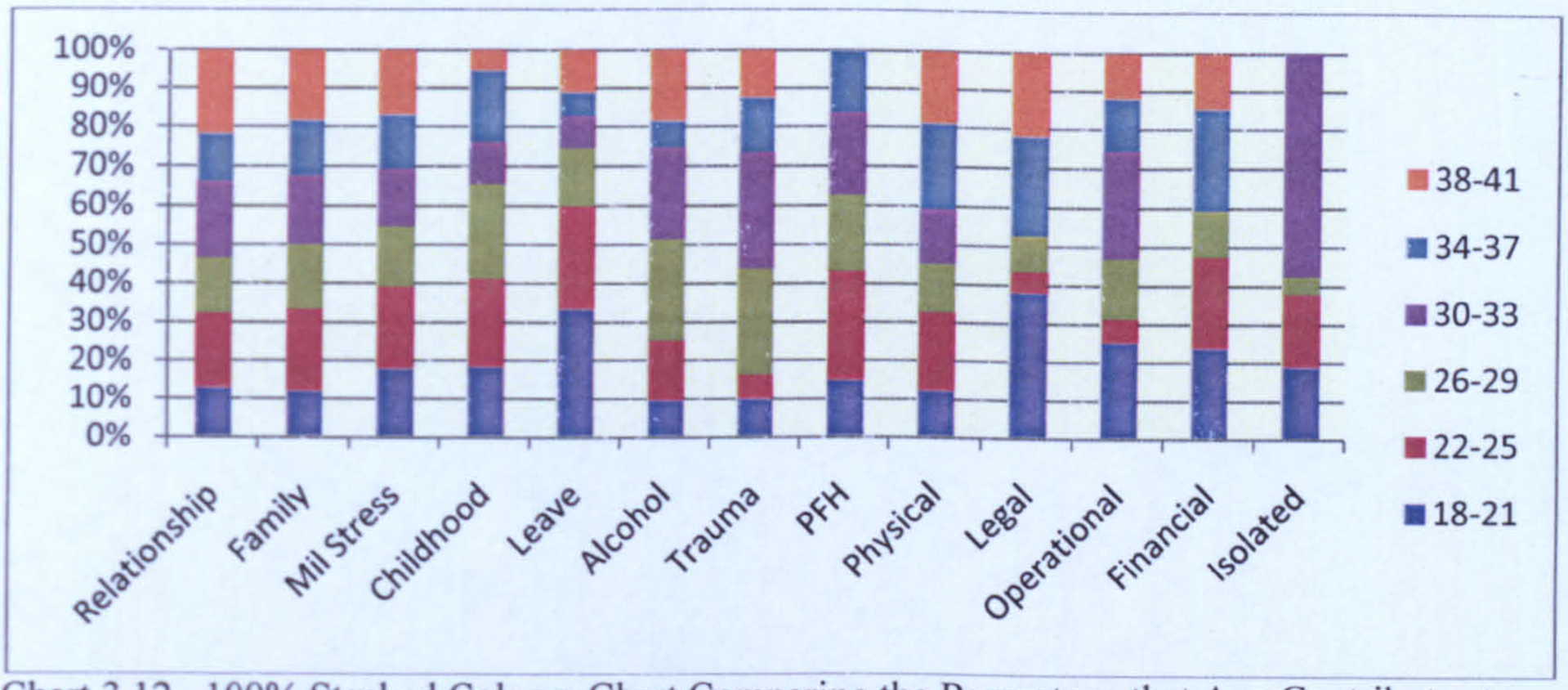

Chart 3.12 100% Stacked Column Chart Comparing the Percentage that Age Contributes to a Total Across the Predisposing Factors Categories

Rank

Of 349 admissions, 51% (N=177) were private soldiers, and 77% (N=267) were junior ranks. Of those depressed, 52% (N=94) were private soldiers, and 74% (N=134) junior ranks. Details are in Table 3.19 and Chart 3.13.

Rank	Total Admissions	Percent	Depression	Percent
Private	177	50.7	94	52
Lance Corporal	48	13.8	27	14.9
Corporal	42	12	13	7.2
Sergeant	31	8.9	18	9.9
Staff Sergeant	18	5.2	13	7.2
Warrant Officer	5	1.4	3	1.7
Lieutenant	3	0.9	2	1.1
Captain	11	3.2	4	2.2
Major	5	1.4	2	1.1
Lieutenant Colonel	4	1.1	3	1.7
NA	4	1.1	2	1.1
Recruit	1	0.3	0	0
Total	349	100	181	100

Table 3.19 Factors Leading to All and Depression Hospital Admissions: Rank Distribution

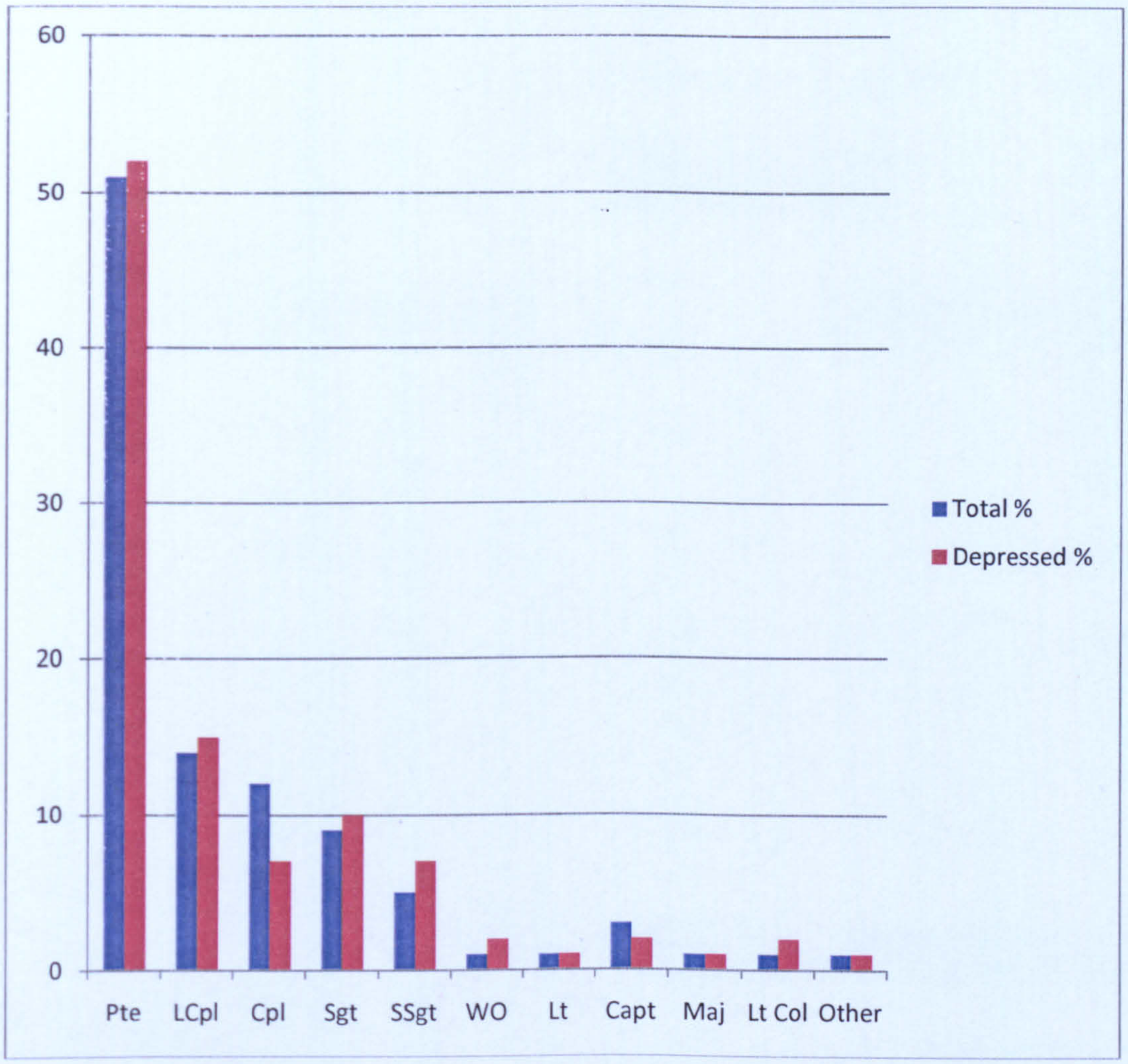

Chart 3.13 Factors Leading to All & Depression Hospital Admissions: Rank Distribution

Of the 181 patients who were admitted with depression, a significant amount were predominately junior Service personnel. 52% (N=94) were privates, 22% (N=40) were Lance Corporals and Corporals; 19% (N=34) were Sergeants to Warrant Officers and 6% (N=11) were Officers. Civilians made up 0.2% (N=2). Details are in Table 3.20 and Chart 3.14 which is a 100% stacked column chart comparing the percentage that differing ranks contributed to a total across the predisposing factors categories.

	Total	Presen	Overal %	Total	%	Total	%	Total	%	Total	%	Other
Factor				Privates = 94		L Cpl / Cpl = 40		Sgt to WO = 34		Officers = 11		Other = 2
Relationship Problems	179	94	52.5	47	50	18	45	20	59	8	73	1
Family Stresses	180	82	45.5	42	45	21	52	12	35	5	45	2
Other Military Stresses	180	78	43.3	44	47	13	32	18	53	3	27	0
Childhood Factors	179	37	20.7	21	22	8	20	6	18	0	0	2
Wants to Leave the Army	179	35	19.5	23	24	9	22	3	9	0	0	0
Alcohol	179	32	17.9	18	19	9	22	4	12	1	9	0
Unresolved Trauma	179	29	16.2	13	14	8	20	6	18	2	18	0
PFH	170	21	12.3	11	12	5	12	3	9	2	18	0
Physical Issues	171	19	11.1	7	7	4	10	6	18	2	18	0
Legal problems	173	17	9.8	11	12	4	10	1	3	1	9	0
Operational Factors	179	15	8.4	8	8	3	7	4	12	0	0	0
Financial Problems	179	14	7.8	7	7	3	7	2	6	2	18	0
Isolated	171	13	7.6	8	8	2	5	1	3	2	18	0
Substance Abuse	171	5	2.9	2		3		0		0		0
Cultural Issues	179	5	2.8	2		1		1		1		0
Not Known	180	1	0.5	Shaded. Sample too small for worthwhile analysis.								

Table 3.20 Predisposing Factors Leading to Depression Hospital Admission: Rank Details

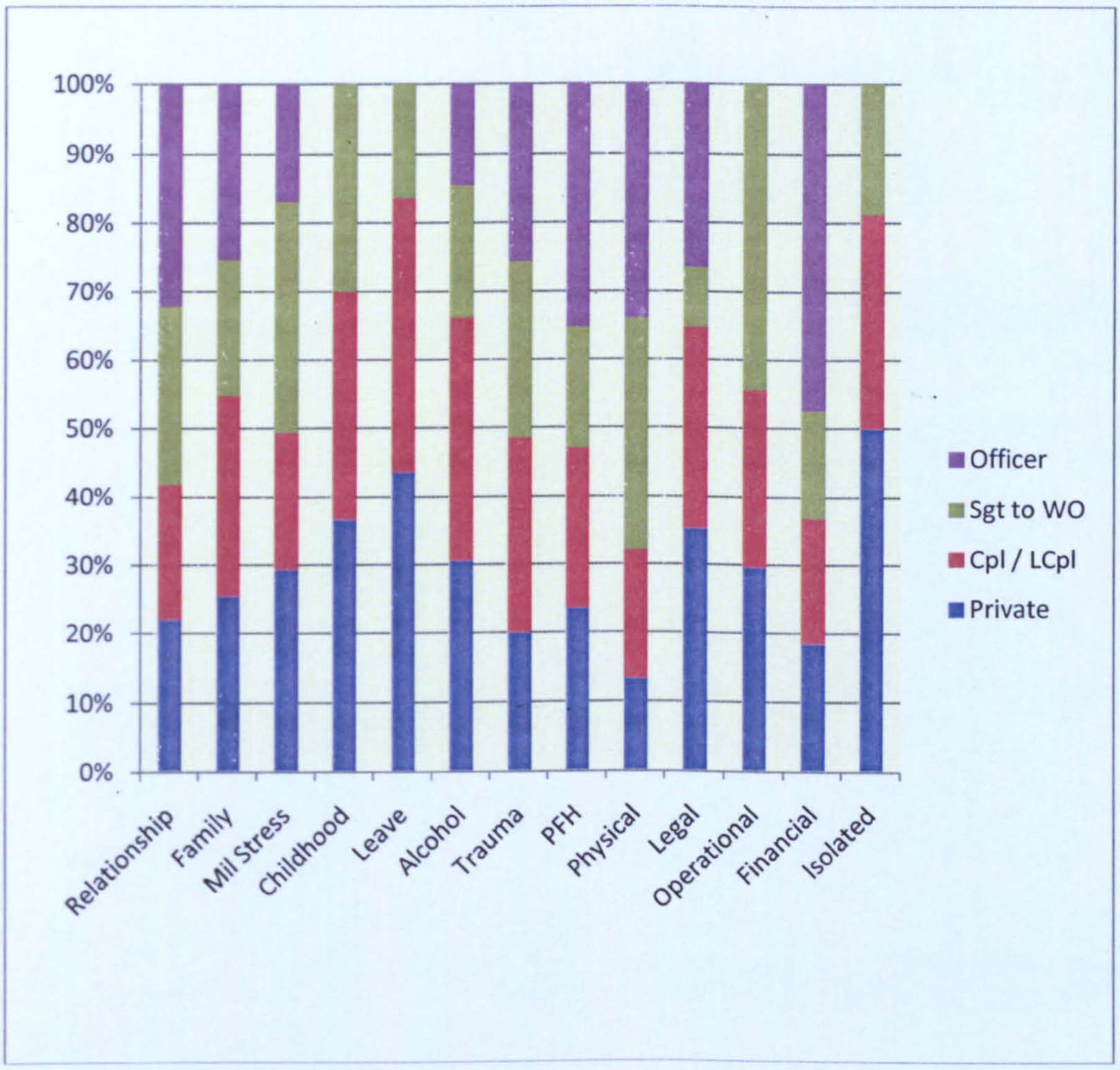

Chart 3.14 Hospital Admissions: 100% Stacked Column Chart Comparing the Percentage that Rank Contributed to a Total Across the Predisposing Factors Categories

Written Comments - Additional Information

From 349 questionnaires, the SLOs provided further information on the predisposing factors leading to the hospital admissions on 22 % (N=78) of the forms. The detail was provided to give further background information, illuminate the reason for the admission or to highlight a factor not originally identified on the form. A selection of these replies is in Table 3.21.

No	Diagnosis	Factors	Elaborate
4	Depression	Relationship problems and childhood issues.	History of mental health problems since age 16.
21	Alcohol	Relationship problems.	Ethanol
37	OCD	Previous traumatic experiences and childhood issues.	Unresolved sexual abuse
23	Psychotic	Bereavement.	Non compliance with anti-psychotic medication due to religious beliefs. Death of father in xxxx, returned home on compassionate grounds.
108	Depression	Deliberate self harm.	Jumped from loft window. Fractured left wrist and left ankle.
113	Depression	Long standing mood disturbance.	Inadequately treated previously.
122	Psychotic	Past family history.	Alleged bullying in Phase 2. AWOL on and off 3 years - Family psych history but unknown diagnosis.
154	Anxiety & Depression	Others concerns " Unit and MO anxiety of self harm"	Told to go to hospital; there viewed as an inappropriate admission. APPROPRIATE ADMISSION
159	Alcohol	Legal.	Disciplinary pending possible discharge Services No Longer Required (SNLR).
113	Adjustment	Relationship problem.	Wife left him for another man whilst on operational tour. Now back from Iraq. Operationally linked but due to stressor back at home.
171	Psychosis	Bereavement.	Multitude of stressors including the recent death of mother.
183	Adjustment Disorder	Operational.	Soldier not eating / no appetite since returning from Op Telic three weeks ago.
221	Alcohol	Legal.	On warning order for discharge - to be actioned immediately.
232 `	Trauma Related Problems	Bereavement.	Lost mother whilst on OP TELIC
237	No Psychiatric Illness	Anger.	Anger issues only.
202	PTSD	and Alcohol.	Admission primarily for detox but has had previous unresolved issues from diagnosed PTSD. Was being treated by NHS whilst on sick leave
335	Depression	Relationship problems.	Pregnant Girlfriend

Table 3.21 Service Liaison Officer Additional Information Regarding Military Mental Health Hospital Admissions

DISCUSSION

Section 3 provided the findings indicating the biological, psychological, social, occupational and environmental predisposing factors that influenced the onset of a MH disorder that resulted in a hospital admission for the predominately young male population in this research study.

Predisposing Factors

Whilst the research aimed to identify the predisposing factors associated with depression in the Army, this section provided results from all 349 admissions with a focus on depressive admissions. The rationale being that comparing the results from all admissions with those from patients admitted with depression may indicate whether the predicative model produced within Chapter 8 was transferable to all admissions.

The number of predisposing factors for all admissions ranged from 0 to 7 with 85% of patients presenting with 2 or more stressors, and 32% reporting the mode number of 2. Factors associated with depressive admissions ranged from 0 to 6 with 83% having 2 or more factors and again the mode was 2, reported by 29%. Therefore hospital admissions were a result of multiple factors, and rarely the cause of just 1 stressor.

The most commonly reported predisposing factors leading to a MH hospital admissions were for relationship problems at 44%, followed by 42% with family issues and 40% experiencing general military stress. The same factors were also the leading causes for depressive admissions, although these had increased in frequency with 53% due to relationship problems, 46% with family issues and 43% with other military stressors. These factors were also the most common when correlated against rank and gender, although within the age group of 18 to 21 year olds a leading factor was the aspiration to leave the Army, being indicated in 37% of cases. Notable difference was found with alcohol misuse as a predisposing factor being related to 26% of all

admissions and 18% of depressive admissions and operational factors which affected 15% of all admissions and 8% of depressive admissions. The results for alcohol were expected, as the Armed Forces pro-active approach to alcohol misuse resulted in younger personnel being admitted to hospital for alcohol education and detoxification, and before alcohol dependency was fully formed and depressive co-morbidity created.

Multi-variant inferential statistical examination identified a number of significant correlations. For all admissions, family problems had the greatest number of significant associations with relationship problems, physical problems and childhood problems. Operational factors were also strongly associated with unresolved trauma and alcohol abuse. Those who wanted to leave the Army were not associated with any other factor, although this aspect demonstrated a poor correlation with being isolated. For depressive admissions the statistically significant correlation was noted between unresolved trauma and operational factors. Other notable links were between relationship problems, family stresses and unresolved trauma and also with childhood issues, family stresses and PFH of mental disorder. Reasons for these links will be discussed under emerging themes.

EMERGING THEMES

Wanting to Leave the Army

Young Service personnel were restricted from the leaving the Armed Forces for up to 4 years due to their terms and condition of service, yet the impact that these restrictions had on these predominately young men has never been published. This study indicated that for 24% of private soldiers and 22% of junior non commissioned officers (JNCOs), wanting to leave the Armed Forces was a contributing factor leading to a hospital admission. This was further exemplified by the 37% of 18 to 21 years old and 29% of 22 to 25 years old listing wanting to leave the Armed Forces as a contributing factor.

However, there was likely to be significant differences between the young private soldiers and the older JNCOs. Younger personnel were generally new to the Armed Forces, and if they had failed to take the option of leaving during a small window of opportunity during basic training, then they were locked in for up to 4 years, which could seem like an eternity. There were other stressors notable in this younger age group, such as the 21% who reported legal problems. There was however poor correlation between young soldiers wanting to leave the Army and those who reported being isolated, suggesting that this group had other personnel to support then, even if this was a sub group of disgruntled personnel who sustained each other, and stigma may not have been a major issue.

From a civilian MH perspective, wanting to leave ones employment has not been noted as a factor leading to a MH hospital admission. Therefore, whilst many civilians may dislike their job, they were retained by other incentives such as status or financial rewards; but no other employers expected a disgruntled workforce to remain in that occupation for up to 4 years. For many of these young soldiers, identifying an alternative coping mechanism may not be an option, with a perception that leaving the Army might be the only answer, although it was not within the remit of the MMH Services to resolve, for unless their case had been processed though administrative action such as being judged temperamentally unsuitable for future service, then these disaffected soldiers would have a prolonged period until they exit the Armed Forces. However, even after accessing military PHC and / or a DCMHs, 17% of these soldiers still required a hospital admission, indicating that their distress is significant, and suggesting that the number being treated in the community, and placing a burden on the DMS MH teams, was even higher.

If the terms and conditions of service were changed, then this liability on the DCMHs would be reduced, but this resolution was less likely to be successful in positively influencing the outcome for the high level of admissions aged 22 to 25 years old that also reported wanting to leave the Army as a factor, but did not face a prolonged time restricted. This older group had demonstrated that they can function well within the

Armed Forces and had acquired defined military skill sets. They had impressed their chain of command and received good annual reports and had been rewarded through promotion. However, they were still required to give 12 months notice which was still restrictive in obtaining a civilian job, and they may have been beginning to face a whole host of stressors. Issues associated with PFH of MH problems were also highest in this age group and may have indicated that those from dysfunctional families could do well in the Services, and past problems only become an issue once the pressures had become significant. There were likely to be occupational challenges and stressors, such as completing a first operational deployment, whilst promotion brought additional responsibilities. They were often young parents in a defined relationship and had to deal with many demands. It might be the impact of any 1 of these stressors, or a combination of factors, but the soldier wanted to leave although the rewards such as finance, housing and family commitments made the decision making process much harder.

Relationship Problems, Family Issues and Military Stresses

The 3 groups of relationship problems, family issues and occupational (not operational which are assessed below) stresses were consistently reported as predisposing factors leading to a hospital admission, irrespective of rank, age and gender.

Occupational stressors were issues such as separation, changes of accommodation and long working hours that were exacerbated by manpower shortages; factors that clearly had a significant impact on the Sergeants and Warrant Officers admitted for depression, where 53% reported military stresses as a contributing factor. Indicators as to why this rank group were so affected could be illuminated by exploring associations with age, which showed 55% of those aged 22 to 25 years old reporting military stressors as a factor, and this then reduced to 40% or less for those aged 26 to 37 years old. These results amplified the theoretical concept evolving from the analysis of the private soldiers and JNCOs who listed wanting to leave the Armed Forces as a factor. The Armed Forces rewards those who do well, often with promotion but this brings

additional pressures, and these results indicated that it may be these young Sergeants, promoted relatively early in their career who struggled most.

Another occupational stressor related to personality clashes, which were exacerbated by a deference to rank within the military hierarchal structure. Service personnel will meet a host of excellent senior staff who care for their troops and provide grass roots security and friendship that can dissipate MH problems before they manifest themselves. However, poor leadership, excessive workload, and micro management, all of which were well recognised for their negative impact in reducing mood and increasing anxiety (Handy, 1993), could also affect performance in any walk of life. MH clinicians' encountered distressed Service personnel who had / recall a line manager who fitted this model but felt disempowered within an Armed Forces system of rank and annual reporting that may make detection of these shortfalls difficult. Where they existed the result could be an unhappy sailor, soldier or airman / airwoman who may wish to leave the Services (if terms and conditions permit), or face the long wait for either his line manager of him / herself to be posted. The Armed Forces had robust Equality and Diversity (ED) Policy and has utilised anonymous staff surveys that encouraged personnel to air their views, without fear of reprisal or disciplinary action, and this was one of many tools to identify such issues. However, these surveys tended to be at an assessment at a strategic level, and fear of damaging a career had a reduced effect in airing problems at grass roots level. Local surveys and independent sensitivity meetings may improve matters, and whilst acknowledging the significant leadership training that is provided for troops at all levels, greater utilisation of methods used in civilian organisational management, such as the 360 degree assessments (Collinson, 2006; Hernez-Broome & Hughes, 2005) could provide managers with insight into the impact of their management style, promote self awareness, and address some unit MH issues before they commence.

These stressors would tax many relationships, and was a significant burden for young couples who might also have been new parents. In addition, a spouse's employment opportunities were reduced through her / his partner's absences on duty and regular

postings, which were often overseas. The impact on children could also be significant, often living a nomadic lifestyle in different schools and without defined civilian social links. If the parents came from dysfunctional backgrounds or were not compatible, then the likelihood of problems was high, and may be the reason why relationships issues were cited in 52% of depressive admissions and why 52% of Lance Corporals to Corporals and 58% of the 22 to 25 year olds reported family issues. However, relationship problems in particular were frequently experienced in all sub groups, and in particular with 59% of Sergeants to Warrant Officers and 73% of Officers. These groups were probably in longer, more mature relationships, but might be nearing the end of their career. Examining univariate results to determine a link with family issues was not particularly helpful, as the results indicated 3 peaks at 61% of 22 to 25 year olds, 62% of 30 to 33 and 69% of those aged 38 to 41, and the reason was unclear.

The results were suggesting fundamental differences in the causes of depression. The first were the young soldiers whose outstanding predisposing factor was a desire to exit the Army. The second group were those in their mid to late 20s who have been promoted and faced a host of occupational, situational and environmental pressures. The third group were older personnel with the classic clinical presentation of depression.

Gender

There were differences in the presentation of men and women that need to be discussed. Of those admitted to hospital, 18% were females compared with the tri-Service manning which was 10%. Although there were no statistically significant results which differentiated predisposing factors by gender there were some factors that notably effected women more, in particular the 58% reporting relationship problems and the 33% reporting unresolved childhood issues. Women were also less likely to want to leave the Army and cited fewer legal problems.

Twenty one percent of females reported unresolved trauma compared with 15% of males, and as female soldiers were not allowed to join infantry battalions this suggested that a significant proportion of this group were referring to unresolved civilian trauma. Therefore, why disproportionally higher numbers of women were admitted to hospital was a matter of speculation, and reflected an emerging theme that had not been clearly defined within the military population. The qualitative interviews in Chapter 7 would address issues examining females' help seeking behaviour and whether women found it easier to disclose personal issues, or were less affected by stigma.

Operational Factors and Unresolved Trauma

The impact of serving on operational tours has important implications for this study, as a theoretical model must recognise the contextual effect of serving in conflict compared with peacetime. There has been significant national and media interest in the impact of deploying in hostile environments and the resulting potentially negative effects on the MH of Service-personnel. This interest must be acknowledged as social views can concentrate governmental and MOD financial focus onto high profile issues to the detriment of other conditions.

MH hospital admissions due to operational related factors were most prevalent in the Sergeant to Warrant Officers and those aged 30-33 years old. This group were likely to have deployed on several occasions and face significant pressures, including the shock of seeing colleagues or personnel under their command injured or killed. This hypothesis would have been enhanced if the author could reference the cited operational factor to a direct hostile contact situation but this information was not collected.

The influence of unresolved trauma was most notable in the Lance Corporal / Corporal age group at 20%, and closely followed by 18% of Sergeants to Warrant Officers and in 28% of those admitted who were aged 26 to 33 years old. Also, the association

between operational factors and unresolved trauma was statistically significant and correlated in all age groups, and it would appear that in certain age groups such as those aged 22 to 25 years old, that there were multi-factorial associations of intertwining operational and non operational stressors. The exact nature of the traumatic incident was not collected, and the unresolved trauma identified in this study might be a reference to events such as road traffic accidents or assault. However, whether the incident resulted from involvement in a hostile operational event or not, the effect on the individual was likely to be extremely distressing. Interestingly, irrespective of the origins of the stressor, should the patient develop PTSD, the treatment protocols were the same (NICE, 2005), although community based treatments were advocated and were highly effective. SEA reports provided some insight into why patients were not treated in the community, such as highlighting a patient who could not be supported within a DCMH due to lack of appropriate skills in that department: "*Admitted on multiple of occasions for EMDR.*"

Alcohol Abuse

Alcohol misuse was highest in the Lance Corporal to Corporal rank group, accounting for 22% of admissions and those aged 26-29 years old at 27%. Alcohol dependency tends to develop over many years and the mean age within this study of 31 years old would appear relatively young, although there were no other similar populations being admitted to hospital to compare against. There was information indicating that the burden of alcohol related disorders on health was increasing, and hospital admissions for alcohol had doubled, although these figures were almost exclusively related to the physical implications of alcohol and no mean ages were provided (Institute of Alcohol Studies, 2009). What was clear was that this younger military population should have been offered early support due to the Armed Forces proactive approach to dealing with alcohol abuse. The MOD provided a robust and accessible service to alcohol abusers; offering detoxification and education programmes to personnel much quicker than would be witnessed in other occupations or civilian healthcare practice (London Drug & Alcohol Network, 2005; Alcohol Concern Report, 2008). There was the potential

that older groups may drink in secret as a hidden activity, fearing the occupational implications of disclosure. These possibilities, along with other issues raised will be explored further in the forthcoming chapters.

The key findings from this section, together with identification of study limitations, will now be combined with the key findings from sections 1 and 2 in the concluding part of this aspect of the thesis.

CONCLUSION

The following pages will outline the key findings, the limitations, and conclude this chapter.

Key Findings

Full cohort of 1,030 MMH hospital admissions.

- The most common cause for a hospital admission was depressive illness, followed by alcohol misuse and adjustment disorders. PTSD resulted in 5% of admissions. The rate of admission for depression had increased from 12% to the last MMH hospital to 38% in this study.
- Females were more likely to be admitted to hospital for a MH disorder, and more prone to being diagnosed with depression and stress reactions. There has been a marked increase from the 6.5% of females admitted to the last MMH hospital to the 16% in this study. Males were admitted in disproportionally high levels for alcohol misuse.
- The average age of admissions was 29 years old, and 50% were private soldiers.
- On 95% of occasions, a hospital bed was identified within 4 hours. 70% of patients were discharged within 1 month, and the average duration of stay in hospital for all patients was 29 days and for depression 32 days. This reflected a highly responsive service, offering brief assessment and treatment within a safe environment.
- 60% of admissions were by MMH psychiatrists, and 25% from MOD GPs. There were significant differences in the rates of referrals from differing DCMHs, suggesting that military psychiatrists applied different management and treatment protocols.
- DSH were related to 1% of admissions, and only 1 in 5 of all depressive admissions was classified as either low or no risk. These figures appeared to

contradict NICE guidelines for the assessment and management of depressive illness in PHC.

Sample of 349 MMH hospital admissions where predisposing factors were monitored:

- The number of predisposing factors leading to a hospital admission ranged from 0 to 7, with 82% of depressed patients reporting 2 or more factors.
- Relationship problems, family stresses and occupational (not operational or trauma related) military stresses were the main factors leading to a hospital admission, irrespective of rank, age and gender. Alcohol was a contributing feature in 26% of hospital admissions and 18% of those depressed.
- In 37% of cases, young adults aged from 18 to 21 reported wanting to leave the Army as a factor, yet there was a poor correlation with being isolated. Females were less likely to want to leave.
- There appeared to be 3 groups prone to depression, young soldiers who wanted to leave the Armed Forces, those mid to late 20s who faced a host of occupational, situational and environmental pressures. The third group were the older personnel presenting with a classic clinical presentation.
- Operational factors were most commonly reported by 12% of the Sergeant to Warrant Officer group, and 14% of those aged 30-33 years.

Study Limitations

- The research sample were drawn from all 3 branches of the Armed Forces, and whilst these Service personnel faced many of the same pressures, there would have been notable inter-Service differences such as length of tours and frequency of operational deployments.
- The original data collection was not aimed at collecting research information, and omitted key demographic data such as age.

- The validity and calibre of the details within this study was reliant on the quality and accuracy of the SLO reports. However, the returns were generally of a very high standard, and the high percentage of reports containing the optional additional significant events information suggested that the SLOs were diligent in providing the correct data.
- Many diagnoses were very small in number, and only 6 criteria's had more than 20 admissions.
- The validity of the results for female admissions was diluted by the small sample size. There were similar issues with age and rank. For example, in the exploration of the predisposing factors, there were only 4 respondents who were aged 42 to 45 years old and there were only 11 Officers.

Closing Comments

The occupational importance in intensely monitoring hospital admissions should not be diluted, as this information was the backbone to producing a dynamic medium, where problematic trends were identified quickly. This information made it possible to identify differences in DCMH admission rates, which provided these units with an opportunity to compare and contrast variations in protocols, interventions and approachs, resulting in improved induction programmes and educational support to both MH and PHC clinicians. In addition, PIs demonstrated that access to hospital was of a gold standard, providing a MMH service that was significantly better than that available within the UK as a whole. This information is also crucial in meeting the aims of this study, for a predictive model which is not surrounded by a comprehensive and effective MH service is of little value.

The SLO significant event monitoring of risk assessment led to the recognition that 20% of depressive admissions presented with either low or no self harm risk, contrary to NICE (2004) guidelines which recommended community care. Such information led to a number of policy changes including better interface with the NHS and improved patient care.

The recognition of the impact that depression has on the operational capability of the British Armed Forces provided substance to a significantly under researched area, and together with the identification of the developing themes that have emerged since the closure of the last of MOD MH hospital has presented visibility of areas for improvement and for targeting resources. The results have also demonstrated that female Service personnel were more likely to be admitted to hospital for a MH disorder, and more prone to being diagnosed with depression and stress reactions. Male Service personnel were admitted in disproportionally high levels for alcohol misuse; information that will hopefully promote further research into these areas.

There was scant data regarding the predisposing factors leading to depression and this study has provided a clear hierarchy of stressors led by relationship problems, family stresses and occupational (not operational or trauma related) pressures. An emerging theme not previously quantified in any peer review publication identified the young soldier who wished to leave the Army but could not due to contractual restrictions. Improving the lot of an unhappy soldier, whilst simultaneous promoting further community based care is reliant on addressing the significant factor of MMH stigma and requires the commitment of military managers.

The Army needs to provide an effective MH service that is accessible, readily available and within a culture that tackles stigma and positively advocates a duty of care. The results from this study highlight the importance of this research with the exploration and critical analysis of relevant predisposing factors with the aim of producing a theoretical model to support local unit interventions. By identifying the most prominent causes, the Armed forces may be in a better position to maximise the use of resources in supporting depression, preferably before the soldier's problems are exacerbated to the extent that an assessment is required. The information will also support the definition of an empirical basis for identifying those most at risk and the underlying problems that lead to their depression. This data coupled with the

questionnaires demographic information has provided a valuable baseline by detailing the predisposing factors and individual profiles that resulted in hospital admissions.

The key areas and questions from this section will be discussed in depth within the taped interviews which comprises the last section of this dissertation with the findings revealed in Chapter 8.

Chapter 4

Survey Two

The Soldiers' View

A Satisfaction Survey and Recognition of the Predisposing Factors and Associated Symptoms Leading to a Mental Health Assessment

INTRODUCTION

The second survey in this study aimed to collect credible responses from soldiers in order to meet the research objectives of recognising trends and risk factors to indicate if there were vulnerable groups who were more prone to depression, and determine whether aspects of military life, the support of the AMHS, operational stresses and stigma were significant contributing factor in affecting access to MH support. However, this information is of limited worth unless the Service provision facilitated fast and easy access to capable clinicians within a valued system. Therefore the survey also collected information regarding patient satisfaction, in order at an operational level to highlight good practice, identify areas for development, and provide the foundation for future survey and research.

The information within this section was obtained from 317 British soldiers who accessed 1 of the Army's 8 DCMHs, which were patient centred, occupational MH facilities, consisting of multi-professional clinical staff of psychiatrists, nurses and sessional support provided from psychologists and social workers (Busuttil, 2010).

Background

The military MH provision must generate a service that ensures personnel are fit for task and able to complete full operational duties, and determining the causative factors leading to depression should provide a number of operational benefits. However, the impact will be significantly diluted if there were measurable administrative problems such as lengthy waiting times and it was imperative that in addition to providing skilled clinical support, that there were PIs to demonstrate the military philosophy of proximity, immediacy and expectancy (O'Brien, 1994) was being achieved. These PIs monitored whether urgent MH referrals were assessed within 1 working day and routine referrals within 20 working days as directed within MOD policy. DCMHs also provided urgent support or advice during working hours and a national support line during other periods whilst the ISPs were contracted to identify an admission bed within 4 hours and all admissions were closely monitored. The results from Chapter 3 indicated that these PIs were achieved in over 95% of

occasions and testify to an exceptional service in relation to access. In addition, the Army had a strong CPPD pathway to ensure that MH personnel had the appropriate skill sets and competencies. Despite this, the MH services were frequently highlighted within the media, sometimes in a less than positive light (Colvile, 2006; Channel 4, 2006; Kay, 2006; Rayment, 2006; The Sun Newspaper (Editorial), 2006).

Satisfaction Surveys

The DOH's recognition of the importance of involving customers and measuring user satisfaction within the health services has been developing for a considerable time (DOH, 1983; DOH, 1991; DOH, 1997). Health providers have been directed to listen more closely and clearly to customer's views in planning and evaluating services (DOH, 1999) with the result being a proliferation in satisfaction surveys. However, although measuring satisfaction appeared a useful way of evaluating outcome and monitoring service quality there have been significant methodological shortfalls that limit the conclusions of many studies (Smith, 1999). Robson (1993) stated that the results were superficial, Wilkin et al (1992) that there was a lack of consensus of what satisfaction means, and Wiles (1996) that the results could provide a false positive picture, leading to inaction, and detracting from service development. Ambramowitz et al (1987) and Avis et al (1997) concluded that the results inevitably indicate high levels of gratification and Warner (2006) that satisfaction surveys were a waste of NHS resources. Issues of reliability and validity were significant factors and many studies have been one-off events (Backhouse & Brown, 2000) which make comparisons between or within services difficult. However, satisfaction surveys have been recorded as being a useful method from which to proactively improve patient care (Fitzpatrick, 1991; Backhouse & Brown, 2000) and there importance in evaluating MH services and supporting patient orientated research was well established (Stallard, 1996; Townend, 2000; Webb et al, 2000).

Despite the limitations, within this independent study where information was collected from a cohort spread over a considerable geographical area, a survey was a viable option by providing an appropriate framework for respondents to feedback on predisposing factors and

associated symptomatology whilst also providing patients with active participation in the care planning process (Silverman, 2005). Of note, despite an extensive literature search, the author did not find any previous MMH satisfaction survey results where the British Army provided the sample and there have been no previous studies where soldiers have used this format to annotate the predisposing factors and associated symptomatology leading to their MH assessment.

AIM

The aim of the survey was to critically analyse soldiers' views of the support they received from the AMHS, and the predisposing factors and symptomatology that led to their MH assessment.

The objectives were to identify:

a. The level of patient satisfaction.

b. Good practice and ascertain areas for development.

c. Trends and risk factors including gender, age and rank and indicate if there were vulnerable groups who were more prone to depression. This would lead to defining the predisposing factors and symptoms associated with depression in the Army.

d. Whether aspects of military life, the support of the AMHS, operational stresses and stigma were significant contributing factor in affecting access to MH services.

METHOD

The research cohort were a convenience sample who completed a survey after their final MH appointment with the intention of obtaining 40 questionnaires from each of the 8

DCMHs, giving a total of 320. Due to the extensive geographical dispersion of serving personnel, an anonymous and confidential survey was used to obtain voluntary responses, as questionnaires provide a useful data-collecting tool for gauging satisfaction, moods, beliefs and attitudes (Oppenheim, 1992; Czaja & Blair, 2005). The survey template was designed following consultation with clinical and non-clinical staff, service users and following published guidelines (Bisset & Chessan, 2000; Collins, 1999), and a pilot study was completed by 6 colleagues (2 clinical and 4 non-clinical) and indicated that the survey took between 6 to 10 minutes to complete, and highlighted a number of discrepancies including advise to minimise "*clinical speak*".

The survey template contained Likert scale questions where respondents indicated satisfaction against a number of variables, and included a list of commonly acknowledged predisposing factors and associated symptoms that respondents marked if related to their requirement for a MH assessment, and there was space available for free text to either amplify tick box answers or indicate other factors. Guttman's (1950) theory of scale analysis was applied in a modified form to those answering to alcohol abuse and physical problems in the symptoms tick list, with these observations referred to the factors list, with interpretation reflective of the additional commentary added by respondents. The consultation period indicated that the 4 factors of legal problems, substance abuse, isolation and reports of a PFH of MH problems may be misconstrued by respondents who would be fearful that disclosure would result in disciplinary action and compromise the overall quality of feedback. Therefore they were informed of the methodological decision to exclude these factors as tick box answers and they were given the option to add these issues in writing. Completed questionnaires were immediately placed into a sealed envelope and returned to the author who coded the data and inserted the information onto a SPSS Version 17 database for analysis. Three hundred and seventeen questionnaires were returned but not all were fully completed. The participant information sheet is at Appendix 4.1, and the survey questionnaire is at Appendix 4.2.

RESULTS

For the satisfaction survey, descriptive statistics were used throughout, predominately with frequency distributions and percentages although there was some cross tabulation to identify differences in stratified groups. The small amounts of qualitative responses were subjected to content analysis (Burnard,1991) loosely based on a modified grounded theory approach (Glaser & Strauss, 1967; Backhouse & Brown, 2000; Charmaz, 2006) that included: constructing analytical codes and categories from the data and not from preconceived suppositions; and memo-writing to elaborate between categories, specify their properties, define correlations and identify gaps. The results for the predisposing factors and symptomatology included inferential statistical examination using chi-square and non parametric tests.

Gender, Age and Rank

Two hundred and thirty three of 314 respondents were men (74.2%), and 81 (25.8%) were women. Female soldiers were significantly over represented (P<.001) as they comprised only 8% of this non parametric military population. See Chart 4.1

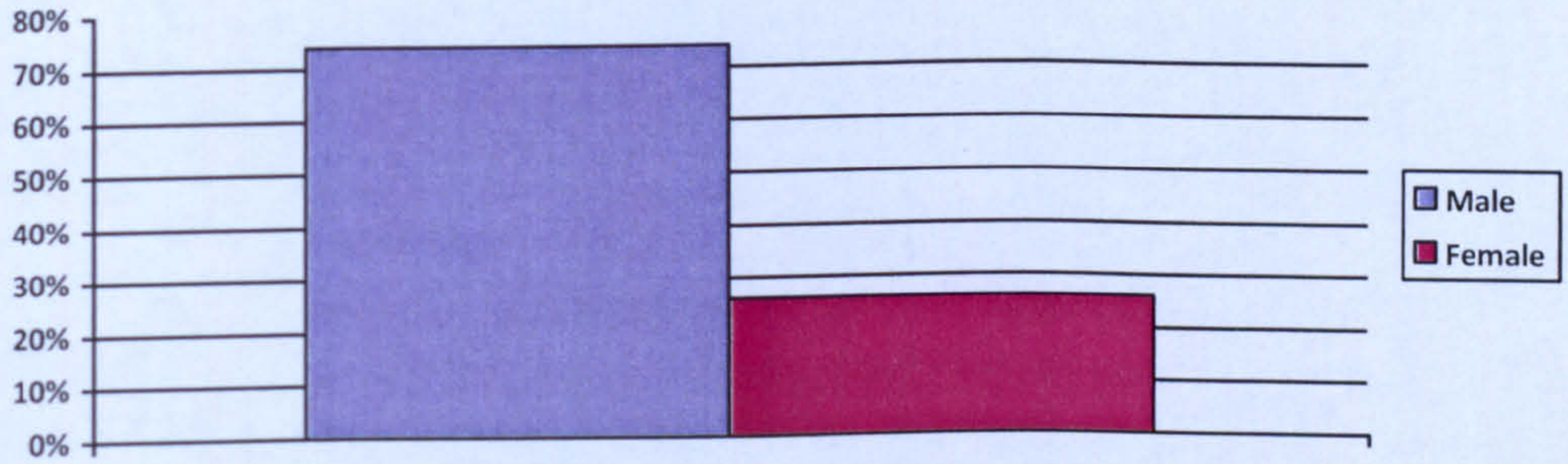

Chart 4.1 Respondents Gender Details

Age groups were divided into 5 year sets and ranged from 5 soldiers under 18 years old to 2 aged over 52 years old. See Table 4.1 and Chart 4.2. Fifty six percent (N=175) were aged 18 to 27 with the mode age being 18 to 22 years old. The rank of respondents was divided into 3 groups. Of 310 responses, 79.7% (N=247) were ranked private soldiers to Corporal, 16.8% (N=52) Sergeant to Warrant Officer and 3.5% (N=11) Officers. The study was predominately of young, junior rank soldiers, with small numbers of Officers and personnel aged 43 years and older.

Ser	Age	Frequency	Valid Percent
1	Under 18	5	1.6
2	18-22	101	32.1
3	23-27	74	23.5
4	28-32	47	14.9
5	33-37	48	15.2
6	38-42	27	8.6
7	43-47	8	2.5
8	48-52	3	1
9	53-57	1	.3
10	58-62	1	.3
11	Total	315	100

Table 4.1 Satisfaction Survey: Age Distribution of Respondents

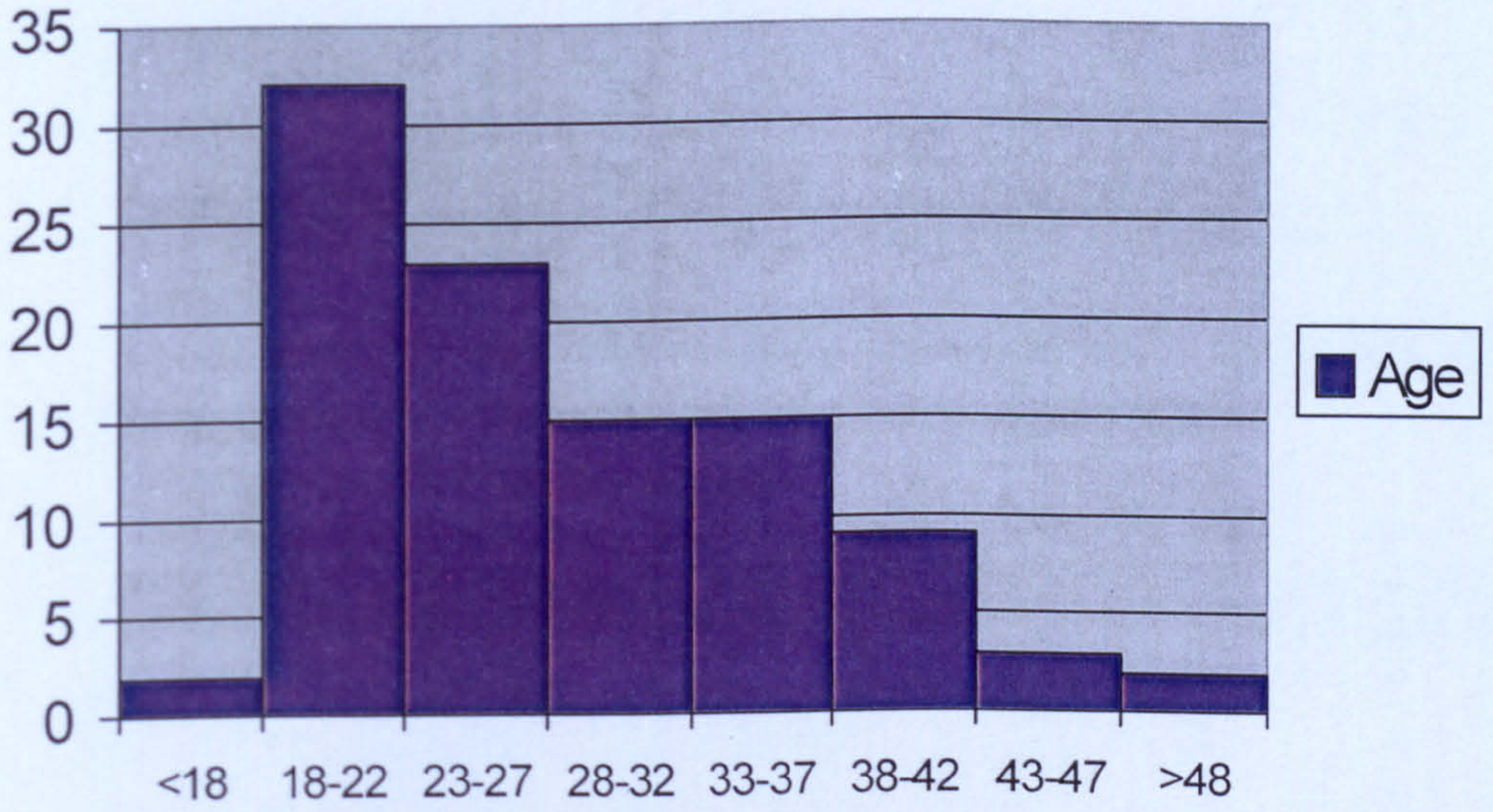

Chart 4.2 Respondents Age Details

This report is now separated into 2 Sections, the first centres on the satisfaction survey and the second on the presenting predisposing factors, with results and discussion provided for each. The conclusion will draw together the key findings from each of the sections and complete this second survey of this thesis.

SECTION 1

PATIENT SATISFACTION SURVEY

RESULTS

Clinical Background

All patients were treated in a UK based DCMH that consisted of a multi-disciplinary MMH clinical team where nurses were the critical mass of the workforce. Three hundred and eight respondents provided details regarding the professional background of the clinician who supported them, of which 63.3% (N=195) were nurses, 20.1% (N=62) psychiatrists, 5.2% (N=16) a combination of a nurse and psychiatrist, 3.3% (N=10) either a psychologist / social worker, 0.3% (N=1) a combination of nurse and social worker and 0.3% (N=1) a combinations of nurse and psychologist. Seven point five percent (N=23) did not known the professional background of the clinician.

Administration Support and Reported Levels of Satisfaction

Likert scales were used to annotate satisfaction and the questions were completed from between 292 to 312 respondents. Four questions determined the support available prior to the first appointment and 77.1% (N=225) received route details providing directions to a DCMH, 96.2% (N=282) indicated that the appointment was compatible with work duties with 97.3% (N=286) of appointments provided in a timely fashion although 30% (N=90) were unaware of how to make a complaint. The next set of questions examined views regarding administration and facilities, quality of care and quaility of information with the results annotated in Table 2. The final question asked "*Overall how would you rate the service provided by the DCMH*?" and 61.8% (N=188) ticked the highest grade of very good, 31.6% (N=96) as good, 4.9% (N=15) average, 0.7% (N=2) as poor and 1% (N=3) as very poor. See Table 4.2. Cross tabulation analysis of satisfaction by rank, age and gender showed no deviant trends.

Question	Poor / Very Poor	Average	Good / Very Good	Total
Administration Support	3 (1%)	23 (7%)	286 (92%)	312
DCMH Facilities	14 (5%)	80 (25%)	218 (70%)	312
Quality of Care	3 (1%)	21 (7%)	290 (92%)	314
Quality of DCMH Information	2 (1%)	22 (7%)	287 (92%)	311
Overall Satisfaction	5 (2%)	15 (5%)	284 (93%)	304

Table 4.2 Administration and Patient Satisfaction Results

Satisfaction levels were assessed against the professional background of the clinician and are displayed in Chart 4.3.

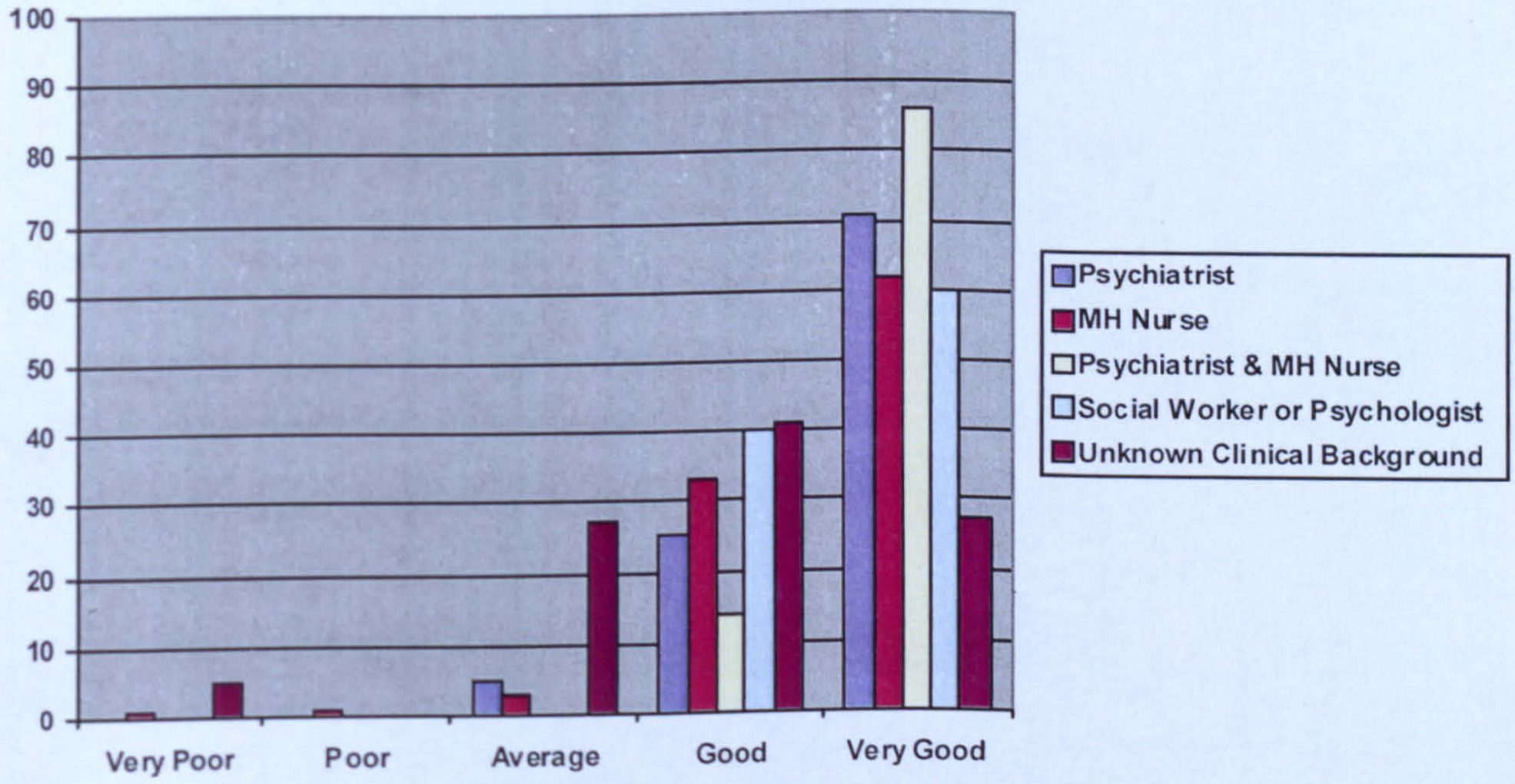

Chart 4.3 Clinical Background and Patient Satisfaction

Seventy respondents provided written comments to the question, *"How do you think you could improve the service?"* and although a negatively loaded question, the most frequently reported response was the high quality of care. After this, the emerging themes in order of priority were to improve facilities, provide MH support within unit lines and improve communication. Details are in Box 4.1.

High Class Service. Regarding the MH Service, 46% (N=32) took the opportunity to add a positive comment. One patient stated that "*The service and help I received were outstanding and helped me stand back and identify problems. I don't think you can improve on that service*". Others added, "*The service I received was fantastic. I would like to thank Cpl xxx for her help and support during this traumatic time*" and "*I have received excellent and effective treatment here. This is an invaluable service to soldiers.*"

Facilities. Twenty three percent (N=16) stated that DCMH facilities needed to be improved. These comments were obviously influenced by which of the 8 DCMHs the patient attended but some general trends were identified. Certain aspects should be fairly simple to address such as "*more mags* (sic) *in the waiting room*" "*waiting drinks*" or to have *a "television in the waiting area*". It would come as no surprise to certain DCMHs that the advice was more direct in certain areas such as "*needs painting.*"

Communication & Awareness. The third most referenced area was in relation to communication, in particular informing units of the existence of DCMHs and for more advice and information on MH disorders. Nine patients added similar comments such as "*More information on the whereabouts of the DCMH. Also people to be made more aware about depression and stress related illnesses in the work place, what the signs are etc*". Another added *"Just to make it more common knowledge of the facilities and for people who need the help and understanding that it is good and rewarding to talk about the problems and stress incurred in the Services and by relationship problems.*"

Box 4. 1 Patients Views on Improving the Military Mental Health Service

DISCUSSION

From an operational perspective, this survey was important as the results identified immediate shortfalls in service provision that were quickly addressed such as customers experiencing difficulty in accessing MH services, poor DCMH documentation and requests for an improved visiting liaison service. It was a concern that 7% of patients stated that they did not know the clinical background of the member of staff who treated them, and this group reported less satisfaction with their care. DCMHs addressed this issue with the introduction of picture boards displaying staff and their clinical background, although this was to be further enhanced with name-badges and recognition that a problem existed. Other areas were positive, with 97% of patients reporting that appointments were compatible with their duties, and provided in a timely fashion, as harmonious appointments demonstrated that military units were supporting Army personnel with MH issues.

Whilst recognising that satisfaction surveys have limitations, it was also a sound benchmark to identify that 93% of patients rated their care as either very good / good and only 2% as either very poor / poor, with results qualified with written comments. The perception therefore was that the quality of care provided by AMHS clinicians was of a high order, and this was supported by a responsive and accessible service. These results have major implications for this research, as there was little benefit in producing a predictive model regarding predisposing factors, if the standard of care was so poor that no one wanted to access the service.

SECTION 2

Predisposing Factors and Associated Symptomatology of British Service Personnel Requiring a Mental Health Assessment

Predisposing Factors

The number of predisposing factors leading to a DCMH assessment ranged from 6 patients who reported 0 factors to 3 patients who reported 8 contributing issues. Less than 25% reported 0 or 1 factor. The mode number of reported factors was 2, as indicated by 30% (N=96) of the research cohort. See Table 4.3 and Chart 4.4.

Predisposing Factors	Frequency	Valid Percent	Accumulative Percent
0	6	1.9	1.9
1	71	22.5	24.4
2	96	30.4	54.8
3	74	23.4	78.2
4	45	14.2	92.4
5	14	4.4	96.8
6	6	1.9	98.7
7	1	.3	99.1
8	3	.9	100
Total Cases	316	100	
Median of 2 Symptoms			

Table 4.3 Number of Predisposing Factors Resulting in a DCMH Assessment

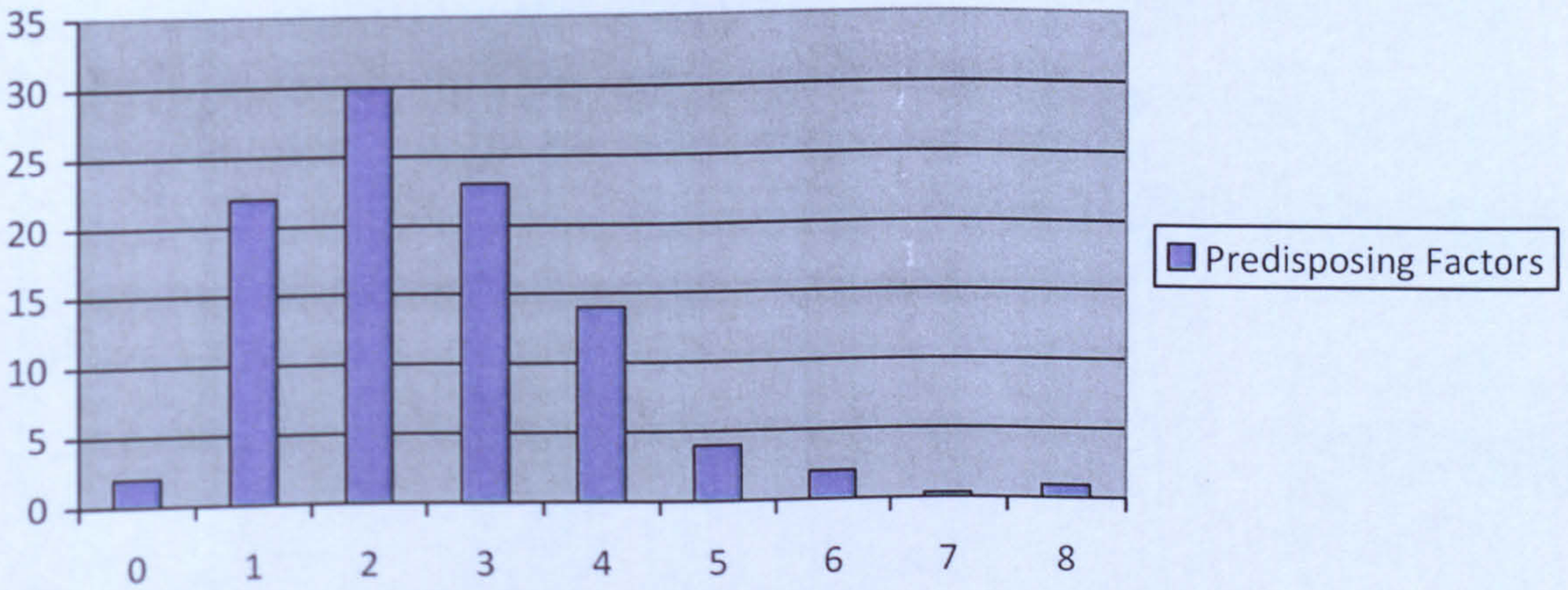

Chart 4.4 Number of Predisposing Factors Resulting in a DCMH Assessment

The most common predisposing factors leading to a MH assessment were related to family issues (42%), relationship problems (40%) and experiencing general military stress (39%); issues that affected all age groups, gender and ranks. MH conditions that generate significant media interest were less evident, with 17% reporting childhood problems, 14% unresolved trauma and 12% operationally attributable issues, whilst 25% wanted to leave the Army. Only 1 person admitted to drug abuse, and no one reported being isolated. See Table 4.4.

Ser	Factor	Replies	Present	Overall %
1	Family Stresses	316	134	42.4
2	Relationship Problems	316	126	39.9
3	Other Military Stresses	316	123	38.9
4	Alcohol	317	89	28.1
5	Wants to Leave the Army	315	78	24.8
6	Childhood Factors	316	54	17.1
7	Physical Problems	315	49	15.6
8	Unresolved Trauma	316	45	14.2
9	Financial Problems	316	45	14.2
10	Operational Factors	316	37	11.7
11	Cultural Problems	316	8	2.5
12	Legal problems	315	2	0.6
13	Substance Abuse	307	1	0.3
14	Past Family History	282	1	0.4
15	Isolated	315	0	0
16	None of These	316	9	2.8

Table 4.4 Contributing Factors Leading to a DCMH Assessment

Correlation between Predisposing Factors

Multi-variant inferential statistical examination utilising a chi square test was applied to the data. Statistically significant correlations were noted between relationship problems with financial worries ($P<.001$), and family difficulties ($P<.001$). Other associations were noted linking operational factors and unresolved trauma ($P<.001$) and concerning family difficulties and financial worries ($P<.001$).

Gender, Age and Rank

Analysis was undertaken to explore whether the predisposing factors leading to a DCMH assessment were influenced by gender, age and rank.

Gender

Males displayed significantly higher levels of alcohol problems (P<.001), and wanting to leave the Army (P<.001), whilst females experienced childhood problems (P<.001). The univariant gender results are in Table 4.5 and Chart 4.5.

Factor	Reply	Present	Overall %	Male	Female	P
Family Stresses	314	133	42	101 (43%)	32 (39%)	.340
Relationship Problems	314	124	39	97 (42)	27 (33)	.166
Other Military Stresses	314	121	38	93 (40)	28 (34)	.270
Alcohol	314	88	28	76 (33)	12 (15)	.001
Wants to Leave the Army	313	77	25	67 (29)	10 (12)	.001
Childhood Factors	314	53	17	34 (14)	19 (23)	.070
Physical Problems	313	48	15	32 (14)	16 (20)	.001
Unresolved Trauma	314	45	14	33 (14)	12 (15)	.527
Financial Problems	314	44	14	33 (14)	11 (14)	.508
Operational Factors	314	37	12	31 (13)	6 (7)	.121
Cultural Problems	314	8	2	5 (2)	3 (4)	
Legal problems	313	2	>1	2	0	
Substance Abuse	305	1	>1	1	0	
Past Family History	280	1	>1	1	0	
Isolated	313	0	>1	0	0	
Not Known	314	9	3	6 (2%)	3 (4%)	

Yellow shaded areas are too small for meaningful analysis.

Table 4.5 Factors Leading to a DCMH Assessment: Gender Details

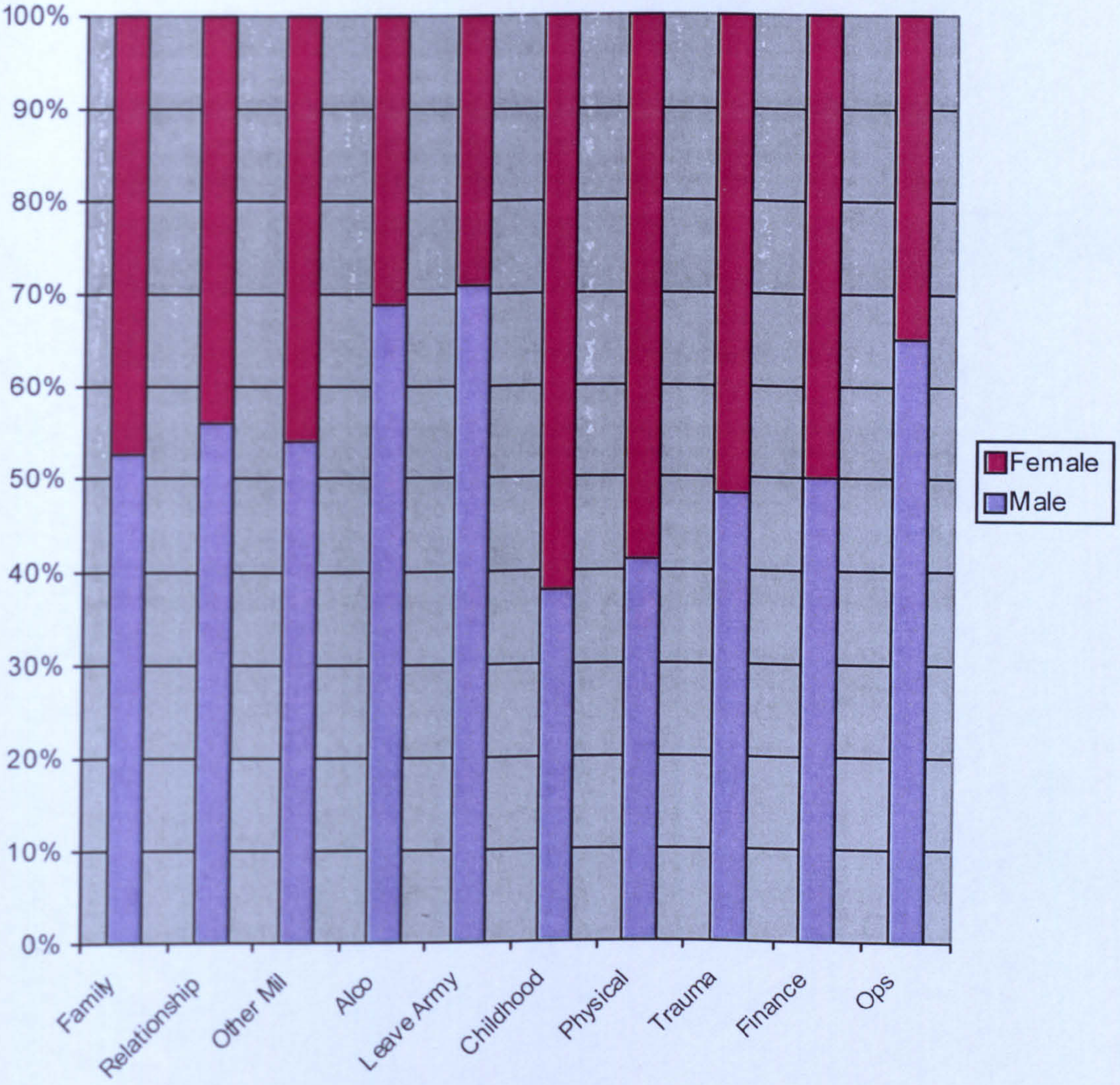

Chart 4.5 100% Stacked Column Chart Comparing the Percentage of Males and Females Contribute to a Total Across the Predisposing Factors Categories.

Age

Ages were categorised into 5 year groups ranging from 18 to 47 years old. The small numbers of under 18's and over 48's were grouped together. Univariant results are in Table 4.6.

Factor	Repl	Present	%	>18	18-22	23-27	28-32	33-37	38-42	43-47	>48
Family Stresses	315	133	42	2 (40)	42 (42)	28 (38)	19 (40)	22 (46)	13 (48)	4 (50)	3 (60)
Relationship Problems	315	125	40	2 (40)	34 (34)	20 (27)	25 (53)	24 (50)	13 (48)	3 (37)	4 (80)
Other Military Stresses	315	122	39	2 (40)	31 (31)	30 (40)	15 (32)	26 (54)	14 (51)	2 (25)	2 (40)
Alcohol	315	88	28	0	32 (32)	19 (26)	15 (32)	13 (27)	5 (19)	3 (37)	1 (20)
Wants to Leave Army	314	77	24	1 (20)	47 (47)	17 (23)	9 (19)	2 (4)	1 (4)	0	0
Childhood Factors	315	53	17	3 (60)	16 (16)	11 (15)	7 (15)	9 (19)	4 (15)	1 (12)	2 (40)
Physical Problems	314	49	16	2 (40)	9 (9)	6 (8)	9 (19)	15 (31)	5 (18)	3 (37)	0
Unresolved Trauma	315	44	14	0	12 (12)	7 (9)	10 (21)	7 (15)	5 (18)	1 (12)	2 (40)
Financial Problems	315	44	14	0	14 (14)	9 (12)	8 (17)	4 (8)	6 (22)	0	3 (60)
Operational Factors	315	36	11	0	9 (9)	8 (11)	5 (11)	6 (12)	6 (22)	1 (12)	0
Cultural Problems	315	8	2	0	2 (2)	3 (4)	1 (2)	1 (2)	0	0	1 (20)
Legal problems	314	2	X	0	0	0	1	1	0	0	0
Substance Abuse	306	1	X	0	1	0	0	0	0	0	0
Past Family History	281	1	X	0	1	0	0	0	0	0	0
Isolated	314	0	X	0	0	0	0	0	0	0	0
Not Known	315	9	3	0	3 (3)	4 (5)	1 (2)	0	1 (4)	0	0

Shaded Areas – Sample too small for meaningful analysis

Table 4.6 Factors Leading to a DCMH Assessment: Age Details

Rank

Rank were categorised into 3 groups, private soldiers to Corporals, Sergeants to Warrant Officer Class 1 and Officers. Univariant results are in Table 4.7 and Chart 4.6.

Factor	Reply	Present	Overall %	Pte - Cpl	Sgt - WO	Officer
Family Stresses	310	133	42.9	106 (43%)	23 (44%)	4 (36%)
Relationship Problems	310	121	39	93 (38%)	26 (50%)	2 (18%)
Other Military Stresses	310	121	39	92 (37%)	24 (46%)	5 (45%)
Alcohol Abuse	310	87	28	72 (29%)	13 (25%)	2 (18%)
Wants to Leave the Army	309	78	25.2	75 (31%)	3 (6%)	0
Childhood Factors	310	50	16.1	43 (17%)	5 (10%)	2 (18%)
Physical Problems	309	49	15.9	35 (14%)	11 (21%)	3 (27%)
Unresolved Trauma	310	45	14.5	34 (14)	8 9 (15)	3 (27%)
Financial Problems	310	44	14.2	36 (14%)	8 (15%)	0
Operational Factors	310	37	11.9	24 (10)	9 (17)	4 (36)
Cultural Problems	310	7	2.3	5 (2)	1 (2)	1 (9)
Legal problems	309	2	0.6	1	1	0
Substance Abuse	301	1	0.4	1	0	0
Past Family History	276	1	0.4	1	0	0
Isolated	309	0	0	0	0	0
Not Known	310	8	2.6	6 (2%)	2 (4%)	0

Shaded areas – groups too small for a meaningful analysis

Table 4. 7 Factors Leading to a DCMH Assessment: Rank Details

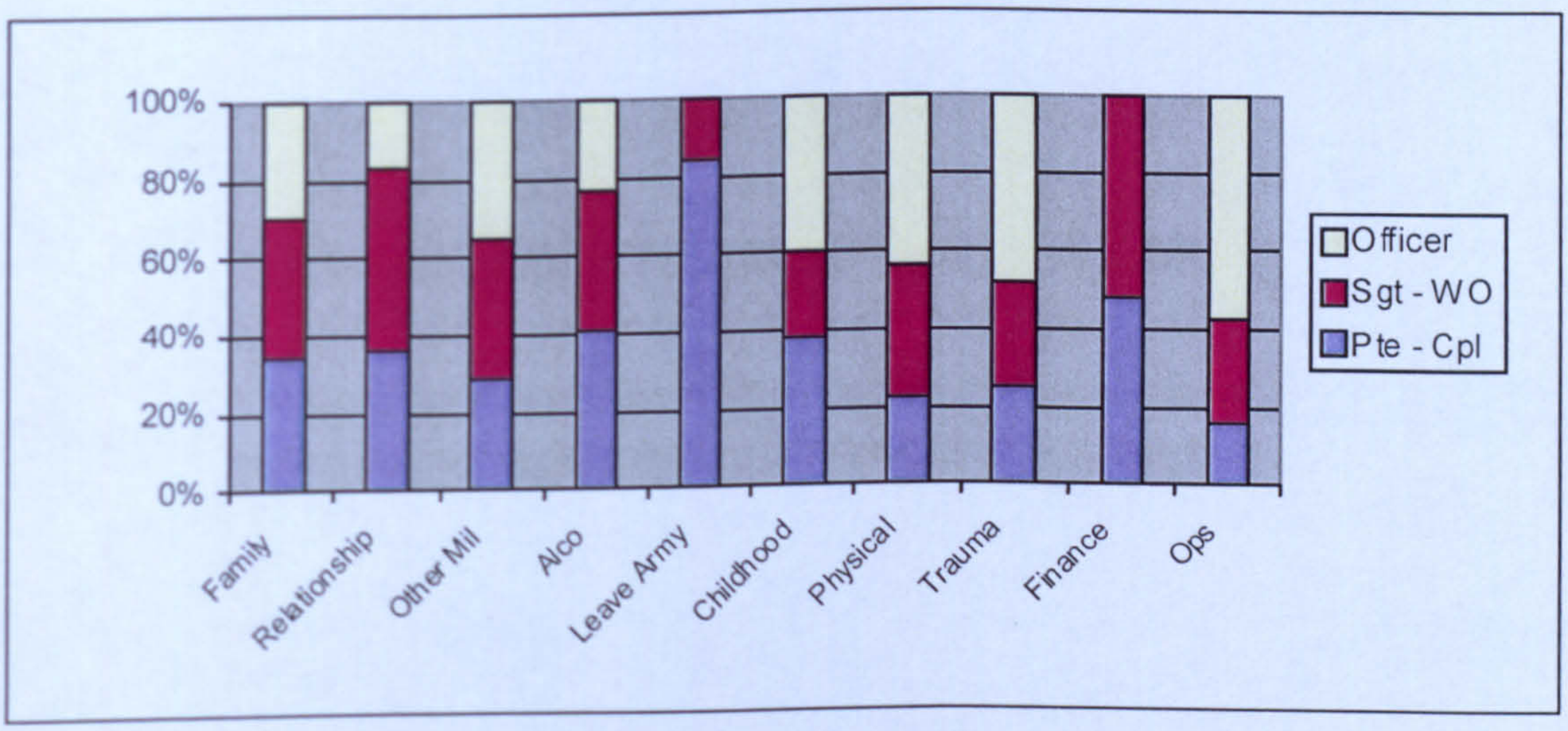

Chart 4.6 100% Stacked Column Chart Comparing the Percentage that Each Rank Contributes to a Total Across the Predisposing Factors Categories.

Free Text Information

Out of 316 replies, 10% (N=31) provided extra details regarding the predisposing factors that had resulted in their MH assessment. These included a mixture of single and multiple answers, and provided examples of other predisposing factors such as 2 reporting PND and 3 describing bullying. Some provided further clarity; such as 3 references to unresolved trauma were describing peacetime road traffic accidents. Examples of the comments and the implications for the study are addressed in the discussion section.

Symptoms

The number of symptoms ranged from 0 to 12, with 90% describing 2 or more symptoms and a median of 3. The most commonly reported symptom was low mood (61%), followed by sleep disturbance (58%) and loss of confidence (42%), with 31% reporting self harming ideology. The results generated will commence with descriptive results such as frequency counts and percentages, moving onto inferential statistical results using chi-square and non parametric tests. All results are presented in either in a table or chart. The numbers of symptoms are in Table 4.8 and Chart 4.7.

No of Symptoms	Total	Valid %	Accumulative %
0	4	1.3	1.3
1	28	9	10.3
2	53	17	27.2
3	63	20.2	47.4
4	52	16.7	64.1
5	38	12.2	76.3
6	19	6.1	82.4
7	19	6.1	88.5
8	15	4.8	93.3
9	9	2.9	96.2
10	9	2.9	99
11	2	.6	99.7
12	1	.3	100
Total 312 cases		100	

Table 4.8 Number of Symptoms Reported by Sample Group

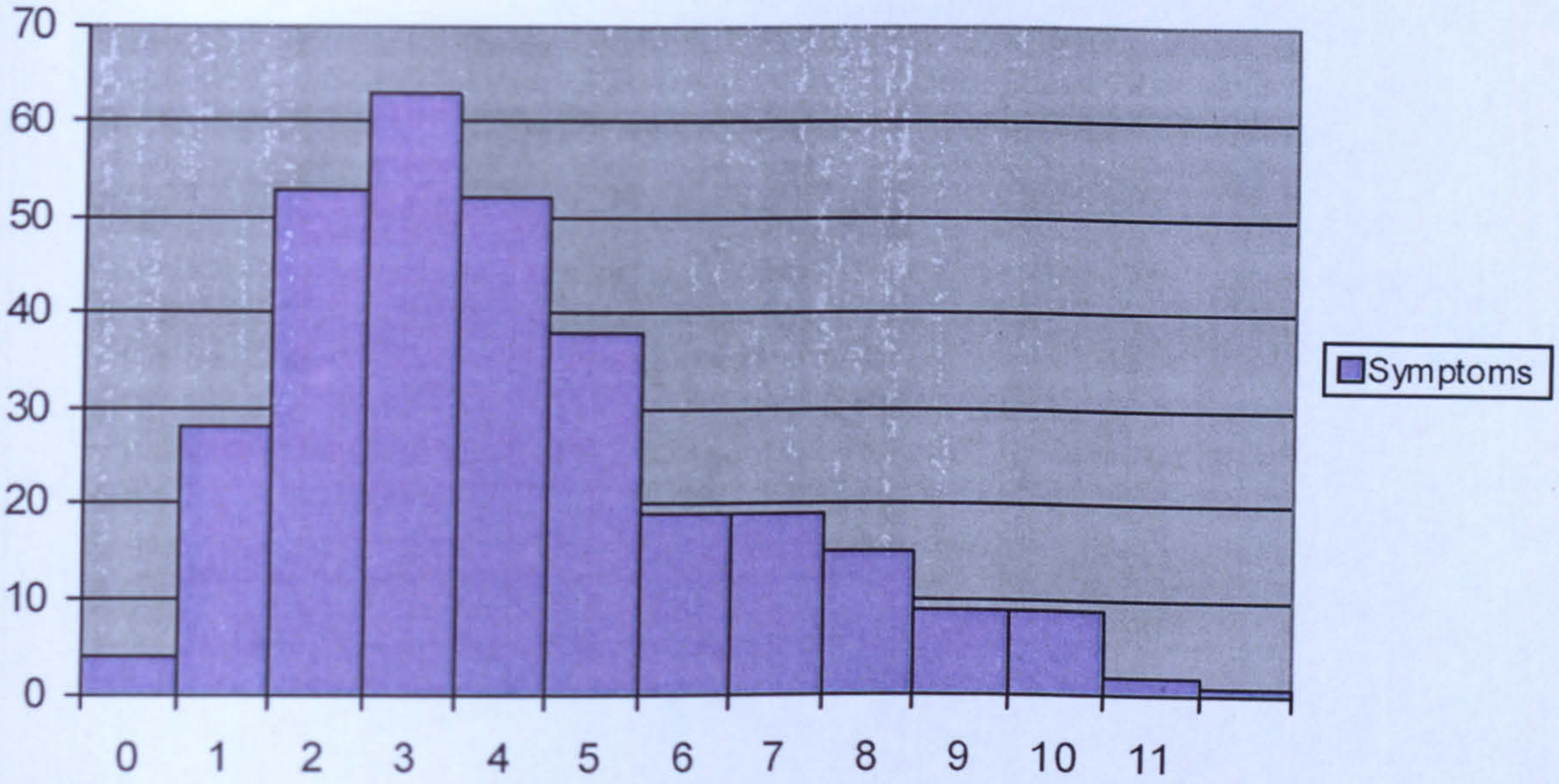

Chart 4.7 Number of Symptoms Reported by Sample Group

Types of Symptoms

The symptoms reported by soldiers requiring a DCMH assessment are in Table 4.9 and Chart 4.8.

Symptom	Reply	Present	Percent
Low Mood	312	191	61.2
Sleep Disturbance	312	182	58.3
Loss of Confidence	312	130	41.7
Tiredness	312	125	40.1
Loss of Interest	312	123	39.4
Feeling of Hopelessness	312	112	35.9
Thoughts of Self Harm	312	97	31.1
Alcohol abuse	312	94	30.1
Poor Concentration	312	85	27.2
Change in Appetite	312	76	24.4
Physical Symptoms	312	39	12.5
Pain	312	23	7.4
Other	312	21	6.7

Table 4.9 Types of Symptoms Reported by Soldiers Requiring a MH Assessment

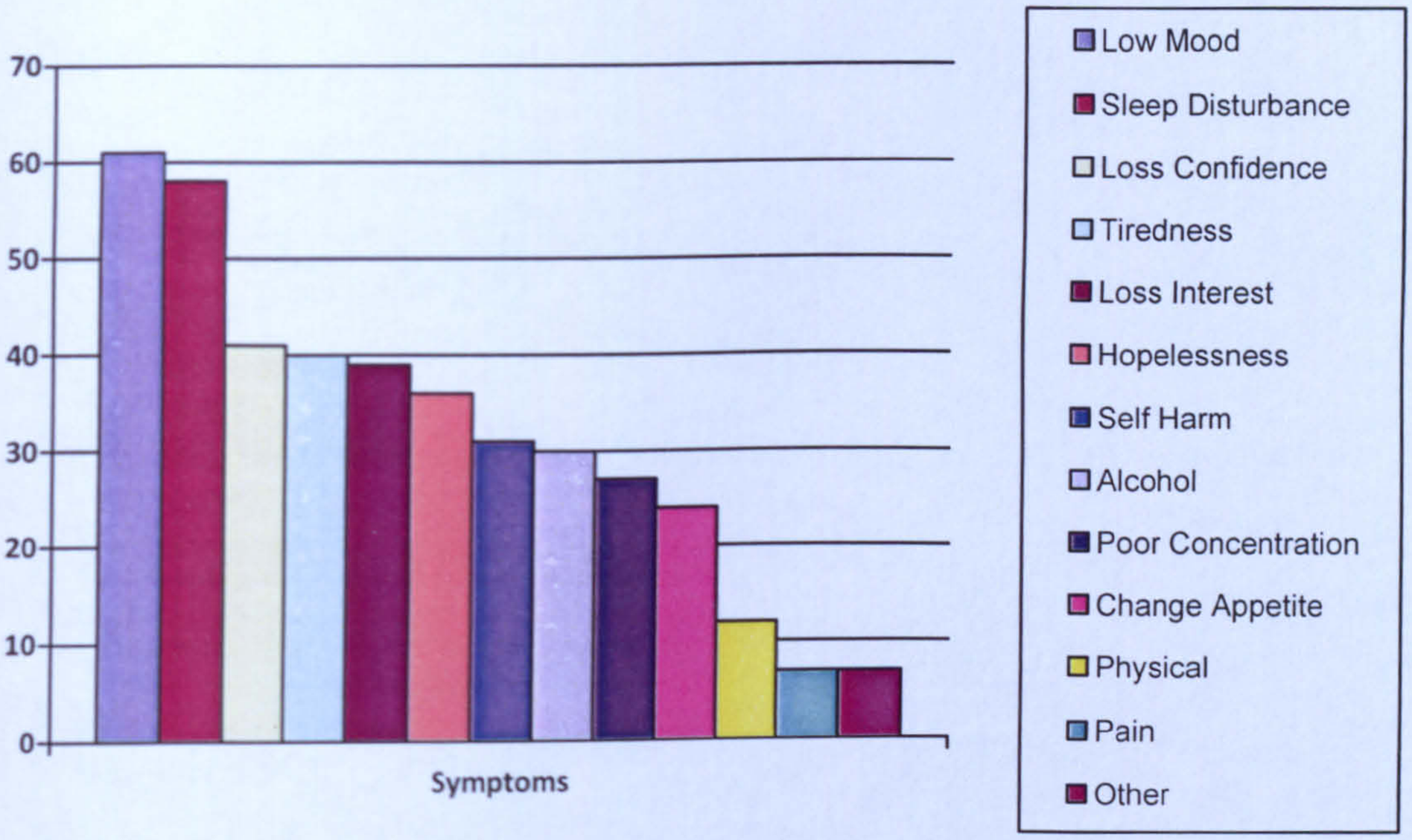

Chart 4.8 Types of Symptoms Reported by Soldiers Requiring a DCMH Assessment

Correlation of Symptoms

Multi-variant inferential statistical examination utilising a chi square test highlighted a number of statistically significant associations between the symptoms reported by soldiers requiring a DCMH assessment. These included some clearly understandable associations such as pain and physical problems ($P<.001$) or sleep disturbance and tiredness ($P<.001$). Low mood was associated with: tiredness ($P<.001$), sleep disturbance ($P<.003$), change in appetite ($P<.002$), feeling of hopelessness ($P<.001$), poor concentration ($P<.002$) and loss of confidence ($P<.003$). Alcohol is the only symptom not associated with any other indicator.

Gender

Males reported higher levels of alcohol symptoms (P<.001), whilst females reported poor concentration (P<.001). See Table 4.10 and Chart 4.9.

Symptom	Reply	Present	%	Male (x228)	Female (x81)	P Value
Low Mood	309	188	61	142 (62)	46 (58%)	.346
Sleep Disturbance	309	180	58	132 (58)	48 (59%)	.453
Loss of Confidence	309	129	42	88 (38)	41 (51%)	.081
Tiredness	309	124	40	90 (39)	34 (42)	.398
Loss of Interest	309	123	40	98 (43)	25 (31)	.091
Feeling of Hopelessness	309	111	36	82 (36)	29 (36)	.531
Thoughts of Self Harm	309	96	31	75 (33)	21 (26)	.210
Alcohol abuse	309	93	30	80 (35)	13 (16)	.001
Poor Concentration	309	84	27	64 (28)	20 (25)	.001
Change in Appetite	309	75	24	53 (23)	22 (27)	.299
Physical Symptoms	309	38	12	28 (12)	10 (12)	*
Pain	309	22	7	17 (7)	5 (6)	*

Table 4.10 Reported Symptoms From Sample Requiring a DCMH Assessment: Gender
* Group too small for meaningful analysis.

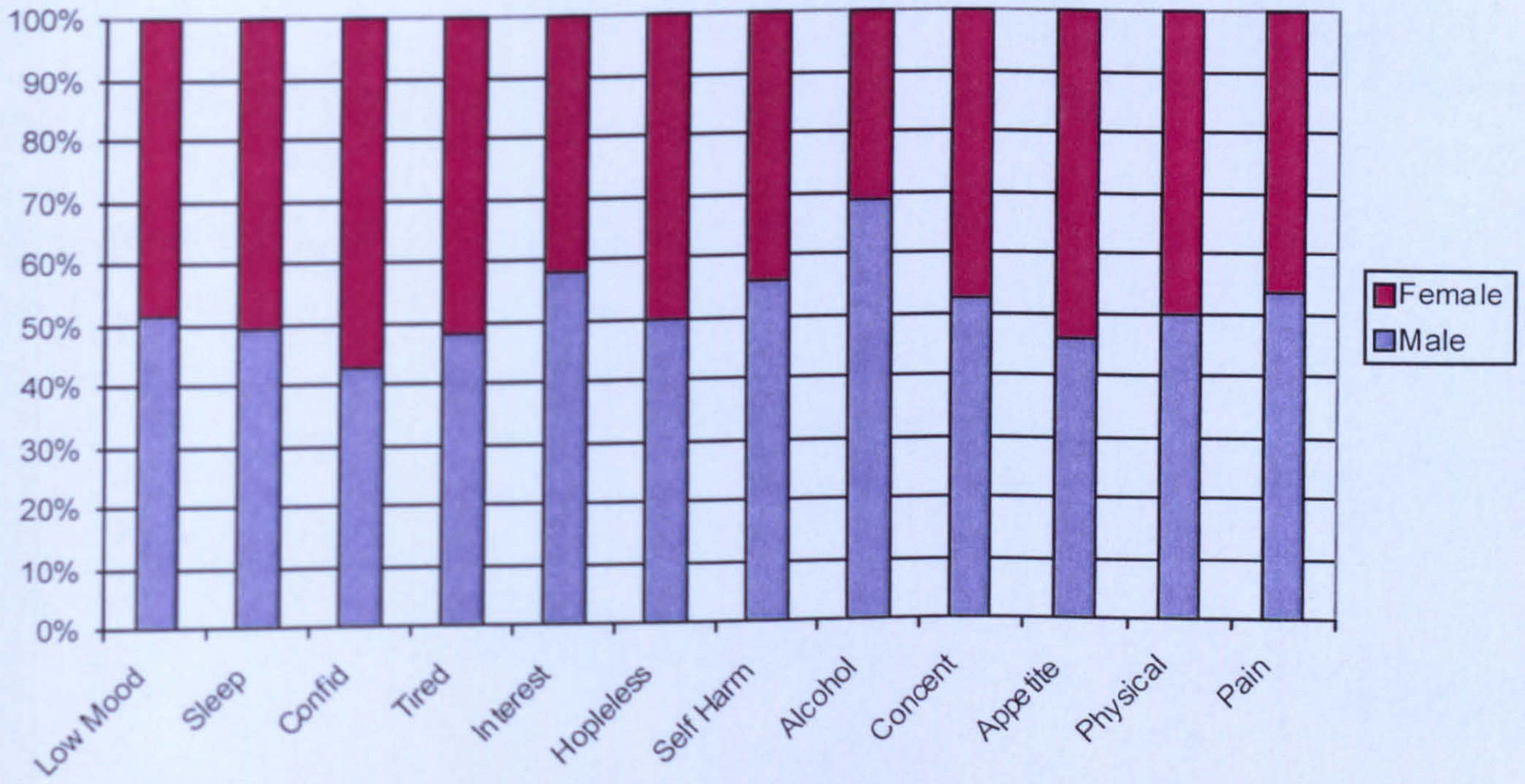

Chart 4.9 100% Stacked Column Chart Comparing the Percentage that Gender Contribute to a Total Across the Symptoms Categories

Age

Low mood was more prevalent in the older age groups, reported by 77% of the 38 to 42 year olds and 80% of those over 48 years of age, compared with 53% of those aged 18 to 22 years. 45% of this younger age group reported loss of interest and 45 % of 18-22 year olds have self harming thoughts. See Table 4.11.

Symptom	Reply	Present	%	>18	18-22	23-27	28-32	33-37	38-42	43-47	>48
Low Mood	310	189	61	1(20)	52 (53)	48 (66)	26 (55)	33 (69)	20 (77)	5 (62)	2 (80)
Sleep Disturbance	310	180	58	1 (20)	53 (54)	42 (57)	28 (59)	28 (58)	18 (69)	6 (75)	4 (80)
Loss of Confidence	310	129	42	1(20)	37 (38)	30 (41)	22 (47)	20 (41)	11 (42)	4 (50)	4 (80)
Tiredness	310	124	40	1 (20)	33 (34)	27 (37)	18 (38)	22 (46)	13 (50)	5 (62)	5 (100)
Loss of Interest	310	122	40	2 (40)	44 (45)	23 (31)	19 (40)	16 (33)	11 (42)	4 (50)	3 (60)
Feeling of Hopelessness	310	111	36	1 (20)	32 (33)	24 (33)	18 (38)	20 (41)	11 (42)	1 (12)	4 (80)
Thoughts of Self Harm	310	96	31	1(20)	44 (45)	23 (31)	13 (28)	8 (17)	6 (23)	0	1 (20)
Alcohol abuse	310	93	30	0	35 (36)	21 (29)	16 (34)	12 (25)	5 (19)	3 (37)	1 (20)
Poor Concentration	310	85	27	0	26 (26)	22 (30)	7 (15)	14 (29)	11 (42)	3 (37)	2 (40)
Change in Appetite	310	75	24	1 (20)	30 (31)	10 (14)	14 (30)	9 (19)	9 (35)	1 (12)	1 (20)
Physical Symptoms	310	39	13	2 (40)	6 (6)	6 (8)	8 (17)	10 (20)	6 (23)	1 (12)	0
Pain	310	23	7	0	7 (7)	0	5 (11)	8 (17)	2 (8)	1 (12)	0

Percentages are in the bracketed numbers

Table 4.11 Reported Symptoms From Sample Requiring a DCMH Assessment: Age Details

Rank

Low mood increased incrementally with rank; being reported by over 70% of Sergeants and above. Thoughts of self harm were notable in the junior ranks at 37%, but had reduced to 10% of middle ranks, and was not reported by any Officers. Details are in Table 4.12 and Chart 4.10.

Symptom	Reply	Present	%	Pte - Cpl	Sgt – WO1	Officer
Low Mood	305	187	61	142 (59)	37 (71)	8 (73)
Sleep Disturbance	305	179	59	140 (58)	32 (61)	7 (64)
Loss of Confidence	305	127	42	101 (42)	19 (36)	7(64)
Tiredness	305	124	41	94 (39)	24 (46)	6 (54)
Loss of Interest	305	121	40	101 (42)	15 (29)	5 (45)
Feeling of Hopelessness	305	111	36	89 (37)	19 (36)	3 (27)
Thoughts of Self Harm	305	95	31	90 (37)	5 (10)	0
Alcohol abuse	305	92	30	78 (32)	12 (23)	2 (18)
Poor Concentration	305	84	27	68 (28)	11 (21)	5(45)
Change in Appetite	305	76	25	66 (27)	8 (15)	2 (18)
Physical Symptoms	305	39	13	28 (12)	9 (17)	2 (18)
Pain	305	23	7	17 (7)	5 (10)	1 (9)

Percentages are in the bracketed numbers

Table 4.12 Reported Symptoms From Sample Requiring a DCMH Assessment: Rank Details

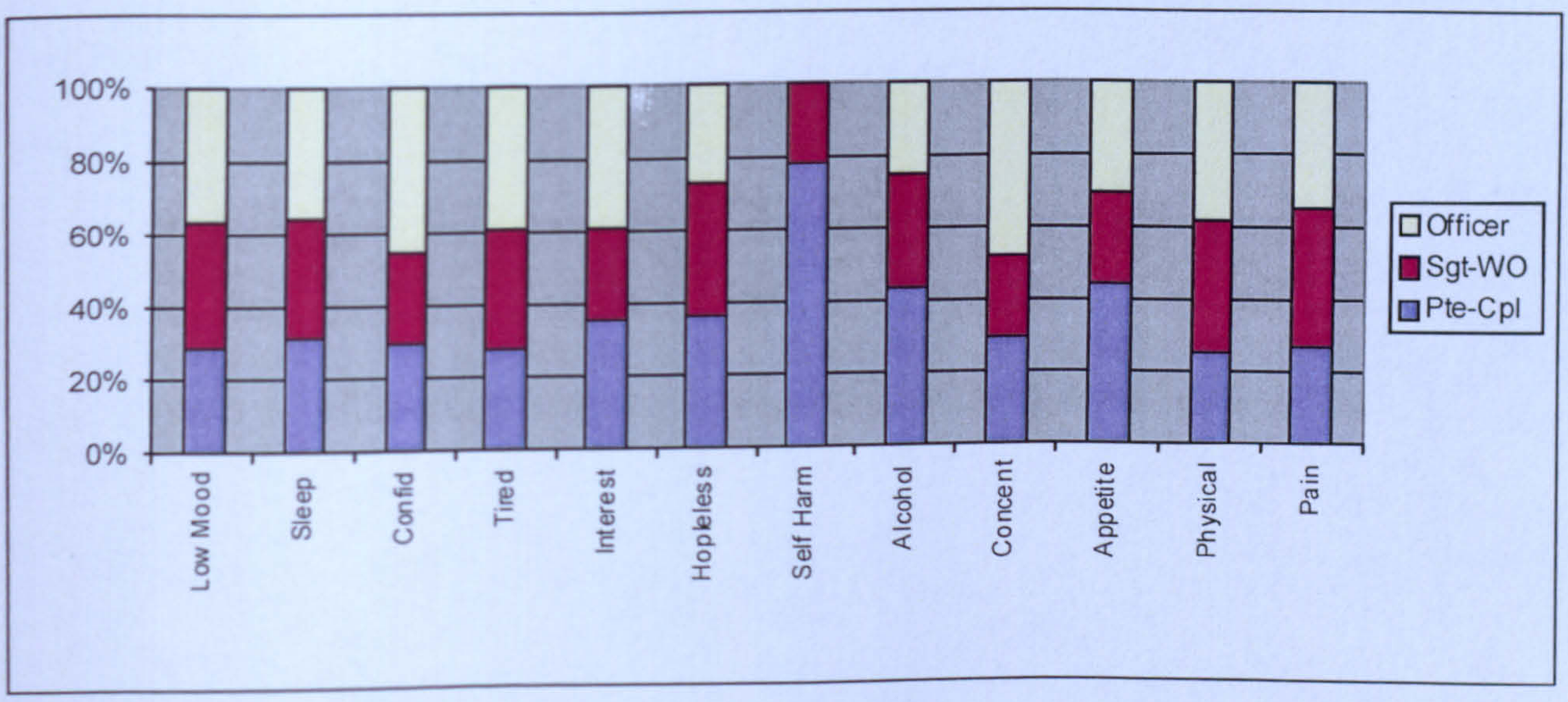

Chart 4. 10 100% Stacked Column Chart Comparing the Percentage that Each Rank Contributes to a Total Across the Symptoms Categories

Free Text Information – Symptoms

Eleven patients added extra symptoms in the free text space. Five of these related to anger, with examples being fighting, or being bad tempered. There were also solitary reports of frustration, memory function loss, flashbacks, physical problems, panic and self harm.

Association Between Predisposing Factors and Symptoms

This section provides results from an exploration of the associations between the predisposing factors that led to a MH assessment and the associated symptoms. This consisted of inferential statistical examination using a chi-square test.

Low mood was significantly associated with general military stresses (P<.001) and relationship problems (P<.004), whilst operational factors was not closely associated with any symptoms. Unresolved trauma was associated with pain (P<.001) and sleep disturbance (P<.002). General military stresses was the factor most likely to present in significant numbers with symptoms, which in addition to low mood included lack of confidence (P<.001). Family stresses was linked to tiredness (P<.001). There was a link between self harming ideology and soldiers who wished to leave the Army (P<.001), who also reported lack of interest (P<.001).

DISCUSSION

Predisposing Factors and Symptoms

The majority of respondents had multiple predisposing factors and presenting symptoms suggesting this was a highly distressed group of individuals. Relationship problems showed the highest number of statistically significant correlations with financial difficulties, and family problems. Family and relationship problems as primary causative factors are prevalent within the general population (Fossom, 1988; WHO, 1996), and suggest that it was not necessarily service life "per se" that caused distress, although the environment and context of the stressors were likely to be very different. There appeared to be several emerging themes.

Emerging Themes

Isolation

It was unexpected that no one reported being isolated. Considering this cohort was predominately young people, away from their normal social support networks and constructs, made this result unlikely. Coupled with the presumed stigma of MH issues within the Army's macho image (Finnegan, 1997), then no one cited being isolated seems even more improbable.

The widespread perception that soldiers with MH problems experience reduced peer support, were stigmatised as being weak, and were not part of the "team", was not supported by this result. This indicated that soldiers accessing AMHS remained part of a group, although the reason for this is unclear. One hypothesis is that the Army's stance in promoting MH and reducing stigma was working. Alternatively, there may be empathy within unit lines, and recognition that the level and intensity of operational tours, combined with long working hours, has a significant impact on families and relationships, and could lead to anyone requiring help. Other potential reasons was that referral to a DCMH leads to

membership within a sub group, such as those individuals who wanted to leave the Army, or that it was this group that have accessed MH support that reported not being isolated, but these perceptions were not reflective of non service users. These issues were addressed during the taped interviews in Chapter 7.

Support in Unit Lines

The majority of patients accessing the AMHS had multiple, identifiable stressors and symptoms, indicating an extremely distressed cohort. Symptoms such as tiredness, lack of interest and self harming ideology were common and are incompatible in a military workforce that must be focussed, fit, able to take quick and decisive decisions; as this will negatively impact on operational capability.

The British Army has robust welfare and health systems in place, with most units containing welfare and health committees who are responsible for maintaining risk registers of vulnerable individuals as part of the British Army's Suicide Vulnerability Risk Management Policy (AGAI, 2004). Therefore, it might be expected that soldiers experiencing or displaying significant mood and behavioural changes would be noticed, with support offered at unit level before the need for a MH assessment. The most common factors such as relationship and family problems were highly likely to be known by unit personnel and aid offered, in particular from the soldier's peer group, as reinforced by no-one being isolated. That general military stressors was the predisposing factor most likely to be significantly associated with several symptoms, may reinforce the distressed presentation at work. This does not *necessarily* mean that distraught soldiers were known to the unit hierarchy, or the medical services, as some may believe that medical confidentiality would not be maintained, or that accessing the AMHS would negatively affect their career. Therefore the possibility existed that initiatives failed to identify at risk individuals, or alternatively that distressed individuals were noticed, and were being actively directed to the Unit Medical Officer (UMO). This survey did not collect the detail to state one way or the other, but these theories were also tested in the interviews in Chapter 7. However, it was important to note that these soldiers reported their symptoms

leading to an admission to the AMHS, and it was likely that the majority of issues would have resolved / reduced during treatment.

Wanting to Leave the Army

Nearly half of young, junior rank, male soldiers accessed the AMHS because they wished to leave the Army. Extrapolated across all UK based military personnel this would generate approximately 750 new referrals per year. The Army's recognition of the issues means that support was available; however, the soldier's perception might have been that leaving the Army was the only answer. The terms and conditions of service within the Armed Forces were not reflected within any other UK based employment group, with young soldiers required to serve up to 3 years. These soldiers may therefore have made a conscious decision to enter the AMHS as a means of fast tracking a discharge from the Army, unaware that this was not within the remit of the AMHS, and soldiers may have had to wait a long time to be discharged.

The consequences of retaining these disenchanted and uninterested personnel must be considered. Not only were they required to undertake important duties such as perimeter guards, but were likely to have regular access to guns; and the data suggests that there is a significant correlation between these young disaffected soldiers and self-harming ideology. MODs rationale was a strong one, and the Army must have visibility of their workforce in order to provide a viable operational force, and the measures in place to support these troops was of a very high standard. Not least, all enlistment was voluntary. Suicide rates in the Armed Forces were lower than similar civilian cohorts in all age groups and gender except for young males (under the age of 24) in the Army (Blatchley et al, 2004), and it would appear that soldiers retained in the Army against their will was a contributing factor. Whilst an extended period of notice merely limits the future employment opportunities for most leavers, for nearly half of the young soldiers in this study, the result was a mixture of self-harming, destructive behaviour, associated with depressive symptoms, and a strong possibility that the crisis could be exacerbated after admission to the AMHS rather than resolved.

How to address this subject is a research project in itself, and this cohort may have enlisted with residual problems originating in their childhood, and may have joined the Army just to get away from social-economic strife, thus leaving the Army was no guarantee that their core issues would be resolved. However, whilst they remained in the Army, their perception was that they would remain distressed, and therefore less prohibitive restrictions, reflected in a reduced term of notice to leave, may have resolved their distressing symptoms and resulted in a reduction of MH referrals. Interestingly, whilst this cohort indicated disenchantment with the military, the first section of this chapter indicated that they still rated the AMHS highly, although it was highly questionable whether MH clinicians should be involved in what was an administrative issue.

The Impact of Military Life and Relationship Problems

The link between family / relationship problems, and military stresses were consistently reported irrespective of rank, age and gender, and the pressures on a military family are well recognised (Dandeker et al, 2008; Norton-Taylor, 2008). In this study, approximately 50% of the 28 to 42 years old age group reported relationship problems and 46% military stresses. Employment stressors stemmed from frequent operational tours, overseas duties and military exercises, combined with long working hours originating from manpower shortages and increasing levels of responsibility. To compound these issues, there were postings every 2 to 3 years; to not only different areas but often to a different country. Spouses own employment opportunities were reduced and the impact on children could be significant, often living a nomadic life in different schools and without defined civilian social links. If the parents came from dysfunctional backgrounds, had poor coping mechanisms, or were not compatible, then the likelihood of problems was high (Patterson, 2004). The risk obviously increases as more stressors such as financial problems were added to the mix. Some of the comments in the free text exemplify the issues such as "*Problems over house and money and some work problems. I have to work, but as to staying in the Army I am not sure*" or "*Relationship problems due to Service factors such*

as short notice jobs, extra workload and extra working hours imposed" and "*unwanted posting.*"

As a result, some of the British Army's workforce was suffering, and not just in terms of developing MH problems, but deteriorating personal relationships. The Army has recognised this problem, and invested heavily in welfare and social support, including extensive advice and support for estranged personnel (Directorate of Personal Services (Army), 2008). Whether these interventions were successful was unclear, although the high levels of associated problems indicated that there was room for improvement. A positive response to this would be for the AMS to formally recognise that the correlation of relationship problems, family issues and military stresses is reflected in PHC assessment and CPPD programmes, and reinforced throughout the chain of command by policy change. Other concerns were that soldiers were unaware of the support available, or in acute situations the help was not enough, and this should be addressed. A predictive model can indicate the risk, but a robust and responsive system within the military will be required to see a reduction in these issues. Many soldiers may alternatively vote with their feet, and leave.

Female Soldiers

Twenty six percent of respondents were women whereas only 8% of Army personnel are female. The reasons for this relative excess of women was unclear, and the data was not skewed through returns from areas containing high levels of female soldiers as the questionnaires were returned equally from all 8 Army UK DCMHs. It was recognised that there were gender issues in MH conditions where men and women were disproportionally distributed. For example, women were up to twice as likely to develop depression (Kaplan et al, 1987, Kessler et al, 2003) and men were more than twice as prone to die from an alcohol related disorder (Office for National Statistics, 2005). These aspects would be expected to be replicated within this study, and therefore affect the spread of the gender results, although not to the extent displayed.

The results may reflect that women were less affected by any potential stigmatisation by seeking MH input or that they genuinely suffered more MH problems in a male-dominated profession. Alternatively, women may have found disclosure easier or have a greater faith in the AMS, believing medical confidentiality would be maintained, and as not all patients express emotional symptoms (Cape & McCullough, 1999) those who do volunteer psychological complaints received higher detection rates (Wittchen & Pittrow, 2002). Women presented more frequently with physical problems that may reflect that women have to complete the same physical training as their male peers, but do not normally have the same inherent strength or endurance. Of note, females shared their male counterparts' presentation of multiple stressors, and reinforces that their distress should also be notable at work.

Post Traumatic Stress Disorder

Of all the MH conditions associated with recent military conflicts, none have generated as much media and public interest as PTSD, although the impact of this disorder in reducing the operational capability of the British Army appears less than other MH conditions such as depression (Neal et al, 2003; Iversen et al, 2009). These results reinforced this position, with traumatic incidents being relatively low as a predisposing factor, but high enough to generate interest in certain groups, in particular with the 21% of the 28 to 32 years old age group and 27% of Officers.

A key component of PTSD is avoidance behaviour (APA, 1994), where the sufferer takes extensive steps to circumvent reminders that will stimulate a memory of the traumatic event. This may result in a soldier leaving the Army, or in patients attending PHC with a somatisation disorder to evade disclosing the root cause of their distress (Finnegan, 1998). The results in this study reaffirms the diligence required in PHC to be conscientious in investigating for underlying problems related to traumatic incidents, especially within this high risk profession. Of note, the 3 soldiers who made reference in the free text to unresolved traumatic incidents were referring to road traffic accidents and not operational incidents. However, in this relatively small survey, where the detail of subjects'

operational experiences was not collected, makes it very difficult to draw any meaningful conclusions.

Depression

Low mood, the classical indicator linked with depression, was the most commonly reported symptom in this study, and strongly associated with general military stresses, relationship problems, and numerous other symptoms such as tiredness, sleep disturbance, change in appetite, feelings of hopelessness, lack of concentration and lack of confidence. There were significant differences between the presentation of low mood depending on age, rank and gender, although a notable trend was that low mood increased incrementally with age and rank, with over 70% of all Sergeants and above reporting low mood. The results indicated 3 distinct groups emerging with depressive symptoms.

The first were young males with self harming ideology and numerous symptoms who wanted to leave the Army. This group have depressive symptoms as a direct response to 1 situational stressor, and if this was removed then the symptoms were likely to disappear. This group were likely to welcome being identified as having MH issues, and referral to the AMHS may be part of their exit strategy. They were also likely to want to access the medical services at an early stage, without reservations of associated stigma.

The second group were older soldiers, progressing through the ranks who reported considerably less self harming ideology but increasing numbers of classical depressive symptoms. As they got older, their low mood was likely to originate from multiple factors. This group were likely to be moving through the ranks, and given more responsibility and pressure, increasing numbers of operational tours and regular periods away from home. Potentially, they would be less likely to access support, for fear of harming their career, and may have tried to deal with these issues through alcohol, which exacerbates their distress and lead to strain within the family and financial problems.

The third group were the older, more senior ranks and Officers, who presented as a highly distressed group reporting low mood in over 70% of cases and who presented with the most classical clinically diagnostic depression symptoms. Whilst the younger groups were very keen to leave the Army, this group was not. There was the potential that these soldiers had tried to cope with their problems, without external support, for a considerable period of time and the problems had been manifesting slowly in intensity, in a soldier reluctant to seek MH support. This group also reported the highest amount of physical symptoms which might have been a means of accessing support with a psychosomatic presentation.

Those aged in their mid to late 30's often have their own children and face multiple stressors associated with being a parent and spending large periods of time away from home on dangerous duties. The issues change from 38 to 42 years old, when most soldiers are nearing the end of their career, and many have been in the Army since their teenage years and the adjustment reaction associated with the impending move to civilian life was often stressful.

Alcohol and Substance Abuse

Alcohol was associated with 28% of DCMH admissions, which remains consistent with the number of hospital admissions witnessed in Survey 1, and previously published figures (Neal et al, 2003). Excessive alcohol consumption in the British Armed Forces was higher in both males and females than their civilian counterparts (Fear et al, 2007), closely aligned to military social activities, and generally accepted as part of military life (Browne et al, 2008). The drinking patterns and levels of addiction were likely to reflect recognised UK Anglo Saxon social trends, commencing with periods of heavy, socially based drinking in young men (Fear et al, 2007). However, whilst there were cultural and social issues, alcohol might also have been used as a maladaptive coping mechanism to deal with everyday stressors, gradually leading to the insidious development of addiction witnessed after many years of abuse.

This study population were predominately young white men, often from socially deprived areas of the UK (Dandeker et al, 2008), living away from home and with a large expendable income. However, the association between alcohol and symptoms changes over time, until for personnel aged in their early 30's, alcohol may have been a stand-alone issue and a hidden activity to prevent detection, perhaps for fear of disciplinary action, or loss of employment; and was therefore difficult to detect, yet alone treat. This presentation was not unique to the Army, and alcoholics often mask their behaviour and hide their abuse (Anonymous, 1996; Naik & Jones, 1994). Whilst acknowledging that military culture may accommodate alcohol misuse, the military have recognised the risk, and consistently attempted to address this problem with policies and initiatives, leading to alcohol awareness training and education that has been mandatory in unit lines for many years. These results may indicate that the AMHS provided a robust and accessible service to alcohol abusers, and soldiers access support much quicker than in civilian healthcare practice (London Drug & Alcohol Network, 2005; Alcohol Concern Report, 2008). Alternatively, these results may show that initiatives were ineffective, and there is room for significant improvement. If this was the case, then extended interventions to the wider family group may be an option, as they are in a position to notice behavioural changes not readily recognisable within unit lines.

Only 1 soldier reported drug abuse, and as the Army take a strong disciplinary stance regarding drug misuse, and regular compulsory drug testing ensures that detection is high, then drug abuse would be expected to be low. However, another reason is that soldiers distrust the AMHS, and fear that an admission of drug abuse would result in disciplinary action.

The key findings from this section, together with identification of study limitations, will now be combined with the key findings from Section 1 in the concluding part of this chapter.

CONCLUSION

The inferential statistical tests indicated significant associations that were to be expected such as between pain and physical problems and sleep disturbance and tiredness, which would indicate that the respondents' have answered the questions diligently and honestly, and support the assertion that the results were valid and reliable. The following pages will outline the key findings, the limitations and conclude this chapter.

Key Findings

- Ninety seven percent of patients reported that appointments were compatible with their duties, and provided in a timely fashion. Harmonious appointments demonstrated that military units were supporting Army personnel with MH issues.

- Ninety three percent of patients rated their care as either very good / good and only 2% as either very poor / poor. These results were qualified with written comments. The perception was that the quality of care provided by AMH clinicians was of a high order.

- The majority of soldiers requiring a MH assessment had multi-factorial problems displayed in a number of different ways. These issues should be identified within unit lines.

- The most common predisposing factors were family issues, relationship problems and general military stress. Popular media reported factors such as childhood problems, unresolved trauma and operationally attributable issues were less prevalent.

- No one reported being isolated, which challenges the perception that soldiers with MH problems were stigmatised.

- Alcohol abuse resulted in 28% of DCMH assessments, from predominately male soldiers, but not statistically aligned to any other symptom raising the question of how to identify this behaviour at unit level.

- Up to 50% of young male soldiers required a MH assessment as a result of wanting to leave the Army, and there was a correlation with self harming ideology.

- Female soldiers were significantly more likely to attend for a MH assessment.

Study Limitations

- The numbers within certain age group were small, in particular those aged under 18 years old (N=5), 43 – 47 years old (N=8) and over 48 years old (N=5). In addition, only 3.5% (N=11) were Officers.

- The survey did not gauge symptoms present at discharge, and therefore those listed in this study may be transient / situational stressors that were resolved during treatment.

- The views were taken from UK DCMH attendees in a peacetime setting, and may not be reflective of soldiers deployed on operations.

- The 4 factors of legal problems, substance abuse, isolation and PFH were not included as tick box answers, but were indicated to respondents as potential replies and they were given the option to insert these answers in the free text space. This may have resulted in reduced acknowledgement of these stressors. In these areas only 1 reported substance abuse and 1 a PFH of MH problems. There may have been fear that a false disclosure during the recruitment process would lead to disciplinary procedures.

- The questionnaire tick boxes listed symptoms associated with depression, and may have resulted in patients experiencing disorders such as anxiety or PTSD under reporting. This was compensated with the option for free text.

- Five out of the 11 respondents who provided additional information regarding symptoms reported anger (i.e. fighting, bad temper) in the free text, and the survey questionnaire should have included this symptom.

- Tick box questions were limited due to the potential for wide variances in interpretation, and there was the possibility that personnel highlighting relationship problems and family problems were double reporting.

- The use of an ISP to provide hospital care for military MH patients has changed since the onset of this study, and the contract with the Priory group of hospitals was not renewed.

Closing Comments

Before the commencement of the patient satisfaction survey, the general view of Army MH colleagues was that DCMH patients were often experiencing situational stressors attributable to military life, and that dissatisfaction would be reflected in negative results. Such findings would mirror media reports where the Armed Forces MHS has been criticised, and television programmes that focus on small numbers of dissatisfied Service-personnel. However, service users rated the quality of care as very good, and whilst some areas needed to be addressed, other aspects of service provision appeared excellent. DCMH appointments were compatible with duties, and provided in a timely fashion, indicating a willingness by the military chain of command to assist personnel to obtain the appropriate support. That no one reported being isolated challenges the perception that soldiers with MH problems were stigmatised.

The most common predisposing factors were family issues, relationship problems and general military stress. Factors commonly reported in the media such as childhood problems, unresolved trauma and operationally attributable issues were less prevalent. This detail should influence the priorities within unit lines, and be reflected in personal training and educational programmes for PHC clinicians, as the focus should be on those areas that have the greatest impact on operational effectiveness rather than issues escalated through media interest. That the majority of soldiers requiring a MH assessment had multi-factorial problems displayed in a number of different ways should mean that colleagues were aware that something is wrong, and every effort must be taken to support these soldiers within unit lines before the need for a MH assessment occurs. The one notable exception was the high number of male soldiers acknowledging alcohol abuse, which was not associated with any other symptom, and raises the question of how to identify this behaviour at unit level? The momentum with alcohol education and awareness programmes should be extended where possible to family members.

Up to 50% of young male soldiers required a MH assessment as a result of wanting to leave the Army, and this group were positively associated with thoughts of self harm. The Army's fast and easy access to highly rated MH clinicians was excellent, but these clinicians cannot facilitate the soldiers release except to recommend an administrative discharge. Whilst noting the operational imperative to have visibility and continuity of personnel, it was also clear that a significant period of notice to leave had a negative impact on young soldiers.

In conclusion, if the key issues that have emerged from this study are addressed, and the quality of care and lessons learnt incorporated within a theoretical model to predict vulnerability, then the result could be an improvement in operational capability by returning soldiers and Officers to full working duty. This would result in improved support to soldiers and enhance the value of the AMHS. That aside, the survey's positive results, combined with the known effectiveness of fast and easy access to MH clinical support, provided evidence that the British Army's MH service was of a very high order.