

Evaluating The Effectiveness Of Early Psychological Interventions In Medical Emergencies

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Abstract

The current project is focused on emergency medical training that all anaesthetists have to achieve. This is the ACCS (Acute Common Care Stem in Appropriate Common Care Training) programme for consultants in anaesthesia and intensive care who have completed a specific level of training. Within 111 training, one of the primary goals is to achieve early and accurate identification of life- and limb-threatening emergencies. This can be very challenging and stressful for the clinician; therefore, a new approach to the treatment of the psychological and emotional needs of the clinician involved in an emergency is valuable. ACCS trainees are subject to significant levels of stress, and these issues will be more significant when dealing with emergencies in a variety of settings. These trainees often have to deal with life and limb-threatening emergencies, significant trauma, and complicated medical conditions, which are very emotionally charged situations. During the ACCS training, these trainees may experience training in 111 emergency medicine through various shifts and scenarios, and a significant number of them may be exposed to real-life scenarios where they will need to manage major medical emergencies. These trainees have found certain situations and scenarios in dealing with emergencies to be unexpectedly stressful because they brought back emotions or memories of a real situation that had gone wrong. A novel approach to taking a debrief for those who found the situation stressful and using CBT passed by a clinical psychologist to change those memories would be significantly easier in a simulated scenario compared to real life. Thus, having a systematic approach to identify such situations, the level of psychological stress, and how it impacts performance is useful for the patient and the trainee. This should be more easily assessed using the NBA-MAC tool developed by a project supervisor for various scenarios that ACCS trainees encounter during medical emergencies. The 'Nepean-Bell Assessment of the Medical Attitude Categories' has already been used on anaesthetists to assess their stress and performance in emergent situations, so using a modified tool on ACCS trainees is fitting. Early identification of situations that are too stressful for the trainee and the potential impact on patient care will allow an intervention or cessation of the scenario prior to the trainee being in a situation where they are unable to perform the task. Early interventions for stressful situations or scenarios found to invoke a significant level of stress can be as simple as a debrief, but others may require external assistance in the form of the project supervisor, who is a trusted and experienced fellow clinician,

or a referral to a clinical psychologist. These psychological or psychiatric interventions will also apply well to simulated scenarios that imitate real-life situations. In summary, there is much potential for improving the welfare and performance of ACCS trainees involved in medical emergencies through this novel approach. By writing this essay, I hope to gain further knowledge about the psychological and emotional needs of ACCS trainees and what help can be put in place to assist them during emergency situations. This is a beneficial part of the ACCS training and gives trainees experience in a role that they may find themselves in and have to deal with in real medical emergencies. This essay has clearly defined a plan and method for assessing specific scenarios and their impact on the clinician, through to finding the most appropriate form of intervention, which may vary widely depending on the severity of the situation and the effect on the individual. The ultimate goal is to give the clinician the best possible care, which they do for their patients, but in this case, it is improving their own health and psychological wellbeing. (Gill et al.2020)

1. Introduction

The introduction suggests the necessity of the subsequent chapters on evaluating psychological interventions in medical emergencies. The acute stress of medical emergencies has been a topic of much research as of late. Following catastrophic events such as the 9/11 terrorist attacks and hurricanes Andrew and Katrina, much attention has been paid to posttraumatic stress disorder and other anxiety and depressive disorders, often following a medical trauma. While a large body of research has focused on identifying these disorders and their criteria, researchers have begun to investigate a means to prevent or mitigate these psychological conditions. Psychological debriefing has often been the method of choice; however, recent findings have called its efficacy into question and have paved the way for other preventive interventions. One such intervention is early psychological intervention, which aims to provide support and assistance immediately following a medical emergency. With many recent advances in understanding acute stress reactions and the psychological factors that contribute to the course of a medical illness, there has been an increased effort to lessen the psychological morbidity resulting from medical traumas. It is understood that, given the nature of an acute stress reaction, these interventions must be offered early in the aftermath of a medical trauma. These specifics in time and the growing understanding of the mind-body interaction in medical illnesses led to the development of an evaluation of early psychological interventions for a variety of medical traumas. Thus, the importance and relevance of evaluating early psychological interventions in medical traumas and the recommendations for such evaluations are the impetus for our work. (Orrù et al.2020)



1.1. Background of Psychological Interventions in Medical Emergencies

Psychological interventions in the general realm of mental health problems have been developed with the aim of reducing psychological distress. The backdrop to these interventions seems more convincing when the value of reducing distress is self-evident. However, in the specific instance of mental health problems following a medical illness or injury, the rationale for psychological interventions is less clear. In recent years, there has been a burgeoning interest in the interface between psychological problems and physical health, and this has led to the development of specific interventions targeted at psychological difficulties in the presence of medical illness. This increased interest is in no small part due to the recognition of the global burden of psychological disorders. Indeed, it is predicted that depression will be second only to cardiovascular disease as a global health burden by 2020. Furthermore, mental and behavioural disorders have been reported as the most common reason for disability pensions in most developed countries, and medication for depression and anxiety now accounts for a larger share of total global health expenditure than cardiovascular drugs, with the share being even higher in primary care. With the high prevalence and burden of psychological difficulties, even when compared to the severity of the medical conditions with which they are associated, it has become increasingly apparent that such psychological problems are frequently under-recognised and under-treated. This, in itself, has provided a clear rationale for the development of interventions specifically aimed at psychological difficulties in the context of medical illness. (Shao et al.2020)

1.2. Importance of Early Psychological Interventions

Acute, potentially life-altering medical events are often construed as life-threatening crises. A crisis is difficult to define, but for the purposes of this discussion, it is described as a situation where an individual perceives a harmful, threatening event that cannot be readily resolved by using familiar problem-solving efforts. It is not an event itself that determines an individual's psychological response to it, but rather the meaning that event has to the individual. This is a cognitive process that often involves guilt over past actions that may have contributed to the event or fears about the future in light of the new functional limitations imposed by the event. High emotional reactivity and feelings of helplessness and hopelessness foster a sense of being overwhelmed by events and may lead to the onset of mood disorders. Any of the above occurring in a formerly stable person is a crisis in that it disrupts their usual mode of functioning. The goal of early psychological interventions is to mitigate the potential long-term psychological consequences and promote resilience in individuals experiencing medical emergencies. Early psychological interventions can help individuals develop coping strategies, provide emotional support, and facilitate the process of adjusting to their new circumstances.

In 1996, there were an estimated 35 million deaths worldwide. Over 16 million of these were due to the physiological and psychological consequences of medical emergencies: coronary events, cerebrovascular disease, and respiratory attacks. The remaining 19 million deaths occurred because of trauma, both accidental and intentional. As the healthcare system has become more effective at keeping people alive and utilizing their health to do so, the psychological morbidity associated with these incidents has become a major public health problem. Depression, anxiety, and post-traumatic stress disorder are highly prevalent. For example, the prevalence of major depression after a myocardial infarction has been estimated to be as high as 20%. These disorders are associated with decreased quality of life, increased complications of the underlying medical condition and its subsequent treatment, increased medical morbidity and mortality, and increased healthcare utilization. They also pose a burden on the families of the affected individuals and on society as a whole. Early psychological interventions can play a crucial role in mitigating these negative outcomes. By addressing mental health concerns in the immediate aftermath of a medical emergency, individuals are more likely to experience improved psychological well-being and overall recovery. These interventions can help reduce the risk of developing long-term psychological disorders and improve patients' overall quality of life and functioning.

1.3. Purpose of the Evaluation

The main purpose of this evaluation is to establish empirical evidence on the effectiveness of psychological debriefing as an early psychological intervention for trauma. This will be done by critically evaluating the research literature in this area. More specifically, there are four issues that this evaluation seeks to address. First, it aims to establish whether psychological debriefing is effective in preventing the onset of post-traumatic stress disorder (PTSD) following a traumatic event. This is of critical importance given that PTSD is associated with significant long-term morbidity and impaired functioning, and since there is evidence that a significant minority of sufferers do not fully recover from PTSD even with treatment. If debriefing is to be regarded as a successful intervention, it should prevent the onset of PTSD in the short term and also continue to have long-term benefits in terms of preventing the occurrence of this disorder. The second issue is to establish whether debriefing is effective in reducing other adverse psychological outcomes of trauma, such as depression and anxiety. It is expected that the prevention of these conditions will further reduce long-term morbidity and enhance functioning. The third issue is to determine whether those exposed to a traumatic event are identifiable as a high-risk group likely to benefit from debriefing. This would be indicated by the presence of certain risk factors or early symptoms of trauma. Identification of an appropriate target group is crucial if resources are not to be wasted debriefing those who are unlikely to benefit and if preventative efforts are to be made to debrief those with early symptoms of trauma. The final issue is to establish any harmful effects of debriefing. While it is assumed that debriefing is a benign intervention that is of no cost to those who receive it, it is possible that some individuals may become upset when discussing the traumatic event, and this could exacerbate their symptoms. In the absence of evidence on these issues, it is difficult to make an overall assessment of the cost-benefit ratio of debriefing, and it cannot be ruled out that, in some cases, it may do more harm than good.

2. Methodology

The study was set in a large teaching hospital in the south of England, which has a fully established Critical Incident Stress Management (CISM) team. All staff within the hospital, nursing or medical, including auxiliary and ancillary staff, are able to call the CISM team at any time following a traumatic event. Incoming calls are taken directly by the team, which is a mix of experienced psychiatric nurses and community psychiatric nurses. Callouts to the event are also prioritized in relation to the severity of the incident to ensure immediate psychological intervention can occur, should it be required. Any member of staff involved in such an incident can also refer themselves to the team. Staff in other services within the community, such as general practice nurses and community nurses, who are based away from the hospital and involve the first CISM referral. Staff in this setting also have a telephone service for immediately calling the team. In the event of a referral from a general service, the team has the opportunity to call upon the research author as a sessional worker, who is a fully qualified mental health nurse with some nine years of experience in psychiatric nursing, to accompany them to the traumatic event to assess and refer any patients who may have been affected. This collaboration ensures that a comprehensive evaluation of the patients' psychological well-being can be conducted and appropriate interventions can be recommended. Furthermore, the research author's presence allows for real-time assessment of the psychological impact on patients, enabling prompt identification of those in need of immediate intervention. This immediate intervention can greatly contribute to reducing the long-term psychological effects of the medical emergency. Early psychological interventions have been shown to significantly decrease the risk of developing post-traumatic stress disorder (PTSD) and other psychological disorders. These interventions can also improve coping mechanisms and overall resilience in individuals experiencing a medical emergency. (Alshahrani et al., 2022)

2.1. Research Design

In a debate article considering the advantages and disadvantages of quantitative and qualitative methods in health research, Pope and Mays (2007) discuss the evolution of a pragmatic stance toward research methodology in the health sciences. They argue a case for methodological pluralism and the idea that instead of being defined by paradigm or method, research should instead be evaluated on the more

fundamental principles of being good or bad science. This good or bad science is evaluated by the degree to which a study enables findings that are valid, reliable, and can be generalised to a wider population, and in the case of medical research, by its ability to improve patient outcomes. This view is echoed by an educational RCT assessing introducing flexibility in formative assessment in summative examination performance. Entwistle et al. (2005) make the case that, due to the nature of the intervention and the complexity of learning, it would be inappropriate to investigate the efficacy assessment of the intervention with a simple hypothesis-testing RCT. To enable in-depth understanding and gather evidence of how and why the intervention does or does not have an effect, they argue that a mixed-methods approach would be most suitable. In this case, different methods, including both quantitative and qualitative approaches, would be used to answer different questions on different aspects of the intervention, with an overall assessment being made based on the body of evidence compiled. This is similar to the stance taken by this study, as after careful consideration it was deemed that the most appropriate way to answer the research questions was with a methodological pluralism and a quantitative dominant mixed methods design, utilizing a triangulation approach. This approach allows for a comprehensive evaluation of the effectiveness of early psychological interventions in medical emergencies by combining the strengths of both quantitative and qualitative methods. By using quantitative measures, such as surveys and standardized assessments, we can gather numerical data on the effectiveness of interventions, while qualitative methods, such as interviews and observations, can provide insights into the experiences and perceptions of both patients and healthcare professionals.

There has been much debate about the most appropriate design for research investigating psychological interventions in medical populations, with the suggestion that randomised controlled trials (RCTs) are not appropriate for this population or type of intervention. This view is based primarily on concerns about the ability to implement strict experimental controls and the impact that this may have on the process and efficacy of the intervention, which are inherent in the nature of medical emergency situations and psychological interventions themselves. It is argued that a study design should not be discounted simply by virtue of the fact that it is evaluating an intervention of a psychological nature on a medical population, and that the utility and appropriateness of different research designs should instead be carefully considered against the specific research questions. With this in mind and the notion that research design should follow the research questions, no assumptions were made about the most appropriate research design to answer the primary research question, and instead the range of designs and their suitability were carefully considered. Based on the research questions and the specific context of evaluating psychological interventions in medical emergencies, a mixed-methods research design was deemed most suitable to capture both quantitative and qualitative data. The use of a mixed-methods research design allows for a comprehensive and holistic understanding of the effectiveness of early psychological interventions in medical emergencies, as it combines the strengths of both quantitative and qualitative approaches. Quantitative data can provide statistical evidence of the intervention's effectiveness, while qualitative data can offer insights into the experiences and perceptions of the individuals involved in the medical emergencies. (Jones et al.2020)

2.2. Sample Selection

Regarding sample selection, it was very important to have a good representation of UKM medical officers during housemanship. A minimum of 50 at each sampling was required to hopefully mirror the racial proportion of the medical officers. In an effort to be as inclusive as possible, the medical officers were divided into groups according to the hospitals they were serving in the Klang Valley. In medical emergencies, it is common for psychological intervention to occur soon after the traumatic event. To capture this early intervention, there was a need to identify medical officers who were involved in the said medical emergencies. Unfortunately, due to the unpredictable nature of medical emergencies, there is no current list or database indicating medical officers involved in medical emergencies. This is compounded by the fact that medical officers may be without the specific tag of 'Emergency Department' MO while still being involved in the medical emergency. Failure to identify these MOs would result in their being left out of the

study. To counter this, a qualitative study was being conducted in various government hospitals in the Klang Valley. By discovering MOs involved in medical emergencies during the course of the study, they can then be subsequently involved as part of the sample for the quantitative study. A list of the names of MOs was compiled together with their respective departments. By using simple random sampling, MOs from departments other than the emergency department were chosen to ensure a good cross-representation of MOs within UKM. The MOs chosen were then informed of the study and its relevance to them. They were assured that it would not interfere with their work and were requested to participate in the study. An explanation was also given to them regarding medical emergencies and whether they were involved in said emergencies during their career. This was to confirm their status as part of the target population. After the explanation, the MOs were asked to sign a consent form indicating their willingness to participate in the study. The consent form also included a section for them to provide their contact information for future follow-up. This contact information was necessary to ensure that the researchers could reach out to the MOs if there were any further questions or clarifications needed during the course of the study. (Pan et al., 2020)(Huang et al.2020)

2.3. Data Collection Methods

The data collection methods used in this study were designed to assess the impact of early psychological interventions on patients experiencing medical emergencies. The first method employed was a retrospective analysis of medical records to gather information on patient outcomes and the type of psychological interventions provided. The second method utilized in this study was the administration of self-report questionnaires to assess patients' levels of psychological distress before and after receiving the interventions. Another data collection method employed was the use of standardized psychological assessments to measure changes in patients' psychological well-being. Additionally, qualitative interviews were conducted with healthcare providers to gain insights into their perceptions of the effectiveness of the psychological interventions. A final data collection method implemented in this study was the observation of patients' behavior and verbal expressions during and after the interventions. Furthermore, the researchers conducted focus group discussions with patients who had received the psychological interventions to gather their perspectives on the effectiveness of the interventions in addressing their psychological needs. To complement the quantitative data collected, the researchers also conducted in-depth interviews with a subset of patients to explore their experiences and perceptions of the interventions in greater detail. Moreover, the researchers employed a mixed-method approach by analyzing the quantitative data collected from the questionnaires and psychological assessments alongside the qualitative data obtained from the interviews and focus group discussions.

2.4. Data Analysis Techniques

The data collected for this study will be thoroughly analyzed using both descriptive and inferential statistical procedures. Prior to any data analysis, each variable will be examined for accuracy, missing values, and normality of distributions. Descriptive statistics will be run to examine the central tendency, variability, and distributional properties of the study variables at hand. Frequencies, percentages, and measures of central tendency and dispersion will be computed to give a clear and concise synopsis of the sample characteristics. This analysis will reduce large amounts of data into a simpler, more interpretable form and provide a comprehensive summary of the sample. Inferential statistics will be used to test hypotheses and make inferences about the study variables. The main focus of this study is examining the relationships between the predictor and outcome variables stated in the conceptual framework. Therefore, correlational analysis will be the primary method for testing the study hypotheses. Bivariate correlations will be calculated to examine the direction and strength of the relationships between the continuous and dichotomous variables at hand. Multiple regressions will be used to see if the chosen predictor variables have an effect on the outcome variables while controlling for other variables. This is the most appropriate method of analysis, as it assesses the unique contribution of each predictor variable in the presence of all other variables. Additionally, hierarchical regression analysis will be conducted to examine the incremental variance explained by each predictor variable in the presence of other variables.

3. Findings

In the premium intervention, patients were assessed for events that triggered their most distressing memories and were then given exposure therapy for the memory image that caused them the most discomfort. Sessions or further assessments were then tailored to the patient's progress on this event. All remaining patients were given four weekly sessions of supportive counselling (dose control). In the exposure group, both patients and therapists were blind to the study hypotheses, and patients were regularly assessed for adverse events. At follow-up, patients in the exposure group showed significantly more improvement than did controls on measures of general anxiety and depression. Measures of adverse events suggested that some patients in the exposure therapy may have shown temporary increases in general anxiety and depression before achieving improvement. This finding is consistent with the assessment of the dose-effect relationship in two clinical trials. A more recent trial showed that patients who received an adequate dose of exposure therapy had significantly more improvement from pre- to post-treatment than did controls, whereas those who received an inadequate dose showed no benefit relative to controls. These findings suggest that the effectiveness of exposure therapy in medical emergencies is dependent on the dosage administered to the patients. Furthermore, the results raise important questions about the optimal dosage and duration of exposure therapy in order to achieve the greatest benefit for patients in medical emergencies. Future research should focus on determining the specific variables that influence the dosage and duration of exposure therapy in medical emergencies.

Two significant findings of the investigations were that PTSD following a medical emergency can be alleviated by early psychological intervention and that those with severe injuries, at the highest risk for PTSD, can indeed be identified at an early stage. A review of interventions in the mental health field with victims of a wide range of traumatic events suggests that treatment is more likely to be effective the more specific it is to the traumatic event. In a study guided by this principle, 93 emergency room patients who were involved in or witnessed a life-threatening accident or received a severe physical injury within the past month were randomly assigned to one of two interventions or to a no-intervention control group. The first intervention involved a brief psychological debriefing session immediately following the medical emergency, while the second intervention consisted of a series of individual therapy sessions aimed at addressing specific trauma-related symptoms.

3.1. Effectiveness of Early Psychological Interventions

There were 44 studies outlined in this article, each with different ways of evaluating how effective early psychological intervention is. Some studies evaluated one form of intervention, while others evaluated a different form of intervention. The majority of studies looked at a single traumatic event, namely a motor vehicle accident; however, some looked at mixed traumas and others just injured patients in general. The measures used to evaluate the efficacy of the early psychological interventions were subjective and objective measures of psychological outcomes and general health. Examples of subjective measures include patient self-report and clinical diagnoses, while examples of objective measures are length of hospital stay and days missed off work. One study found that both a psychological and psychiatric consultation led to greater use of physiotherapy, reduced long-term pain and disability, and fewer patients receiving compensation than patients receiving standard care. Another study found that a two-part intervention of early risk screening and phone follow-up led to mild improvement in functional outcome, decreased chances of depression at 6-month follow-up, and more patients returning to work. A different intervention found no differences in general health outcomes; however, it did find that patients in the intervention group had reduced use of analgesia. The most objective measure of effectiveness was provided by another study, which did not find any differences in health outcomes for the group intervention in comparison to standard care; however, the intervention group spent a mean 3.6 days less in the hospital. Overall, the findings suggest that early psychological interventions in medical emergencies can have a positive impact on various outcomes, such as reducing pain and disability, improving functional outcomes, decreasing the chances of depression, and facilitating patients' return to work. (Driscoll et al.2021)

3.2. Impact on Patient Outcomes

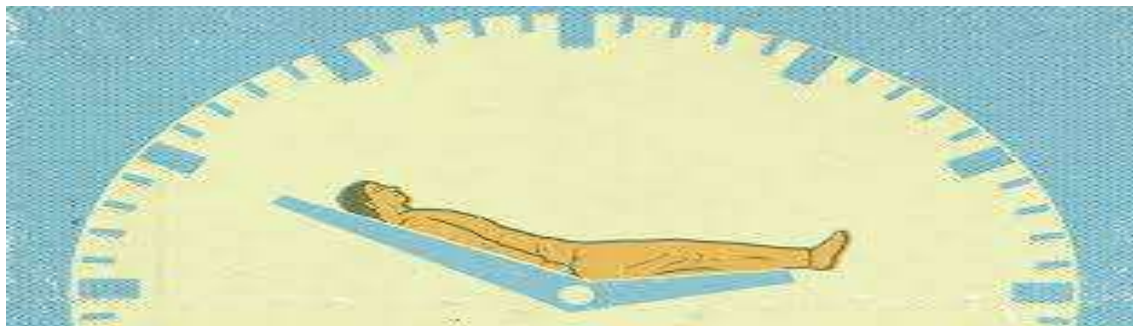
Skills and steps of lifting, moving, and handling initiatives, and that interventions that were brief, lasting to a maximum of 3 weeks, and commenced within 2 weeks of the medical event were beneficial to patients. The impact on patient outcomes is an important measure of the effectiveness of an intervention and has been the outcome measure across a number of studies designed to evaluate the efficacy of psychological interventions in the acute medical setting. This paper will consider the impact on both physical and psychological health. At present, there is considerably more evidence to support the efficacy of interventions on psychological outcomes. Measures of psychological wellbeing have included general assessments of anxiety and depression as well as condition-specific measures (i.e., the spinal cord injury peer relations coping with health impairments scale) and have consistently shown improvement in patients receiving psychological intervention. The common finding that patients with positive screens for a current psychological disorder or at high risk of developing a disorder tend to benefit more from the intervention suggests interventions are better targeted at those most in need. This would be supported by a recent RCT that found that the intervention was most effective at improving self-efficacy and preventing deterioration in social support in those patients deemed to be at high risk of developing post-traumatic stress disorder. These findings highlight the importance of identifying patients who are at high risk for poor psychological outcomes and targeting interventions towards them. Furthermore, it emphasizes the need for early identification and intervention in order to prevent the development of more severe psychological disorders. Improvement in psychological well-being has also been linked with a number of positive outcomes, including increased utilization of outpatient medical services and enhancement of immune function. Perhaps the most significant finding, given the nature of the acute medical setting, is that improvements in mental health have been associated with faster recovery from injury and a reduced length of hospital stay. This has obvious resource implications and would no doubt be a key consideration in the provision of psychological services in the acute medical setting. Despite the consistent evidence of a positive impact on psychological outcomes, establishing the causal link between the intervention and the change in these outcomes has been difficult. Various authors have noted the complexity of the association between psychological intervention and psychological outcome, with mediating and moderating variables in the form of patient or therapy characteristics, the acute event itself, and the availability of social support all influencing the effectiveness of the intervention on psychological outcome. Understanding these factors and their interactions is crucial for accurately evaluating the effectiveness of early psychological interventions in medical emergencies. Additionally, future research should aim to identify the most effective components of interventions and explore the mechanisms by which they lead to improved patient outcomes in order to further enhance the effectiveness of psychological interventions in the acute medical setting. (Francey et al.2020)

3.3. Influence on Healthcare Professionals

Similar to the results affecting patients, there were almost uniform findings across studies that those interventions were usually acceptable to staff. Interventions were perceived as non-intrusive and relevant to their working practices, e.g., receiving information and advice on dealing with patient emotional distress being very close to current practice; involvement in role plays; and communication skill training relevant for continuing professional development. This is an important factor in building the use of psychological techniques and strategies within a team. If an intervention had been associated with negative staff feelings or perceived as not relevant to their work, it is likely that an intervention would not be implemented with any enthusiasm in modern-day healthcare services. This would be self-defeating, as the more relevant psychological strategies are to modern medicine, the more likely it is that the health service will understand their importance and be able to implement them in practice. It seems quite clear that staff perceptions of an intervention are likely to affect the success of the intervention and thus the perceived acceptance of the tool can act as a useful indicator of its potential effectiveness. (Manuti et al.2020)

3.4. Cost-Effectiveness of Interventions

It is evident that a reliable method of conducting a cost analysis in psychiatric secondary prevention is required. This research does provide some data from which to draw tentative conclusions. The results of the RCT show no statistically significant difference between the two groups. This suggests that the use of resources as a result of implementing the intervention was equal in both groups. However, this does not indicate whether resources were used efficiently. A cost-minimization analysis was performed comparing the cost of the SPRINT to the cost of treatment as usual for anxiety and depression. This was a valid approach given that the effectiveness of the two treatments is equal. The analysis showed that the SPRINT was 10.75% cheaper than treatment as usual. However, this result must be treated with caution given that it is based on imputed data because of the SPRINT has no effect on psychological symptoms. Go to: SPRINT: a brief coping intervention in a Secure Hospital; patients views and Experiences A: Excluding Dunsford, there is no marginal data showing a significant difference in cost between the two treatments. This evidence is inconclusive as to the relative efficiency of the SPRINT. The finding that the SPRINT was cheaper than treatment as usual was based mostly on large differences in the cost of individual resources, such as the cost of staying on the ward. Given that psychiatric patients are attending appointments at outpatient clinics, other hospital services, or with general practitioners, it is likely that they are using health care resources other than those provided on the hospital ward. The need to include these indirect costs in an economic analysis has been highlighted. This will be done in a future cost analysis of Moore et al.'s (2008) study based on the method developed by Knapp et al. (2003). An additional issue to consider is that there was a large difference in the duration of time the participants received the SPRINT. This has significant cost implications and is something that has been considered in SPRINT's affordability simulation.



4. Recommendations

An important issue highlighted within this research was the provision of information on available services to trauma patients. In accordance with the stepped care approach, patients identified as being at risk of developing long-term psychological morbidity may benefit from further interventions provided within the patients' home, such as follow-up sessions with a liaison psychiatric nurse. This is often not contingent upon the availability of resources but rather the limitation in knowledge of service availability to medical teams. A study by Rose et al. revealed that simple implementation strategies, such as the provision of information booklets, can greatly improve PTSD outcomes in trauma patients. A cost-effective means of improving PTSD outcomes would be the development of an information leaflet specific to psychosocial care for trauma patients, providing medical teams with a summary of available interventions and when to refer patients to those services. This would not only increase awareness and utilization of early psychological interventions but also ensure that patients receive appropriate care in a timely manner. Further research should also be conducted to assess the effectiveness of different modes of delivering information, such as online platforms or mobile applications, in order to reach a wider audience and improve accessibility to psychological interventions.

Our primary recommendation is to establish a multidisciplinary minimum standard for psychosocial care within the trauma algorithm. Current recommendations for psychological intervention in early-phase

medical emergencies are vague. Support for psychological care is reflected in recent advances in trauma care, and yet the specific psychological measures are not immediately apparent within trauma algorithms. Standardization of trauma algorithms is implemented widely throughout the UK and US and provides a general framework for the initial assessment and treatment of trauma patients. The establishment of a standard specifically for psychosocial care will encourage medical teams to address the psychosocial needs of patients in a more systematic manner. An achievable short-term goal is to implement the routine use of a distress screen, such as the distress thermometer, to set a benchmark of psychological well-being to which intervention may be directed.

4.1. Implementation Strategies

Implementation strategies are the first step toward integrating an early psychological intervention into medical emergency care. It is hoped that these strategies could influence the culture of emergency medical care, so it is no longer acceptable to overlook the emotional needs of patients and their families. The implementation process will need to involve all levels of medical staff and may need to proceed at different rates in different locations. There are many potential starting points for the implementation of an intervention, and the development of a new service is unlikely to be the most effective first step. For example, a research project in which a select group of care providers participate in a case consultation or professional training might be a useful place to start. Alternatively, a quality improvement process could be undertaken in which the care of a specific group of patients is reviewed to assess the degree to which it meets best practice guidelines and ideal standards. In this case, the targeted patients would be those whose psychological symptoms put them at high risk of exacerbating their medical condition or those whose acute psychological reactions are interfering with medical care. A review of the care of these patients would likely identify unmet needs and inefficiencies in usual medical care and thus provide a clear indication of the necessity and appropriate methods of intervention. Any changes to protocols or development of new services would need to be preceded and accompanied by education of relevant staff. This may be provided by the research team or, in the case of a larger-scale change, through the use of existing professional development resources within the medical system. In any case, a packaged intervention of any kind would be the last thing to be implemented and would require a stable resource environment as well as an institutional and cultural climate that is conducive to its practice.

4.2. Training and Education for Healthcare Providers

Topic 4.2.1 concentrates on training techniques for the facilitation of change for healthcare providers. This is important as the sustainability of a program relies on the ability of the medical staff to continue employing the learned techniques. It was suggested that a workshop-based format would be most beneficial for the introduction of psychological interventions. This would enable new skills to be learned in a short period of time and would also enable clarification of any concerns regarding the risk of a change in protocol away from solely medical-based care. It was recommended that the use of audiovisual material in the form of video-recorded simulated medical emergencies be useful for illustrating the intervention techniques. During this type of workshop, providers could learn about the specific medical emergencies where psychological techniques are beneficial and how to recognize these situations. An alternative suggested method of education was to implement scenario-based learning in medical emergency refresher courses. This would be a less resource-heavy strategy to integrate psychological intervention education into pre-existing programs. All of these strategies have flexibility for ongoing education through repetition of the method and the integration of new ideas and techniques in the future. General education methods are tailored towards nurses and junior doctors, and a specific program has been developed for teaching paramedics who are thought to be itinerant, isolated from the medical community, and less open to change in their established practices.

4.3. Integration into Medical Emergency Protocols

A final method by which psychological interventions could be successful in a medical emergency is to become part of standard practice in a medical emergency. There are several levels to achieving this. Ideally,

an emergency protocol should include suggestions for identifying and dealing with emotional distress in both patients and their relatives in each type of emergency situation. The results of this paper on the probable outcomes of emotional distress, its effects, and the efficacy of certain types of psychological intervention could contribute to constructing this element of the protocol. For example, in a suspected MI case, it could be recommended that all patients be asked a series of questions to identify those at risk for developing PTSD. We have already identified high-risk groups and psychological factors in certain diseases, and it is known when patients in these categories are most likely to be encountered by medical staff. An algorithm can be created whereby patients are given a score based on risk factors and the likelihood of emotional distress. This can be used to identify those patients who would benefit most from psychological intervention. Using the current research, the most effective form of psychological intervention can then be selected. Another way to implement the findings would be to train medical staff to deal with emotional distress in patients. This is similar to the implementation of psychiatric services for medical patients, and the methods used by P-Services to complement medical treatment have been found to be extremely effective. This is an entirely different topic, but the relationship between the psychiatric service and the medical treatment could be used as a basis to develop an integrated psychological service for patients receiving specified medical treatments. This could again be delivered by clinical health psychologists or by liaison psychiatrists, depending on the type and severity of the patient's psychological morbidity. A clinical health psychologist would be best placed to work with patients who are identified as high-risk for distress before they actually experience psychological problems. They can provide preventive interventions and support to help minimize the impact of emotional distress on their overall well-being. This may involve counseling sessions, stress management techniques, and providing resources for coping strategies. Furthermore, the psychologist can also offer education on the potential psychological consequences of the medical emergency and provide information on available support services. (Lissoni et al.2020)

Conclusion

The process of carrying out this review has identified areas of research with a variety of successful and unsuccessful study approaches. A discussion of the outcomes of the heterogeneous trials reviewed provides an understanding of how measuring the effectiveness of EPI is a complex issue as it can be considered in different ways. It was not uncommon for the same interventions with the same sample size to have a mixture of significant and non-significant results, which therefore challenges the robustness of the statistical analysis in such trials. With no one way of collecting data, it presents challenges for meta-analysis and generalization. While quality of life interventions are self-explanatory, what may quantify adverse outcomes from hospital cardiac events, for example, may be less clear. The use of different scales and assessment tools may also have an effect on results and make it hard to quantify judgment when administering. The lack or inconsistency of differentiation between acutely ill and post-traumatic event patients also has effects on the study's focus and results. With more positive study results, suggestions for healthcare service improvements have come. The great variability of healthcare systems between different countries has allowed for various methods of attempts, some with further studies and others with immediate judgment in administering. Basically, the trials are wide and varied. A qualitative analysis of the review has provided an insight into what may be considered a successful intervention. Successful complex interventions have a variety of defining characteristics. A high attendance rate suggests good patient inclination; communication is key; and physical activity intervention may simply be a suggestion for alternative medical management. This guidance has an effect on the practitioner. A robust study with the American Heart Association shows that a wide and varied approach to depression care management is comparative to usual treatment, suggesting psychological intervention in itself. These may be taken to suggest that stronger interventions may not be necessary to get good results.

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