

Application of Mental Health Physical Activity Education Tool in Healthcare – Study Development

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ABSTRACT

Despite the Government providing additional funding for mental health services and research, it is grossly less than other physical health services. Treatment and positive development of mental health issues remain the biggest challenge for The Scottish Government. A connection has been made between physical and mental health and thus accessible rehabilitation programmes may benefit patients mentally and physically. In the last two decades, a number of studies, clinical and non-clinical have highlighted the positive affiliation between physical activity/exercise and reducing symptoms of depression. Depression is a major health inequality worldwide affecting 121 million people from all backgrounds. It has many affecting factors such as biological, psychological and social implications which are wide ranging from mild to severe depression. Individuals living with chronic physical health problems can go on to develop mental health problems or mental health problems can be aggravated by physical health conditions.

Key Words: mental health; physical activity; depression

Introduction

Despite the Government providing additional funding for mental health services and research, it is grossly less than other physical health services.¹⁻³ Treatment and positive development of mental health issues remain the biggest challenge for The Scottish Government.²⁻³ A connection has been made between physical and mental health and thus accessible rehabilitation programmes may benefit patients mentally and physically.^{2,4-5} In the last two decades, a number of studies, clinical and non-clinical have highlighted the positive affiliation between physical activity/exercise and reducing symptoms of depression.⁶⁻¹¹ Depression is a major health inequality worldwide affecting 121 million people from all backgrounds.¹² It has many affecting factors such as biological, psychological and social implications which are wide ranging from mild to severe depression.¹³ Individuals living with chronic physical health problems can go on to develop mental health problems or mental health problems can be aggravated by physical health conditions.¹⁴

De Koning, Verver and Van Den Heuvel et al.¹⁵ observe that a substantial amount of healthcare costs come from inefficient operational output. Quality healthcare is reliant on all health professionals involved improving their knowledge and skills in these methods of improvement.¹⁶ With this in mind the author would like to explore the implementation of a quality improvement (QI) project with regards to a test for change relating to education and participation in physical activity as an intervention to manage mental health issues such as depression. Depression is a major health inequality worldwide and affects 121 million people from all backgrounds.¹² It is said to be one of the main causes of disability in the

world with 1 in 5 people in Scotland alone experiencing depression at some point in their lives.¹⁷

Individuals living with chronic physical health problems can go on to develop mental health problems or mental health problems can be aggravated by physical health conditions.¹⁴ Furthermore, mental ill health can even be a prerequisite to physical ill health. Moussavi et. al.¹⁸ supports this in a study by The WHO World Health Survey of adults to attain health data using ICD-10 criteria for baseline prevalence of depression. The study surmised that the co-morbidity of depression has a more degenerative effect on health compared with depression alone as depression is frequently co-morbid with chronic diseases.¹⁸ Therefore tackling mental health issues will affect physical health gains such as individual's better management of their own condition.¹⁴

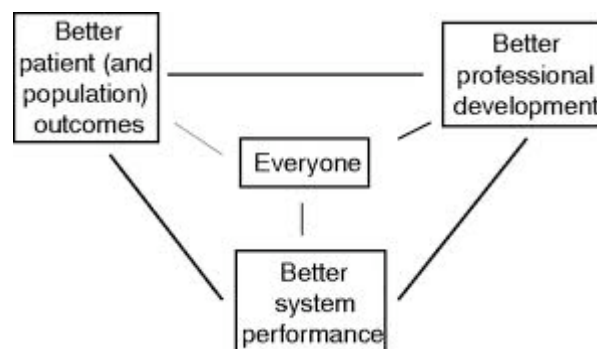
Despite the Government providing additional funding for mental health services and research, it is grossly less than other physical health services.¹⁻³ Key problems highlighted have been funding shortages, poor inpatient services, limited access to services and discrimination.¹ Nevertheless, achievements have been made with regards to mental health services and people themselves are taking greater responsibility with regards to their own mental health and well-being through self-management.³ Subsequently, treatment and positive development of mental health issues remain the biggest challenge for The Scottish Government²⁻³ with 44% of individuals in Scotland who receive benefits due to disability having mental illness as a primary condition.³

The author has a keen interest in health, physical activity and depression levels and is keen to explore if the implementation of a quality improvement tool can have a positive impact on an individual's mental well-being.

Quality Improvement

There is a growing need for quality improvement (QI) in healthcare and although methods have been proven they are not without challenge within a healthcare setting.¹⁹ Batalden and Davidoff²⁰ describe QI to be the continued efforts of all involved in healthcare including all health professionals, patients, families, carers and researchers alike to bring about better health, better care systems and continued learning and development (see figure 1).

Figure 1: Linked aims of Improvement



Mental Health and Effects of Physical Activity

Depression has many affecting factors such as biological, psychological and social implications which are wide ranging from mild to severe depression.¹³ Due to depression having wide ranging classifications, a formal definition of severity of depression is classified by the use of the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) diagnostic criteria.¹³⁻¹⁴

Treatment for depression differs from person to person.¹⁷ One such technique is the prescription of exercise through interventions called Exercise Referral Schemes, which is a referral by a primary care professional to a custom made physical activity programme, involving an initial assessment with monitoring and supervision throughout the programme.^{17,21} Generally, these programmes require involvement of a number of professionals and the individual is required to go along to their local leisure centre where they will receive a tailored physical activity programme at a discounted monthly membership.²² Recommended guidelines have been well documented to be at least 30 minutes of moderate intensity exercise 5 days per week.^{5,8} Although, various studies have indicated that different intensities and duration of physical activity/exercise may have different effects on depression levels.²³

Other interventions include walking and cycling schemes, which are participants can access.²² Consequently, Williams²¹ found that this referral scheme did little to improve physical activity levels in non-active individuals and that the barriers to the uptake of the scheme required to be addressed by the NHS.

Literature suggests that there are potential barriers to service users taking part in physical activity, such as limited experience of physical activity, impact of medication or level of support needed. Williams²¹ highlighted participants' personal barriers to uptake being lack of self-esteem, lack of social support and low body image. Furthermore, with regards to exercise scheme barriers, inadequate professional supervision and intimidating environments were also noted.²¹ Although these barriers were identified there have been few well conducted qualitative studies to fully explore participation and adherence barriers.²¹ These barriers may be addressed by assessing participant's readiness to participate and behavioural change attitude along with the possibility of increasing the variety of exercise programmes on offer which can then be more tailored to individual preferences.²¹ Moreover, NICE²² public intervention guidelines state that exercise referral schemes may only be recommended as part of research study to define efficacy.

Other potential barriers can be in relation to limited access to services and may also be of negative consequence to the uptake of Exercise Referral Schemes.¹ Nine out of ten patients diagnosed with depression are treated in primary care in the UK.²⁴ However, quality discrepancies have been observed with relation to accessibility of primary care in mental health.²⁵ In particular, this has been seen as a "one size fits all" approach which is unrealistic, therefore there are patients living with mild to moderate depression who's needs are not being met.²⁴ This also calls for targeting of GP's and their successful identification of individuals with depressive symptoms to promote recovery through early detection.²⁶ Literature has found that many individuals with depressive symptoms were actually going unnoticed by GP's.²⁷

A connection has been made between physical and mental health and thus accessible rehabilitation programmes may benefit patients mentally and physically.^{2,4-5}

In a 10-year cohort study of depressed patients, Harris, Cronkite and Moos¹¹ found increased physical activity reduced depression. This study uses various measures such as the Health and Daily Living Form (HDL), used at various points throughout the study.¹¹ The patient group was defined by using criteria constructed using the Research Diagnostic Criteria (RDC) and The Global Depression Index (GD) to diagnose patients as clinically depressed.¹¹ Furthermore, measures were constructed regarding physical activity and exercise coping along with 2 stressor indexes being drawn from the HDL.¹¹ The study surmised that clinically encouraging depressed patients to partake in physical activity is beneficial.¹¹ Moreover, in the last two decades, a number of studies, clinical and non-clinical have highlighted the positive affiliation between physical activity/exercise and reducing symptoms of depression.⁶⁻¹¹ Although a range of measures being used to define depression makes it difficult for comparison of studies, a positive affiliation is apparent.²⁸

Further studies have also looked at length and intensities of physical activity. Teychenne et al.²³ conducted an analysis observing physical activity and likelihood of depression in adults and found that five out of seven of the intervention studies highlighted a positive affiliation between length and intensity of physical activity session and reduced likelihood of depression. ACSM⁵ support this by advising not only can individuals take part in moderate intensity activity for 30 minutes at least 5 days a week but vigorous intensity physical activity can be partook for a minimum of 20 minutes, 3 days a week or intensity can be combined to meet recommendations. However, the reduction of depressive symptoms and likelihood of depression may also be due to the social factor of the individual being involved and supported in a social setting.²³ Although, studies have found that social factor effect is generally not been shown to have a connection to the benefits of exercise.⁸ Conversely, Saxena et al.²⁹ advised that physical activity as a health promotion strategy has not yet been studied in depth.

Effectiveness of physical activity and medication or Cognitive Behavioural Therapy (CBT) has shown no difference between interventions.¹³ Strohle³⁰ and The Scottish Government³¹ recommends that implementation and optimum benefits of physical activity for clients, requires a multi-disciplinary team (MDT) approach of all health professionals involved in the clients care. Thus, as outlined by local guidelines and studies, physical activity and established interventions can work together to promote self-management and recovery of clients diagnosed with depression.^{13,30}

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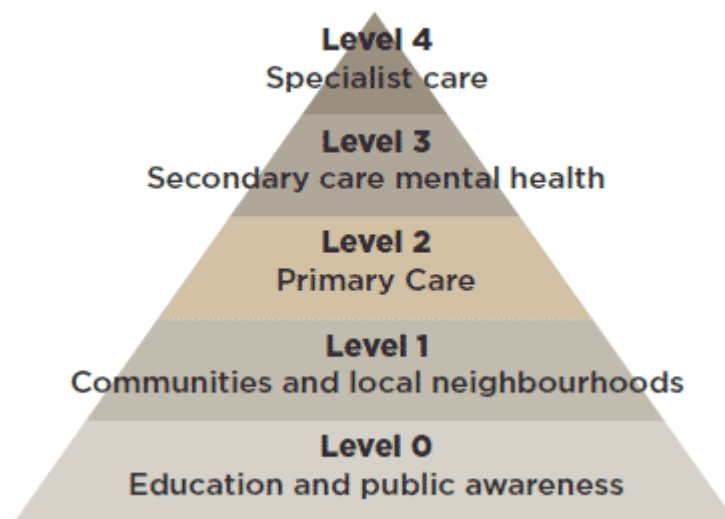
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Quality Improvement Project: Implementing a mental health physical activity education tool

Planning stage

The National Institute for Health and Clinical Excellence (NICE) (2008), The Scottish Government (2010) and The Scottish Intercollegiate Guidelines Network (SIGN) (2011) recognise the benefits of physical activity as an effective approach for tackling mental health and improving the physical health of people with mental illness (see figure 2).

Figure 2: The Way Forward Mental Health Figure



Studies support this by advocating that mental health care delivered locally would be more effective through the progress of local QI systems specially designed to integrate national standards.³² Furthermore, observations from literature established that a community approach improved social support in communities and encouraged positive changes in physical activity practises.³³

Developing a Local Study Developing Physical Activity for Patients with Mental Health Diagnoses in the West of Scotland

The author plans to implement a quality improvement project that aims to support mental health issues in the community using resources already available, a local gym environment, with the objective of promoting self-management of mental health issues through participation in physical activity. This project will be carried out over a 3 month period using the quality improvement method of Plan, Do, Study, Act (PDSA) methodology. National guidelines recommend, that a physical activity programme be 3 sessions per week of moderate intensity ranging from 24 minutes to 1 hour in duration and be structured and group based.³⁴ Therefore these guidelines will be used in the implementation of this study. The success of the project will be measured by the uptake of mental health groups in the area, use of the Hamilton Depression Rating Scale to measure reduction rate of depressive symptoms and the referral rate of GP's to these sessions.

Participants will be selected anonymously by health professionals with the criteria of a diagnosis of depression. The patient journey will involve an initial assessment of need through a GP or other healthcare professional, which would normally be sent to the local

health development officer to contact the patient to go along to their local leisure centre or community walking group to begin a tailored programme.²² Potential participants will be notified by post as to the study and the opportunity to participate, sending informed consent back to the researcher if consent given. The six essential ethics factors for the protection of participants will be adhered to, along with steps taken to protect vulnerable groups.³⁵⁻³⁶

Participants will take part in a walking group both inside a gym environment and outside in local green space. This programme would be continually monitored and would involve a patient follow up to monitor progress.²² There are many different rating scales used for depression disorders in clinical practise and research settings.³⁴ The author has chosen to use The Hamilton Rating Scale, even though, in a review of the scale, conclusions were drawn that despite being the gold standard of assessment of depression used in healthcare for over 40 years, a revised scale would be beneficial to replicate current trends, and utilise current psychometric methods and definitions of depression³⁷. Moreover, the psychometric measures, reliability estimates and validity measures of the scale reliably conform to established criteria and that the scale is proven to be effective in identifying change³⁷. It also deals directly with clients already diagnosed with depression and its ease of use and efficiency in terms of the information the researcher seeks makes it the preferred choice of the author³⁸.

The author will use the Hamilton Depression Scale as a baseline for the study and to identify change. Participants will then complete the scale once a month to measure any changes to their diagnosis. Any negative results will be referred back to the MDT to support clients and make changes for re-entering the study if the client wishes to continue.

PDSA (plan, do, study, act)

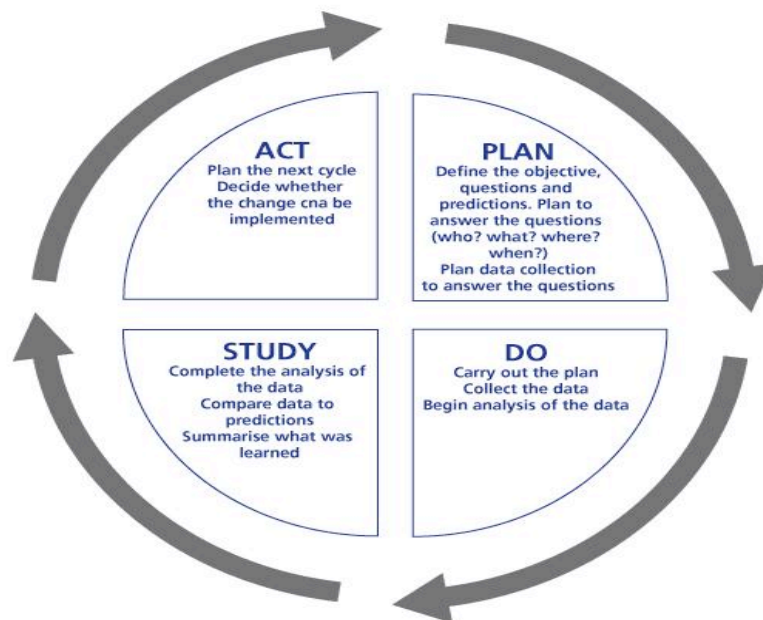
The initial stage of the PDSA cycle is defining what is to be achieved.³⁹ In particular to clear goals, changes identified to reach the overall improvement aims and how improvement or change will be seen to be a success.³⁹ The goal of this study is to ascertain whether the implementation of a mental health, physical activity education tool using RCC with PDSA quality improvement methods would be successful in the promotion of self-management and recovery of individuals diagnosed with depression. Therefore supporting national objectives to increase quality and access to mental health services promoting individuals to self-manage and promote recovery through independence.⁴ This study aims to use evidence based approaches and research for this including development of partnerships of all involved and promotion of mental health in communities.⁴ This will be achieved by a MDT of key staff to share expertise and knowledge including health professionals working directly with mental health patients, GP's, gym staff and patients themselves will be educated to the benefits of exercise. MDT meetings will take place before, throughout and after intervention to increase the success of a positive and beneficial patient journey as outlined in the Healthcare Quality Strategy.⁴⁰ Patients will not be present at these meetings but will continue to liaise with their own support staff to allow them to be involved with their own care. The inclusion of patients to be involved in their own care is imperative for project success as recent research conducted through use of focus groups confirmed that service users want to be physically fit and active.⁴ The method of including a MDT to be involved in the project improves communication between health professionals and reduces any barriers to change if the project was to become fully operational.⁴¹

Likewise, a MDT of specialised allied health professional interventions can also assist service users/carers to overcome potential barriers addressed previously.^{4,9} A multi-disciplinary approach involves all health professionals working with clients with a diagnosis of

depression to come together and share their expertise and work closely together to provide a positive patient journey to allow successful self-management and recovery by assisting access to the right information, education, support and services available.^{4,40} For example, primary care professionals, community psychiatric nurses or GP's would be aware of the benefits of exercise for mental well-being and the social prescribing of exercise referral by referring the patient onto the appropriate professionals. Likewise, exercise professionals would be aware of other health co-morbidities, psychological or medication issues relating to mental ill health.

The NHS ascertain that the key to success of a quality improvement project using PDSA methodology is planning, continuous testing and implementation of changes which lead to improvement (see figure 3a and 3b for model).⁴¹ The PDSA method as a test for change enables the author to test the improvement on a small scale which is less disruptive to other staff and other on-going initiatives. Furthermore, it is also time and money efficient, reduces risk and failure rates and is key for quick learning.^{39,41-42} This method is also very effective to provide evidence to key stakeholders and senior staff that the improvement can lead to real and positive changes.⁴¹

Figure 3a: PDSA Quality Improvement Model



An important consideration for success of QI projects is the attention to leadership support as senior staff can have the ability to undermine or drive a programme forward⁴³. Furthermore, a study of measuring the quality of healthcare found that the absence of data showed a significant barrier to doctor or senior staff becoming involved in quality improvement projects⁴⁴. Therefore recognised guidelines and up-to-date performance data will be collated to use as a baseline to ascertain whether current standards are being met which also concentrate on reducing failure rates rather than just improving quality³⁹. Data collection and measurement of the project will take place on a monthly basis to assess, collect and compare data. This also enabled the author to ascertain what learning came from the previous month and any changes, if any are required for next cycle.

The author recognises that sustainability of a project usually receives poor attention⁴⁵ and that sustainability is dependent on a variety of factors such as finance, leadership or managerial input.⁴⁶ Improvements from change can be lost due to newer practises not being considered.⁴⁵ However, use of the PDSA cycle supports active learning that provides all health professionals with the knowledge to improve and maintain knowledge.⁴⁶ Furthermore, the use of PDSA cycles allows for the inclusion of current new methods to still be trialled and tested without disruption to other service areas or lost due to other new practises.

Figure 3b: PDSA Quality Improvement Model – The Key Questions



Conclusion

It is clear that depression is a major health inequality worldwide and that treatment and positive development of mental health issues remain the biggest challenge for The Scottish Government.

A connection has been made between physical and mental health and studies are growing with regards to the positive affiliation between physical activity and reducing symptoms of depression and thus accessible rehabilitation programmes may benefit patients mentally and physically. However, the author recognises the limitation of previous data for comparison of other similar projects as few were found. This does however; make way for further research regarding similar projects' as there seems to be a gap in this area regardless of local and national guidelines.

This potential study also has limitations with regards to referrals made to the researcher as each client is at a different stage in treatment, however, this is why it's important that a

multi-disciplinary team are involved for the sharing and communication of information about the clients care and therefore promote a positive and effective recovery for the client as per local and national guidelines. These guidelines recognise the benefits between physical activity and mental health and recommend the use of this knowledge to be teamed with accessible physical rehabilitation programmes to promote self-management of individuals diagnosed with mental health disorders.

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