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Physical activity referral scheme outcomes

Uptake and Participation in Physical Activity Referral Schemes in the UK: An Investigation of Patients Referred with Mental Health Problems.

Running Title:

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Abstract

The study compared outcomes of uptake, attendance and completion between two patient groups (mental health, n = 134 or physical health, n = 2767) in a physical activity referral scheme during 2000 to 2003. Despite similar rates for the physical health and mental health groups for initial progression (94% vs 90%), referral uptake (60% vs. 69%; $p < 0.001$) and programme completion (22% vs. 34%; $p < 0.001$) were significantly lower in the mental health referrals. In conclusion, physical activity referral schemes appear to be less well suited to the needs of the mental health patient.

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Introduction

Physical Activity Referral Schemes (PARS) facilitate the use of a range of physical activities in the treatment and rehabilitation of people during or after a period of poor health (Gidlow, Johnston, Crone & James, 2005) and have been recommended to health professionals as a suitable intervention for the promotion of physical activity in the treatment of people with depression (Mental Health Foundation, 2005). A further aspiration of PARS is a preventative one, whereby those that may benefit from additional structured physical activity are referred with the aim of improving both physiological and psychological aspects of their health (Gidlow et al., 2005). Described in more detail elsewhere (Gidlow et al., 2005; Crone, Johnston & Grant, 2004), PARS involve the referral of patients by health professionals, usually a General Practitioner, to a leisure provider to undertake a program of physical activity under the supervision of qualified exercise professionals. PARS have proliferated rapidly in the UK since their conception in the early nineties and are thought to be the most prevalent type of community-based physical activity program (Crone et al., 2004).

Recent research has predominantly investigated the effects of participation in PARS for those with physiological problems (Gidlow et al., 2005; James, Johnston, Crone, et al., in press). However, there has been interest in the role of physical activity in the prevention and treatment of mental health problems (Biddle, Fox & Boutcher, 2000; Burbach, 1997; Callaghan, 2004; Daley, 2002; Ellis, Davey, Grogan & Crone, 2006). Wider recognition and acceptance of

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mental health conditions, along with a growing body of research into the treatment of mental health, has encouraged greater emphasis on the use of physical activity as a non-pharmacological treatment alternative (Callaghan, 2004; Crone, Smith & Gough, 2005; Grant, 2000). Consequently, physical activity opportunities for people with mental health problems are being actively promoted in both the community and in mental health services (Crone & Stembridge, 2007; Mental Health Foundation, 2005; NICE, 2004). Nevertheless, despite the emergence of such practice there is, to date, little known about the appropriateness of PARS schemes for people with mental health problems. This is largely due to issues in the design of PARS evaluations (Dugdill, Graham & McNair, 2005) and the lack of large scale data sets that would enable analysis of uptake and attendance in relation to referral reason (Gidlow, et al., 2007; James, et al., in press). Thus, the primary aim of the current study is to compare initial progression, uptake, and completion between patients' referred on the basis of a mental health condition with those referred on the basis of physical health conditions.

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Method

Sample

This study used data routinely collected on all participants referred to a County-wide PARS between May 2000 and May 2003, with some exclusions for the purposes of analyses (see Figure 1). Prior ethical approval was granted by the Local Research Ethics Committee for the use of these data for research purposes. A more detailed description of this PARS can be found elsewhere (Crone et al., 2004; Johnston, Warwick, De Ste Croix, Crone & Sidford, 2005). Briefly, participants are referred by a health professional to the PARS and are offered eight to twelve weeks of either weekly or bi-weekly, supervised exercise sessions at local leisure facilities. Exercise programmes are typically gym-based but can include swimming, circuit training or exercise-to-music classes, depending on participant preference and available facilities.

*****Figure 1: Cohort profile*****

Assessment of participant progression, uptake and completion

Details of all participants (e.g. demographic, health condition, medication etc.) were sent by referring health professionals to the PARS coordinator. Participants were then either assigned to a leisure provider, usually an exercise professional at a local leisure facility such as a fitness club or leisure centre, or were excluded or removed. In addition to the reason of missing data, exclusions from further analysis were for contraindicated medical reasons (Figure 1). Removals were for

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psychosocial reasons or because they could not be contacted (Figure 1). Psychosocial reasons included 'not interested', 'family commitments', 'too busy', 'finance' and 'transport problems' (Johnston, et al., 2005). Participants who attended their first session were considered to have 'taken up' (i.e., uptake) their referral. Subsequent attendance levels were recorded by the supervising exercise professional and participants were categorised as 'attenders' (<80% attendance) and 'completers' as (≥80% attendance).

Assessment of demographic characteristics and referral reason

Data collected by health professionals at the point of referral included participant age, gender and primary referral reason (i.e., medical condition). Age was categorised into ten year bands for descriptive purposes. From 65 initial categories, referral reasons were grouped into mental health (psychological well-being and mental illness) and physical health referrals (cardiovascular disease, overweight and obesity, diabetes, musculoskeletal health, unfit/sedentary or other).

Assessment of referring health professional

Health professionals were assigned to one of four categories; general practitioner (GP), practice nurse (i.e., nurses specializing in general practice), physiotherapist or other. The 'other' category comprised dieticians, psychiatrists, nurse specialists (i.e., nurses specializing in a particular clinical condition or area of practice), cardiac nurses, health visitors, smoking cessation officers and healthy

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lifestyle co-ordinators. Health professionals were assigned to the 'other' category because their group numbers were too low to constitute an independent group in some of the analyses.

Statistical analysis

Comparisons of the primary outcomes of initial progression, uptake and completion between the two groups (mental or physical health) were conducted using Chi Squared (χ^2) analysis. A difference was considered significant when $p < 0.05$.

Results

Of all patients initially referred by a health professional ($n = 3762$), only 77% ($n = 2901$) were appropriate referrals with complete referral data. A further proportion of participants were removed from the scheme (9%, $n = 275$) because they could not be contacted or declined participation. Of the remaining eligible and willing participants, the majority took up referral by attending their first session ($n = 1996$, 69%), although only 33% ($n = 964$) went on to complete 80% or more sessions with the leisure provider.

The primary reason for referral was mental health in only 4.6% ($n = 134$) of all referrals, of whom the majority were female (64%). This female dominance was consistent with that observed in the physical health referral group (i.e., 38% male; 62% female). The mean age of the mental health group was significantly

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lower than that of the physical health group (42 ± 14 y vs. 51 ± 14 y; $p < 0.001$). General practitioners were responsible for a higher proportion of referrals for mental health reasons than physical health reasons (87 versus 71%; $p < 0.001$). With the exception of health visitors all other referring health professionals referred proportionately fewer participants for mental health reasons, rather than physical health. Within the mental health group, depression was the most common reason for referral (61%, $n = 82$), followed by anxiety/loss of confidence (26%, $n = 35$) and stress/tension (13%, $n = 17$).

Of all mental health referrals with complete referral data ($n = 134$), only 6% removed themselves immediately after referral, which compares favorably with the lack of progression in the physical health patient group (10%). Sixty per cent of mental health referrals ($n = 79$) took up referral with a leisure provider, compared with 69% ($n=1917$) in the physical health group ($p < 0.001$). Similarly, the proportion of mental health referrals ($n=29$, 22%) who went on to successfully complete their programme ($\geq 80\%$ attendance) was also lower than in the physical health referral group ($n=935$, 34%; $p < 0.001$).

Discussion

The main outcome of this study is that referrals with a mental health condition have poorer attendance and completion rates than those referred with a physical health condition. Physical activity schemes are being actively promoted as a means to support the treatment of people with mental health problems (Mental

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Health Foundation, 2005). However, previous research (Crone et al., 2005; Crone, 2007) and practitioner guidelines (Grant, 2000) have recommended that physical activity programs for people with mental health conditions need to be adaptable and specifically tailored to meet their needs; for example, to allow participants to drop in and out of programs should the symptoms of their condition fluctuate. The highly structured nature of traditional physical activity referral schemes, designed predominately for physical health enhancement (Gidlow et al., 2005), have previously been recommended as a suitable community based intervention for the promotion of mental health for people with mental health problems (Mental Health Foundation, 2005). However, it has previously been reported that reasons for either dropping out of, or difficulties with attending therapy in mental health referrals include difficulties in access, financial constraints and the side effect of medication (Crone, 2007; Issakidis & Andrews, 2004). One possible interpretation of these findings therefore is that current practice is not yet flexible enough to provide the social network and support that Grant (2000) and Crone et al., (2005) suggest is required for successful physical activity programs for this patient group. If this is the case this has significant implications for mental health professionals who are accessing such schemes in the belief that they are a useful adjunct to the treatment of their clients. However, it must be acknowledged that, whilst social support for participants through schemes appears important, particularly for the 'older' majority of participants, there is also some preliminary evidence that has questioned the effectiveness of referral programs for the 'younger' minority (e.g.,

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James et al., in press). Generally, previous research has found that older participants are more likely to attend, and older males are more likely to complete, such programs in the community. However, because most PARS have been traditionally designed to address physical health conditions, which are generally chronic in their manifestation (for example coronary heart disease and obesity) and typically occur later in life, the lower age of mental health referrals, also identified by Johnston et al. (2005), may be a confounding factor in the primary outcome we have observed. The demographic differences between the two groups are therefore important to acknowledge, especially given previous research on age and gender and their respective associations with attendance and completion outcomes (e.g., Gidlow et al., 2007; James et al., in press; Harrison, McNair & Dugdill, 2005).

Furthermore, explanations for these findings may also lie in the demographic differences in terms of socioeconomic status. For example, socioeconomic status is associated with mental health problems (Meich et al., 1999) and there is a known relationship between uptake and attendance in referral schemes and socio-economic status (Gidlow et al., 2007). Furthermore, people with mental health problems generally have poorer compliance with therapeutic interventions but the reasons for this are complex (Howgego, Yellowlees, Owen, Meldrum & Dark, 2003). The reasons for differential uptake and participation should be an avenue for further research in PARS.

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The extensive epidemiological evidence base associating regular physical activity with physical health outcomes (Blair et al., 1995; Blair & Connolly, 1996) may partly explain the high proportion of physical health referrals in comparison to mental health referrals. Furthermore, the large proportion of physical health referrals may be explained because of the traditional use of these schemes to address chronic physical problems such as cardiovascular disease, obesity, diabetes and musculoskeletal health (James et al., in press). However, given the increasing prevalence of mental health problems within the community (Department of Health, 2004), and the promotion of physical activity for people with mental health problems in the UK (Mental Health Foundation, 2005), the overall proportion of mental health referrals is still relatively low. Previous research has identified barriers to accessing health services for those with a mental health problem (Issakidis & Andrews, 2004) and of neglect of physical health needs of people who have a mental health problems within primary care (Friedli & Dardis, 2002). Once health services have been accessed, a possible reason for the low exposure of those with mental health conditions to PARS may be partly due to the skepticism of the role of physical activity amongst health professionals (Faulkner & Biddle, 2001) and the well recognized under-utilization of physical activity for the treatment of mental health problems in health services (Callaghan, 2004; Faulkner & Biddle, 2002). Furthermore the findings that General Practitioners were responsible for referring a higher proportion of mental health referrals may be an indication that there is a lack of knowledge across the primary care team regarding the potential role of physical activity as an adjunct to

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treatment for mental health problems (Burbach, 1997; Callaghan, 2004). However, it should be acknowledged that this finding may be symptomatic of the fact that schemes were traditionally called 'GP Referral Schemes' in the past or, a reflection of the greater proportion of GP's (in a local health centre) compared with other health professionals (James et al., in press).

With the prevalence of mental health problems increasing, and with depression being one of the most prevalent mental health conditions in the UK (Department of Health, 2004), the need to investigate the pattern of uptake and participation in community based exercise schemes is important if such schemes are to achieve their aspirations and be an effective adjunct in the treatment of mental health problems. There is clearly a need for further research to investigate how to increase exposure to, and progression through, PARS in people with mental health conditions. A key question in relation to exposure of the scheme to those with a mental health condition is, whether health professionals are sufficiently aware of the potential role of physical activity as an adjunct therapy. In relation to progression through such schemes, it is important that future research explores to what extent exercise professionals are trained to work with a mental health population. These avenues for further research would not be so clearly identified without the use of longitudinal cohort-type studies. In the future, the use of qualitative investigations may be best suited to establishing further insight into the extent to which health and exercise professionals are equipped to promote community based exercise therapy in the mental health population.

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These recommendations for further research are particularly pertinent given the growing acknowledgement of the role of physical activity for mental health conditions within UK national health policy (National Institute for Health and Clinical Excellence, 2004; Department of Health, 2006).

Conclusion

In comparison to those referred for physical health reasons, patients referred for mental health reasons demonstrated poorer uptake and completion of the PARS, although initial progression post-referral was similar in both groups. Even accounting for the potential confounding influence of age, it appears that PARS are not currently well suited to patients referred for mental health reasons. These findings are of significance to health professionals who are referring clients with mental health problems to PARS, and attention should be drawn to the need for schemes to be specifically tailored to meet the requirements of people with mental health problems, if they are to be continued to be used to increase the physical activity levels of this client group.

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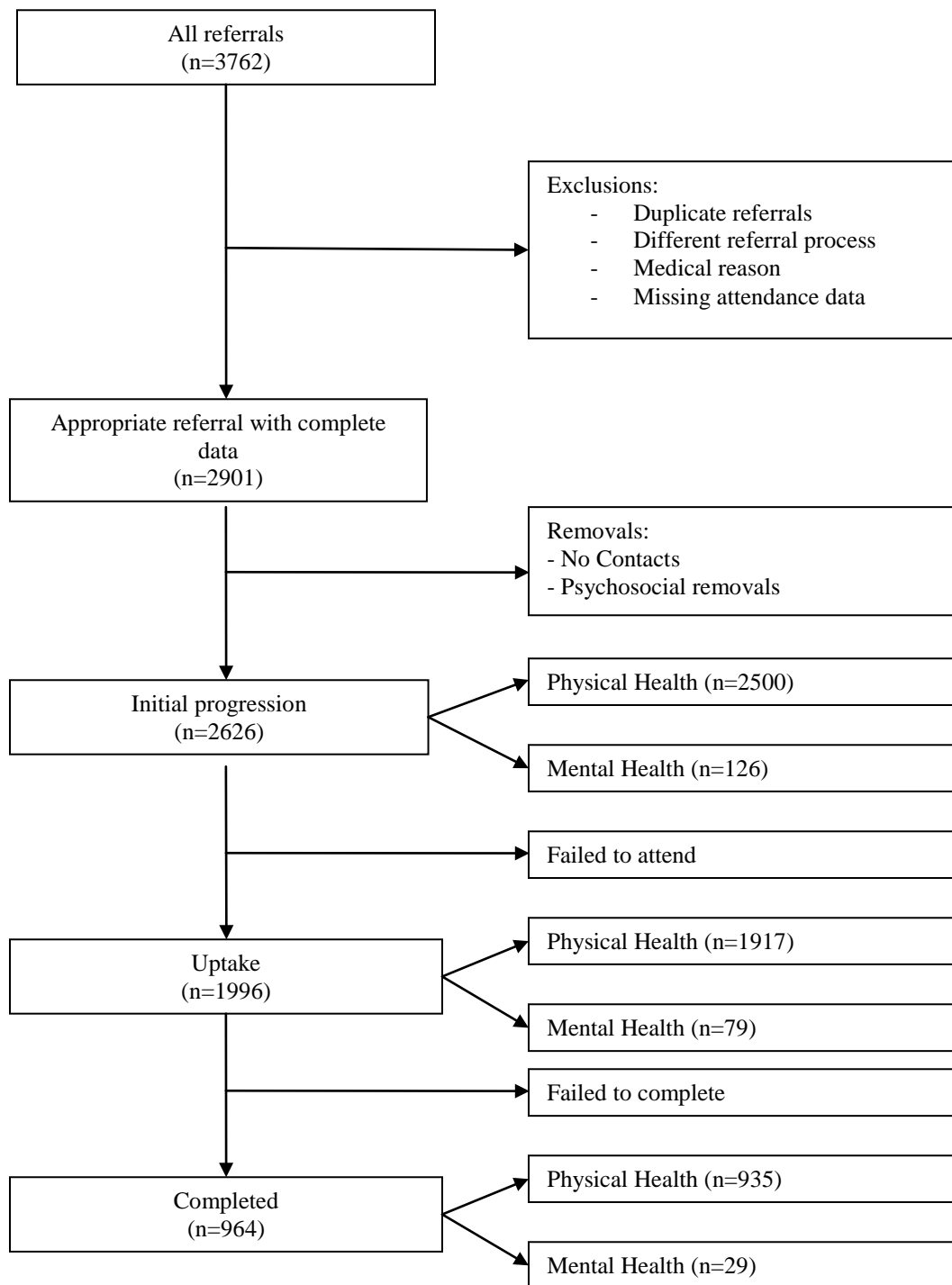


Figure 1: Cohort Profile