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General Medical Council (2009). *Tomorrow's doctors*. Retrieved 15 May 2014, from http://www.gmc-uk.org/Tomorrow_s_Doctors_0414.pdf 48905759.pdf

Hafferty, F.W. (1998). Beyond curriculum reform: Confronting medicine's hidden curriculum. *Academic medicine*, 73, 403-407.

Kings Fund (2011). *Schwartz rounds: Evaluation of the UK pilots*. Retrieved 6 October 2014 from <http://www.kingsfund.org.uk/publications/schwartz-center-rounds-pilot-evaluation>.

Papadakis, M.A., Teherani, A., Banach, M.A., Knetter, T.R., Rattner, S.L., Stern, D.T., Veloski, J.J. & Hodgson, C.S. (2005) Disciplinary action by medical boards and prior behaviour at medical school. *New England Journal of Medicine*, 353, 2673-2682.

Passi V., Doug, M., Peile, E., Thistlethwaite, J. & Johnson, N. (2010). Developing medical professionalism in future doctors: A systematic review. *International Journal of Medical Education*, 1, 19-29.

Royal College of Psychiatrists (2010). *A competency based curriculum for specialist core training in psychiatry*. Retrieved 27 October 2014 from http://www.rcpsych.ac.uk/pdf/CORE_CURRICULUM_2010_Mar_2012_update.pdf

Royal College of Psychiatry (2011) *Core curriculum in psychiatry*. Retrieved 26 March 2014 from <http://www.rcpsych.ac.uk/pdf/Undergraduate%20Psychiatry%20Curriculum%202011b.pdf>

Waddington, J., Dearman, S. (2011) Evaluation of health and probity discussion forums. *Cumbria Partnership Journal of Research Practice and Learning*, 1, 17-20.

REFLECTION

Promoting exercise among renal patients

Neil M. Thomas

Abstract

The following report contains a critical overview of some of my experiences during 100 hours of promoting and monitoring exercise among kidney patients at Kendal renal unit. It focuses on barriers to patient participation, the practice of exercise promotion, and finally, some considerations for safe and effective exercise.

Keywords

barriers to participation; health promotion; inter-dialytic exercise; intra-dialytic exercise; kidney disease; physical activity

Introduction

In 2014 I was given the opportunity to promote and monitor exercise among the patients at Kendal renal unit. My time there afforded me valuable experience applying evidence based theory in a clinical environment, while substantially developing my personal and professional skills. For this I express my gratitude to all the staff and patients involved. Perhaps more importantly, however, I have been able to reflect on my experiences and critically evaluate the practice of physical activity and health promotion among a renal population. The following report, I hope, offers useful information to anyone seeking to encourage exercise in their own renal environment.

Exercise for renal patients?

If you are not already familiar with exercise among the renal community, you may be wondering why on

earth anybody would be promoting such an activity. Well, in recent years there has been a wealth of literature highlighting the benefits of exercising during dialysis, and/or on non-dialysis days. Some of these benefits include improved psychological wellbeing (Parsons, Toffelmire & King-VanVlack, 2006); reduced muscular atrophy and improved physical performance (Kouidi et al., 1998); reduced risk of cardiovascular disease and improved cardiovascular fitness and fatigability (Storer, Casaburi, Sawelson & Kopple, 2005; Wilund et al., 2010); and an improvement in urea clearance during dialysis (Mi Rye Suh, Hyuk Jung, Bae Kim, Sik Park & Seok Yang, 2002). Regular exercise thus may help improve quality of life, prevent further illnesses, and improve the efficacy of dialysis treatment. Of course exercise may not be for all renal patients, and in certain circumstances it may not be appropriate at all. However, considering the potential

benefits, the British Renal Society now recommends that patients who are eligible participate in exercise on a regular basis.

Barriers to participation

In 2010, Kendal renal unit purchased a number of stationary exercise bikes for the patients to use during dialysis, and initial exercise uptake was good and feedback from the patients was positive. When I started at the unit however, many of the patients had stopped using the bikes. I was therefore eager to speak with them and to some of those who had never tried exercising, in order to find out why. Through informal conversations I was able to identify a number of key themes, which often tied in with previous literature.

Illness

Two of the patients who had previously dropped out informed me they did so because of medical illness. As I'm sure all will appreciate, individuals with kidney disease often suffer from other health conditions and are at a greater risk of illness and infection due to a weakened immune system (Kato et al., 2008). In such cases, they may be unable to safely perform exercise, and it is important for exercise professionals not to become disheartened. Most patients are appreciative of being given the opportunity to exercise in the first place.

Health education

Goodman & Ballou (2004) have suggested that a lack of information about the benefits of exercise, and lack of knowledge about how to perform exercise are some of the barriers to participation experienced by renal patients. When I spoke to some of the patients who had never exercised during dialysis at the unit, they informed me that they did not know the benefits of exercise, or that they were not aware of how much exercise they should be doing or how to perform it. This was interesting as there are leaflets at Kendal detailing the positives of exercise, and they also contain some exercise guidance. However, the effectiveness of written information is dependent on the health literacy of the reader: "*The cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways that promote health.*" (Nutbeam, 2000).

It was apparent that some of the patients simply did not utilise the information in the leaflets effectively and take it upon themselves to start exercising. I found that the most effective way to engage these patients with exercise was through one on one guidance and encouragement. This mode of intervention is referred to as 'health persuasion', which is directed at the individual and is led by an exercise professional or 'prescriber' (Beattie, 1991).

For example, I was able to reinforce the positive outcomes of exercise, and help and guide the patients on the bikes. Additionally, for those that wanted to exercise on non-dialysis days at home, I provided tailored exercise schedules for them to perform, and demonstrated how to safely complete the exercises involved. This especially helped the patients who were previously unfamiliar with exercise.

Fear of making things worse

Goodman & Ballou (2004) suggest fear of injury, not wanting to become more fatigued and fear of making health worse are reasons which may prevent renal patients from exercising. When I spoke to one patient, he told me he had given up completely because of a negative experience when he was trying a bike out for the first time. I was able to encourage the patient to give it another go, and he subsequently performed 3mins of cycling without any problems, and enjoyed it. This patient's initial bad experience and fear of making things worse was exacerbated by the fact that there was no exercise professional present to encourage him to try again.

Additionally, some of the other patients, especially when they were just beginning exercising, did not feel comfortable doing so on their own in case anything went wrong. Even though the renal staff are always around, they only felt comfortable exercising when I was there. Beattie (1991) suggests personal counselling can be utilised to give an individual the skills and confidence to take more control over their health. I therefore put this into practice by working with the patients to ensure they knew exactly how much exercise they should be doing and when to stop, if they were out of breath for example, and to generally reassure them that exercise is safe given the right strategy. I found this to be effective as most of the patients developed confidence and autonomy, and came to the realisation that they would be okay using the bikes.

Challenges of exercising in the renal environment

One of the patients was interested in using the bike during dialysis, however she was not comfortable exercising in front of the other patients. She would also not perform exercise at home as she worked during her off days. A member of staff suggested that we close the curtain around her bed, which she was happy with and this was effective in subsequent exercise sessions – a simple but very workable solution.

Another issue which arose was positioning the beds correctly. The beds move into a variety of positions and finding a comfortable one which is suitable for exercise can be difficult. Some of the patients were able to achieve this on their own with ease, whereas others, at least in the beginning, could not do so without my presence. On one occasion a

patient slid down the bed and was not able to push herself back up because of the fistula in her arm. We did remedy this; however, it demonstrates the benefits of having someone there with enough time to stay with the patient, especially when they are just starting out. After all, the patient may have been put off from exercising completely.

Additionally, I was informed by a member of staff that there were some patients who did not wish to trouble the nurses by asking for the bike and that sometimes the nurses did not remove the bike when they had finished exercising. Painter, Carlson, Carey, Myll & Paul (2004) suggest that renal staff sometimes take the perception that it is not their responsibility to help the patients with exercise. I therefore liaised with the nurses, who reiterated to the patient that they are always happy to set up and remove the bikes on request. Furthermore, many of the nurses often encouraged regular exercisers who had not asked for the bike to do some cycling. This highlights the fact that support from all healthcare staff helps to maximise exercise adherence.

The practice of exercise promotion

As an exercise professional, it is considered best practice to perform a needs analysis with any client in order to determine levels of current physical activity and interests, especially for medical patients (Balady et al., 2000). However, it is perhaps not always feasible for renal staff to achieve this as they often do not have enough time, or necessarily the expertise. It took me all morning to speak to each patient and determine their individual needs. I did find this to be an important part of getting the patients exercising, particularly for those who wished to perform exercise routines at home. If there were no needs analysis, this would not have been discovered and I would not have been able to tailor a plan to each individual.

In terms of best practice, a needs analysis should be followed up with an appropriate exercise schedule. For renal patients, this typically means starting at an easy level and gradually building up duration and intensity. When I started working with some of the patients, they were not able to perform 5mins of cycling without becoming out of breath. It goes without saying that not everybody will enjoy this, and reassurance that "after a few sessions things will get better" is often needed.

Goal setting can be an effective way of maintaining exercise adherence (Wilson & Brookfield, 2009). I found it very useful to place an exercise log in each of the patients' kardexes and to write down a target for when I was not at the unit, so that the patients and staff could monitor exercise progression. This proved to be a valuable tool, as during one session a regular exerciser had asked for the bike but had to stop cycling because he felt faint. When I checked his log, he had increased from 15mins of cycling to an hour

during the previous session. He had pushed himself too hard. I produced a visual representation of this in the form of a graph to show him, in order to ensure he would be more careful in the future.

Progress

Throughout the course of my time at the unit, the patients gradually increased the duration of exercise and with practice came the confidence to perform exercise without me. By week nine, many of the patients were regularly exercising for around an hour, which is especially good considering some of them could barely perform 5mins when they started.

Safety considerations

There are a number of safety issues to think about as an exercise professional working with renal patients. For example, exercise during the first two hours of dialysis before 3 litres of fluid have been removed has been shown to be safe; however, outside of this time period it can lead to hypotension and cramps (Karmiel, 1997; Moore, Painter, Brinker, Stray-Gundersen & Mitchell, 1998). Further, patients with kidney disease often take beta blockers which depress heart rate (Karmiel, 1997) and may have autonomic dysfunction (Torkington, MacRae & Isles, 2006). As a consequence, heart rate cannot be relied upon as an indicator of exercise intensity and therefore a subjective rating of perceived exertion scale should be used instead (ACSM, 1994; ACSM, 2004). Additionally, exercise during dialysis should not be intense; it is not an appropriate time to 'physically push' the patients. More moderate exercise should be reserved for non-dialysis days, and only after personal circumstances have been taken into account (Johansen, 2007). That being said, if guidelines and best practice are followed, there is no reason why effective and safe exercise cannot be sustained among eligible kidney patients (Johansen, 2007) and this is what I discovered.

I will refer the reader to two documents which I believe offer a good starting point for those seeking to perform or promote exercise with dialysis patients. The first is the easy bike program (Karmiel, 1997). It suggests five stages of cycling, ranging from 3-40 minutes, adding 1 minute during each treatment. The second is a 28-page document produced by Leicester hospital, which details a variety of strength, mobility, flexibility and cardiovascular exercises for renal patients to perform on non-dialysis days (University Hospitals Leicester, 2009). I indeed utilised these documents a number of times and found them to be more than adequate.

Conclusion

This report has highlighted some of the barriers to participation experienced by renal patients and some

of the causes of exercise drop out. One of the key themes to have arisen is that of inadequate health education. Often written information is not sufficient to engage patients with exercise and in these cases, one on one persuasion followed by personal counselling is effective in first getting the patients to start exercising and subsequently enabling them to develop autonomy and have the skills and confidence to exercise on their own. Another major theme is that the presence of an exercise professional will help with all aspects of exercise in the renal environment, especially for tasks which the renal staff may not have the time to complete, e.g. performing need analyses, constructing exercise plans and encouraging patients who may have negative experiences. However, where this is not possible, simple encouragement can only be beneficial and in my experience, it definitely motivated some of the patients to exercise when I was not around. If you can create a buzz on the ward and if there are patients who regularly exercise, others often follow suit.

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References

ACSM. (1994). Exercise for patients with coronary artery disease. *Medicine & Science in Sports & Exercise*, 26, 400.

ACSM. (2004). Exercise and hypertension. *Medicine & Science in Sports & Exercise*, 36, 533-553.

Balady, G. J., Berra, H. A., Golding, L. A., Gordon, N. F., Mahler, D. A., Myers, J. N., Sheldahl, L. M. (2000). *ACSM's guide for exercise testing and prescription*. Baltimore: Lippincott Williams & Wilkins.

Beattie, A. (1991). Knowledge and control in health promotion: A test case for social policy and social theory. In J. Gabe, M. Calnan & M. Bury (Eds.), *The sociology of the health service* (pp. 162-199). London: Routledge.

Goodman, E. D., & Ballou, M. B. (2004). Perceived barriers and motivators to exercise in hemodialysis patients.

Nephrology Nursing Journal: Journal of the American Nephrology Nurses' Association, 31, 23-29.

Johansen, K. L. (2007). Exercise in the end-stage renal disease population. *Journal of the American Society of Nephrology: JASN*, 18, 1845-1854. doi:ASN.2007010009 [pii]

Karmiel, J. C. (1997). The easy bike program: An exercise-during-dialysis program. *Topics in Clinical Nutrition*, 12, 74-78.

Kato, S., Chmielewski, M., Honda, H., Pecoits-Filho, R., Matsuo, S., Yuzawa, Y., Lindholm, B. (2008). Aspects of immune dysfunction in end-stage renal disease. *Clinical Journal of the American Society of Nephrology: CJASN*, 3, 1526-1533. doi:10.2215/CJN.00950208 [doi]

Kouidi, E., Albani, M., Natsis, K., Megalopoulos, A., Gigis, P., Guiba-Tziampiri, O., Deligiannis, A. (1998). The effects of exercise training on muscle atrophy in haemodialysis patients. *Nephrology, Dialysis, Transplantation: Official Publication of the European Dialysis and Transplant Association - European Renal Association*, 13, 685-699.

Mi Rye Suh, R., Hyuk Jung, H., Bae Kim, S., Sik Park, J., & Seok Yang, W. (2002). Effects of regular exercise on anxiety, depression, and quality of life in maintenance hemodialysis patients. *Renal Failure*, 24(3), 337-345.

Moore, G. E., Painter, P. L., Brinker, K. R., Stray-Gundersen, J., & Mitchell, J. H. (1998). Cardiovascular response to submaximal stationary cycling during hemodialysis. *American Journal of Kidney Diseases*, 31(4), 631-637.

Nutbeam, D. (2000). Health literacy as a public health goal: A challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International*, 15(3), 259-267.

Painter, P., Carlson, L., Carey, S., Myll, J., & Paul, S. (2004). Determinants of exercise encouragement practices in hemodialysis staff. *Nephrology Nursing Journal*, 31(1), 67-74.

Parsons, T. L., Toffelmire, E. B., & King-VanVlack, C. E. (2006). Exercise training during hemodialysis improves dialysis efficacy and physical performance. *Archives of Physical Medicine and Rehabilitation*, 87(5), 680-687.

Storer, T. W., Casaburi, R., Sawelson, S., & Kopple, J. D. (2005). Endurance exercise training during haemodialysis improves strength, power, fatigability and physical performance in maintenance haemodialysis patients. *Nephrology, Dialysis, Transplantation: Official Publication of the European Dialysis and Transplant Association - European Renal Association*, 20(7), 1429-1437. doi:gfh784 [pii]

Torkington, M., MacRae, M., & Isles, C. (2006). Uptake of and adherence to exercise during hospital haemodialysis. *Physiotherapy*, 92(2), 83-87.

University Hospitals Leicester (2009). Exercise for kidney patients. Retrieved from <http://www.le.ac.uk/iii/kidney/downloads/ExerciseforKidneyPatientsLeafletMay09.pdf>

Wilson, K., & Brookfield, D. (2009). Effect of goal setting on motivation and adherence in a Six-Week exercise program. *International Journal of Sport and Exercise Psychology*, 7(1), 89-100.

Wilund, K. R., Tomayko, E. J., Wu, P. T., Ryong Chung, H., Vallurupalli, S., Lakshminarayanan, B., & Fernhall, B. (2010). Intradialytic exercise training reduces oxidative stress and epicardial fat: A pilot study. *Nephrology, Dialysis,*

Transplantation: Official Publication of the European Dialysis and Transplant Association - European Renal Association, 25(8), 2695-2701. doi:10.1093/ndt/gfq106 [doi]
