

Kidney Transplant Athletes: Using Patient Involvement to Identify Research Priorities

AL Clarke¹, J Neale¹, NC Bishop², HML Young¹ & AC Smith¹.

¹Leicester Kidney Exercise Team, Dept of Infection, Immunity & Inflammation, University of Leicester and John Walls Renal Unit, University Hospitals of Leicester, UK

²School of Sport, Exercise and Health Sciences, Loughborough University, UK

Introduction

- Renal transplant recipients (RTRs) represent over 50% of solid organ transplant athletes who compete internationally at The World Transplant Games.
- Evidence suggests moderate physical activity is beneficial for RTRs.
- However, no evidence exists to inform safe and effective training regimes to support RTRs wishing to participate in competitive sports and exercise challenges beyond that recommended for health.
- This current lack of evidence is likely to be detrimental to the psychological profile of the athletes resulting in:



- Research prioritization which involves public and patient involvement (PPI) as well as clinicians, allied health care professionals, researchers and interested stake holders can improve the relevance, quality and implementation of research into practise.

Aims

- The aim of this research was to collaborate with athletic RTRs and other interested parties in order to explore problems and prioritise future research questions.

Methods

- A national workshop was convened at the National Centre of Sports and Exercise Medicine (NCSEM) Loughborough, United Kingdom, in order to generate research questions related to vigorous exercise training in RTRs.



- In attendance were: athletic RTRs (n=9), donor (n=1), leading UK kidney charity representative (n=1), clinicians (n=2) and members of the multidisciplinary research team (n=4).
- Athletic RTRs were identified through national kidney patient organisations and attended from across the UK and Ireland.
- Introductory presentations were delivered by members of the research team to provide a general overview of the following topics : benefits of exercise for RTRs, psychological determinants of exercise and exercise and immune function.
- Participants were then invited to share their experiences of fitness training and sporting endeavours as RTRs and their views regarding future research questions for prioritisation.

Data Analysis

- The session was audio-recorded, transcribed verbatim and thematically analysed. The transcripts and initial findings were then sent to all participants for comment.

Results

- Questions prioritised from the national workshop included:

Question 1: How can performance be enhanced with no detriments to short term and long term health?

Question 2: What is the interaction between medication (especially immunosuppression) and exercise performance?

Question 3: How safe and efficacious are nutritional supplements and how much should RTRs hydrate during exercise training?



Question 4: "Where is the evidence base for high intensity exercise for RTRs?"

Question 5: What is the best way to assess kidney function in exercising RTRs?

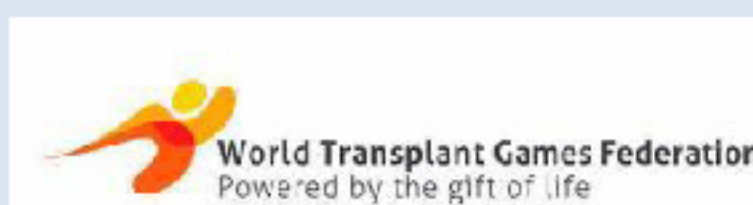
Question	Major theme descriptions	Quotations from athletic RTRs
1	Participants described training setbacks due to post-exercise illness, injury and variations in blood pressure, and raised concerns regarding the effects of exercise on graft survival and cardiovascular (CV) health.	"For me it's not just the kidney ... the majority of people end up with CV [disease], so if I am training loads over a long period of time are you putting too much pressure on your heart?"
2	Participants raised issues such as optimal timing of drug doses in relation to exercise sessions.	"When is the best time to exercise in relation to taking medication?"
3	Participants desired nutritional advice to maximise performance but worried about the detrimental effects on kidney function.	"Diet would be really interesting I think protein, loads of protein, but then I think kidney transplant, kidney diet, low protein and how do you balance those?"
4	Participants felt that doctors' guidelines were often based on their personal opinion. Instead they desired evidence based research to feel confident in knowing how to exercise safely without just being told to slow down.	"I think its really interesting the way doctors say what we can and can't do... They are risk averse... they are not basing it [advice] on anything, its personal preference really."
5	Participants were aware of exercise-induced fluctuations in serum creatinine and highlighted the need for an alternative method to assess kidney function.	"...if you don't know which is the best marker ... analyse multiple markers and the change, you have started an evidence base that says as far as we know with the best of bio markers there is no negative impact."

Conclusion

- Establishing research priorities using PPI and interested stakeholders can ensure that research resources are invested in addressing the specific needs of the user.
- This workshop was well received and highlighted a need for evidence based guidelines to be developed in order to inform higher intensity exercise training in RTRs.
- Greater guidance would give RTRs the confidence to prepare both physically and mentally to maximise their fitness or sporting performance in a way that is not detrimental to their health.

Acknowledgements

- We would like to thank Transplant Sport for helping us to identify RTRs who take part in high intensity exercise across the UK and Ireland.
- We would also like to thank the World Transplant Games Federation who contributed data to the background of this abstract.



Amy L Clarke:ac500@le.ac.uk

