Physical fitness and mental wellbeing of children from Newcastle upon Tyne: does it differ by deprivation?

Palihawadana Arachchige Lavanya Senari Wijegunathileke | Dr Laura Basterfield | Population Health Sciences Institute, Faculty of Medical Sciences, Newcastle University | P.A.L.S.Wijegunathileke2@newcastle.edu.my

INTRODUCTION

- Being physically fit prevents physical and mental ill-health, but most children are not fit enough.
- Previous research in North-East England has shown that fitter children have improved mental wellbeing, and a healthier body weight.
- The COVID-19 lockdowns resulted in reduced physical fitness and increased body weight. Encouragingly, children who resumed their activities after lockdown returned to a good level of fitness, but many children have not managed to do that.
- This project conducts fitness testing in children from a range of backgrounds, and thus a range of deprivation making it suitable for this project.
- This to check whether physical fitness, mental wellbeing, and body weight, are impacted by family background.
- The results will inform policies that support a physically active environment for children.

AIMS

The aims of this project are:

- Investigating whether there is a link between physical fitness and deprivation
- Investigating whether there is a link between mental wellbeing and deprivation

METHODS

58 participants were recruited from a school in Newcastle upon Tyne. All students were in year 4 (8 to 9 year olds). Data was gathered over 3 days.

To measure physical fitness, 6 measurements were taken from each participant:

- handgrip strength via a digital dynamometer
- flexibility via a sit and reach box
- standing broad jump via a tape meausre
- total shuttles run via the multi-stage fitness test
- height via a stadiometer
- weight via a weighing scale.

To measure mental wellbeing, each participant was asked to fill in the KIDSCREEN-27 questionnare [2].

An index of deprivation was calculated via postcodes from UK government data[1].

IBM SPSS Statistics was used to analyse the collected data.

RESULTS

- The highest number of participants (13) with a healthy weight were from less deprived areas.
- There was an equal distribution of overweight and very overweight participants between the more deprived and less deprived areas.
- Overall, 68% of participants had a healthy weight.

- More deprived participants had better flexibility compared to less deprived participants.
- Overall, participants in the 3rd quintile had the best flexibility with the highest measurement being 29cm.

- Less deprived participants had better hand grip strength, number of total shutttles run, and distance jumped.
- The maximum measurement for right hand grip strength was 21.3kg by a participant in the 2nd quintle.
- The maximum measurement for total shuttles run was 70 shuttles by a participant in the 1st quintile.
- The maximum measurement for distance jumped was 190cm by a participant in the 1st quintile.
- Overall, less derpived particpants performed better in 3 out of the 6 measurements of physical fitness.

- The KIDSCREEN-27 questionnaire measures 5 health related quality of life dimensions via a total 27 questions [2].
- 7 items in the KIDSCREEN-27 questionnaire focused on psychological wellbeing.
- The highest T-score was 73.53 by 2 participants in the 3rd quintile, 1 participant from the 5th quintile, and 1 participant from the 1st quintile.
- Overall, participants from more deprived areas had the lowest T-scores for psychological wellbeing with the lowest measured as 35.49.

CONCLUSIONS

- Less deprived participants had better hand grip strength, number of total shutttles run, and distance jumped while more deprived participants had better flexibility.
- Overall, BMI categories were distributed evenly between the different levels of deprivation.
- More deprived participants had poorer psychological wellbeing.
- This shows that deprivation is associated with a poorer quality of life which needs to be addressed with new policies.

REFERENCES

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