

Evaluation of the Merthyr PIPYN intervention



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Nutrition and Dietetics



Nutrition Skills For Life
Sgiliau Meith am Oes



Aelodig gan
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Iechyd Cyhoeddus
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Background

Recent data shows that 29.4% of children and 74.6% of adults in Merthyr Tydfil are now living with either overweight or obesity.² This is higher than the Welsh national average. (24.8%¹, 61.8%²)

PIPYN (Pwysau Iach Plant Ung Nghymru, Healthy Children Healthy Weight in Wales) is a collaboration between Public Health Wales, Welsh Government, Public Health Dietitians in Wales and the Directors of Public Health in Anglesy, Cardiff and Merthyr.

Pilots are established using a whole systems approach with a nested family based intervention. The three pilot areas are testing a range of approaches for working with children aged 3-7 years and their families, to support healthy weights.

There is limited evidence on the effectiveness of weight management services for children and young people however, a person centred family based approach is recommended to maximise outcomes.^{3,4}

Aim

To identify the impact of Merthyr PIPYN on family lifestyle behaviours

Methodology

The PIPYN intervention evaluation framework, is designed by Public Health Wales with input from Glasgow University. All families who attend a PIPYN programme receive a pre and post intervention questionnaire measuring patient reported baseline and outcomes related to obesity risk. Both qualitative and quantitative data is collected. Data was collected for families completing the intervention between August 2023 – May 2024.

Introduction

Working in collaboration with Public Health Wales, the Merthyr PIPYN intervention has been designed and delivered by the CTMUHB Public Health Dietetic team, following insight work with over 150 local partners and families.

As a universally accessible programme, targeting areas of deprivation, group and individual family based interventions are offered. Merthyr families opted for group based delivery only, tailored to individual family needs and delivered over 8 weeks.

Public Health Dietetic Assistant Practitioners facilitate groups with oversight from the Public Health Dietitian, following extensive training. Staff apply motivational interviewing and behaviour change methodology within sessions such as sleep, oral health, screen time, nutrition, fussy eating and active play.

PIPYN employs a prudent healthcare approach, utilising essential governance and competency principles, to deliver safe and effective services.^{3,5} This aligns with the Healthy Weight Healthy Wales Strategy.⁶

Results

Data collection from 156 of the 180 families engaging with Merthyr PIPYN provided data (87% response rate). This includes reported behaviours from 284 children.

Figure 1. Percentage of families reporting positive lifestyle changes post PIPYN

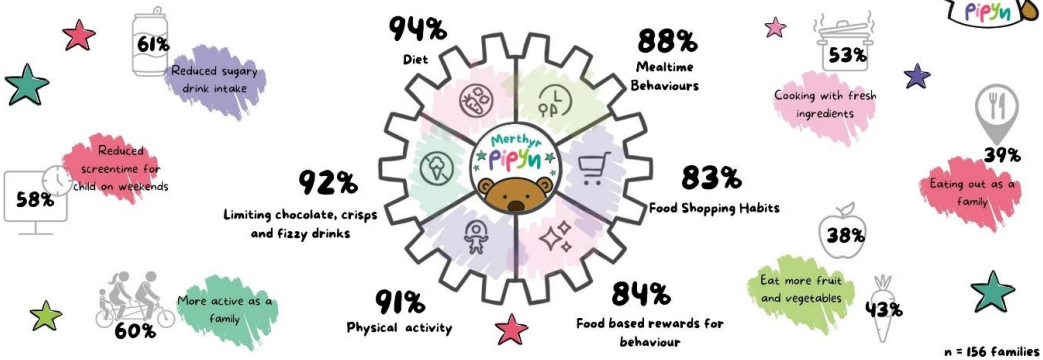
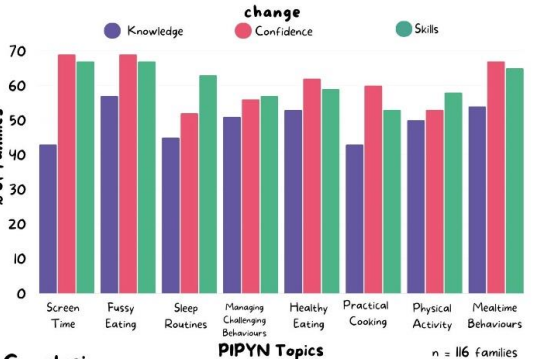


Figure 2. Percentage of families reporting improvements in knowledge, confidence and skills to implement positive behaviour change



Discussion

Merthyr PIPYN appears effective in improving family's knowledge, skills and confidence to implement positive behaviour change related to healthy weights, when measured between baseline and immediately post intervention.

Self-reported data at the same collection points also reports that the large majority of families have implemented improvements across a range of key lifestyle behaviours covered during the delivery of the Merthyr PIPYN intervention.

Further evaluation is required 12 months post intervention. This will provide insight into any sustained behaviour change within families as a result of the Merthyr PIPYN intervention and identify and system level support needed in this area.

Conclusion

The Merthyr PIPYN pilot has achieved positive engagement figures and improvements in self-reported health behaviours in the short-term. This is amongst families within areas of highest deprivation where risk of overweight and obesity is greatest.

CTMUHB does not currently have a Children, Young People and Families Weight Management Service however, PIPYN meets the majority of the requirements of level one and two of the pathway.⁷ With further investment there is an opportunity for spread and scale of the service pan CTMUHB and taking a once for Wales approach to delivery, through Public Health Dietitians in Wales.

The success of PIPYN has enabled a greater collaboration and focus on children and young persons obesity across Wales. Further work is needed to consider how PIPYN could be used to increase the reach and scale of work for early obesity prevention and systems of prevention in Wales.

References

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QuickChange - Getting Children Moving, aiming to improve Future Generations fitness and health.

A collaboration between Cardiff and Vale University Health Board Podiatry and Local Public Health Team.

Authors: Wrigley, J., Coombs, S., Jones, N.J., Powell, M.J., Idowu, L.

INTRODUCTION

Excess weight and obesity in childhood is becoming more common in Wales.

Being overweight increases the risk of developing a wide range of chronic diseases in adulthood, such as Type 2 Diabetes, Cardiovascular Disease and MSK conditions.

The Child Measurement Programme for Wales suggests that reception-age children (4-5 years) are significantly more likely to be obese if they live in areas of higher deprivation.

There is a 6% gap between obesity levels in the most and least deprived areas of Wales, with obesity prevalence of 14.2% in the most deprived areas, and 8.2% in the least deprived areas. Wales also has higher prevalence of obesity in this age group, with 12.0% of children obese, compared to 9.5% in England and 10.1% in Scotland (Public Health Wales).

SCAN HERE!



English Animation:
QuickChange

Welsh Animation:
Newid Cyflym

Image 1: Scan the QR codes above to access the animations in English or Welsh language.

RATIONALE

Emerging evidence suggests that overweight children are more predisposed to developing musculoskeletal problems and are less likely to engage in healthy lifestyle behaviours than those children of a normal weight (Krul et al. 2009, Pulgaron et al. 2014).

One in four children experience musculoskeletal pain (Tian et al. 2018) which can have a significant impact on their ability to engage in physical activity with their healthy peers.

The aim of this pilot study was to develop and test a classroom-based intervention to explore the subjective views of both school children (4 – 6 years old) and teachers on embedding physical activity into the school curriculum.



Image 2: Example of exercises

METHOD

The first phase of the pilot study captured qualitative data in the form of a scoping questionnaire to establish the perceived barriers and facilitators of undertaking structured physical activity in a school environment.

Feedback was received from all schools and based on these findings, a classroom-based physical activity intervention was developed with a view to improving children's strength and balance.

QuickChange is an interactive animation in both English and Welsh language (Image 1) where children can perform a series of strengthening and stretching exercises in the classroom without the need for any additional resources or change of clothes.

The animated characters and exercises were designed to engage children's imagination and confidence by promoting active participation through fun, enjoyment and the building of physical competence (Image 2).

Post intervention, children were asked whether they enjoyed partaking in QuickChange daily, and teachers also fed back their experiences with implementing QuickChange into their daily routine and how accessible it was for those children involved.



Pilot school pupils participating in QuickChange

RESULTS

The first phase of the pilot study involved capturing qualitative data in the form of a scoping questionnaire to establish the perceived barriers and facilitators of undertaking structured physical activity in a school environment.

"Lack of outdoor space" and "The weather" were cited as the most common barriers to delivering structured physical activity sessions in the school environment.

Post-intervention findings demonstrated that 84% of the school children reported high levels of satisfaction after participating in this pilot study. The proportion of children that responded with negative feedback (16%) attributed their experience to either "feeling tired" during the intervention or that they found the exercises "hard" to perform.

Further feedback from teachers reported 100% positive response in respect of the usability and acceptability of the intervention.

Across the five participating schools, 80% of teachers delivering the intervention reported that they would like to see it become embedded into the school curriculum. Teacher feedback on the QuickChange animation can be seen below.

The overall consensus was that the intervention could be used alongside the Daily Mile Cymru.

"The children really enjoyed the animation and were asking when we were going to do it next! The animation really helped the children and it was short enough to keep their attention"

"The animation definitely engaged the children and they love the animal characters"

"The children thoroughly enjoyed doing the exercises and every day there was an improvement in their coordination in doing the exercises - practice makes perfect"

"This activity was much more child friendly and engaging"

"Lovely clear instructions, children enjoyed, length of activities was also excellent"

DISCUSSION

Initial findings suggest that QuickChange was positively received by both children and teachers.

This animation enabled children to perform a series of strengthening and stretching exercises in the classroom without the need for any additional resources or change of clothes.

The animation engaged the children's imagination by promoting active participation through fun, enjoyment and the building of physical competence.

Overall findings demonstrated that both pupils and teachers had positive responses in respect of the usability and acceptability of the intervention.

CONCLUSION

The outcomes from this pilot study have been encouraging and the intention is to secure future research funding to support a "spread and scale" approach across Wales and develop further resources to support school children with physical limitations.

Encouraging children to be physically active by improving strength, balance and mindfulness may reduce future MSK problems and obesity. Embedding physical activity into daily school life at a young age, including within the new curriculum, using friendly and engaging characters will have a positive impact on children and adults future health.



REFERENCES

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QuickChange is hosted by Cardiff and Vale University Health Board.

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The AHP Green Guide

An interactive resource developed by AHPs, featuring 15 actions organised into Bronze, Silver, and Gold categories. Completing these actions will embed **Sustainable Healthcare** into your daily clinical practice.

Bronze Actions

Silver Actions

Gold Actions

Completing these actions will:

Improve patient care and staff well-being.

Reduce the environmental impact of healthcare services.

Generate financial savings for health and social care.

The AHP Green Guide

Proven to increase understanding and confidence in practising **Sustainable Healthcare** in the AHP workforce



20%

Increase in understanding of Sustainable Healthcare




28%

Increase in confidence to practice Sustainable Healthcare

Policy

Sustainable Healthcare focuses on improving our health while protecting the planet and managing costs in health and social care. By making various changes in our practices, we can deliver Sustainable Healthcare. This ensures quality care now and for future generations.

The Welsh Government has published key legislation and supporting documents to integrate sustainability into the core operations of health and social care in Wales, ensuring a balanced approach to health, environmental, and economic goals.



Barriers

The NHS Wales Decarbonisation Strategic Delivery Plan outlines steps for the NHS to achieve net-zero carbon emissions by 2030, focusing on energy efficiency, waste reduction, and sustainable procurement. For health and social care to meet these goals, the wider workforce needs to embed sustainable healthcare practices into everyday working activities.

Unfortunately, there are established barriers reducing the ability of the wider workforce to deliver sustainable healthcare. These are,

- **Limited resource**
- **Reduced understanding**

Solution

To address these barriers, an interactive resource to support Sustainable Healthcare practices for the AHP workforce has been developed. Interactive resources are proven to enhance healthcare delivery by providing guidelines, protocols, checklists, and educational materials. Studies have shown that well-designed resources improve knowledge and patient outcomes.

HEIW facilitated an expert steering group to deliberate on the creation of an interactive resource. The resource, named 'The AHP Green Guide,' is intended to initiate the workforce's path towards providing Sustainable Healthcare. Advancing through these actions reflects a commitment to Sustainable Healthcare practices.

