A SYSTEMATIC REVIEW OF INTERVENTIONS AIMED AT THE PREVENTION OF CHILDHOOD INJURIES IN THE INDIGENOUS POPULATIONS IN CANADA, AUSTRALIA AND NEW ZEALAND IN THE LAST 20 YEARS.

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INTRODUCTION

Globally, indigenous children are found to be at a significantly higher risk of injury compared to non-indigenous children\(^1\).\(^2\).\(^3\).\(^4\).\(^5\).\(^6\).\(^7\). Despite the high economic ranking of Canada, Australia and New Zealand, the overall health of indigenous populations is poor compared to that of non-indigenous individuals\(^8\). Some suggest that mainstream injury prevention strategies are ineffective within indigenous communities\(^9\).

Aim of review: To identify existing childhood injury interventions for indigenous children in hopes to fill the gap in this area and to provide direction for future strategies.

METHODS

Electronic databases (Medline, CINAHL, AMED and the Child Development & Adolescent Studies) were systematically searched for relevant interventions based in Canada, Australia and New Zealand from 1996 to 2016. A manual search of the reference lists of relevant articles and websites was also completed. Eligible papers underwent a quality appraisal using a standardized assessment tool and key information was extracted.

Inclusion Criteria
- Studies of interventions aimed at the prevention of any type of childhood injury in indigenous populations
- Studies based on Canadian, Australian or New Zealand indigenous populations
- Interventions aimed at indigenous children aged 0-14 years old
- Studies with reported outcomes
- All types of study designs
- Studies published within the last 20 years (1996-2016)
- Studies published in the English language

Exclusion Criteria
- Studies that do not report specific outcomes
- Studies that do not meet all of the inclusion criteria

RESULTS

Overview of Search Results
- 191 citations were identified.
- Six studies met the criteria for inclusion
- Two studies were identified in the database search; three studies were identified during grey literature search and one study was identified in a reference list.
- Four community-based interventions
- Two targeted interventions; one implemented directly into the school-curriculum, one implemented in an early learning centre.
- Two out of the three studies measuring child injury rates reported a decline post-intervention.
- Most positive changes demonstrated in interventions which included car restraint initiatives.
- An increase in awareness of injury prevention was found across all studies measuring this outcome.

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Table 1: Outcomes measured in all included studies in the review

DISCUSSION

Based on the findings of the review, the following recommendations are made for future public health policy, practice and research addressing indigenous childhood injuries:
- Increasing the number of published evaluations
- Improving the reliability of measures within intervention evaluations
- Increasing the number of longitudinal interventions, combined with evaluations analysing the effects over time, specific to the indigenous populations
- Capture injury statistics more accurately and drive the need for improvements in ethnicity recording in hospital datasets
- Further address the issue surrounding unevaluated, unpublished interventions
- Design, evaluate and publish up-to-date interventions addressing the present-day needs of indigenous populations

CONCLUSIONS

The review confirmed that evaluated interventions aimed at the prevention of indigenous childhood injuries are limited. Findings suggested that culturally appropriate interventions resulted in changes in knowledge and awareness of child injuries. Conclusive evidence on the effectiveness of these interventions is lacking due to the mainly small-scale evaluations of pilot interventions.

ACKNOWLEDGEMENTS

Thank you to all of the academics at UWE for their on-going support from the beginning to the end of the M.Sc. Public Health programme.

REFERENCES

Parent views on respiratory tract infection surveillance information: a qualitative study to inform future research

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NIHR CLAHRC West and NIHR Health Protection Research Unit in Evaluation of Interventions, School of Social and Community Medicine, Centre for Academic Primary Care, NIHR School for Primary Care Research, University of Bristol

INTRODUCTION

Respiratory tract infections (RTIs) are a key reason for paediatric primary care consultations and prescription of antibiotics for children. Antibiotics are often prescribed during consultations for paediatric RTI’s despite no clinically significant impact on recovery time and infections being mostly self-limiting. Relatively small changes in consultation rates for paediatric RTI’s could help reduce the problem of antimicrobial resistance.

Several parent factors inform paediatric consultation decisions including self-efficacy to recognise the signs of serious compared to ‘normal’ self-limiting illnesses and to care for children at home. Social norms are also important; consulting is perceived to be the safest behaviour when there is uncertainty about symptom severity and seriousness. Consulting lessons parent uncertainty by providing a medical assessment, reassuring parents that child illness is self-limiting, and providing treatment and symptom relief advice.

Online real-time microbiological and syndromic surveillance data and symptom duration information may address the factors influencing parent consultation decision-making for paediatric RTI.

This study explored parent views on the content and potential impact on primary care consultations of RTI surveillance information.

METHODS

Semi-structured interviews were conducted with 30 mothers participating in the Enhanced Paediatric Respiratory Infection Surveillance (EPEIRS) study1 which evaluated the feasibility of collecting community-based real-time surveillance data. Participants were selected purposefully based on deprivation (index of multiple deprivation decile), child age and whether RTI symptoms had been reported during the EPEIRS study.

Participants were presented with two examples of the surveillance information (Figure 1 – Version 1). The information contains a brief introduction, the symptoms and common clinical presentations of 3 prevalent viruses, and the number of days it takes for symptoms to resolve in 90% of children. Version 1 also contained a graph of positivity rates of commonly circulatisng viruses over time.

Interviews explored parents views on the content, design and potential impact of the example surveillance information on medical help seeking.

Interviews were analysed using the framework method.

RESULTS

Two main themes were elicited from the analysis:

1) Perceptions of the online infection surveillance information

Useful

Most parents thought information on locally circulating viruses, their symptoms and symptom duration was useful. Few parents were previously aware of normal symptom duration.

However, only a limited number of parents recognised that the information was trying to convey the message that viral infections do not require antibiotics.

It would be really useful to know more about what viruses are circulating, so that it contributes towards that, that’s great.

Interview 22, IMD decile 8, Child age 4 years 2 months.

Likelihood of using online surveillance information

Overall most parents thought they would use the information, however there appeared to be a spectrum of anticipated use (Figure 2).

Parents anticipated using the information to inform a lay diagnosis by matching their child’s symptoms to the circulating viruses.

Parents anticipated using the information to inform a lay diagnosis by matching their child’s symptoms to the circulating viruses. However, the accuracy of this diagnosis was uncertain.

It’s that kind of feeling of ‘oh, it’s likely to be this’ if they’ve got x, y and z.

Interview 8, IMD decile 8, Child age 3 years 4 months.

All you’re really doing is helping them mis-diagnose their child. I think, because it’s not going to be 100% certain that even if she were to check all those, that’s it definitely that, without her seeing a doctor.

Interview 1, IMD decile 5, Child age 2 years 6 months.

Management of child illness

Symptom duration information may extend the time prior to consultation or prevent consultation.

However, if child symptoms exceeded the duration given in the online information, this may encourage consultation.

The information was not expected to change usual consultation behaviour if parents felt their child needed to be seen by a healthcare professional and they were felt unable to manage the symptoms at home.

I wouldn’t maybe go to the GP or I would wait longer...

Interview 13, IMD decile 6, Child age 10 years 9 months.

I don’t know whether that is going to change my behaviour in taking them to the GP’s if they are unwell and if I can’t manage them.

Interview 5, IMD decile 3, Child age 3 years 10 months.

Reassurance and concern

Knowing that similar symptoms are common locally and how long the symptoms are likely to last could reassure parents.

The information could also raise concern if symptoms last longer than suggested and by heightening awareness of circulating viruses that children could catch.

I would like to think that it would reduce my level of concern and it would reduce my wanting to take my child to the GP with these symptoms.

Interview 26, IMD decile 8, Child age 11 years 7 months.

Are you just gonna be sitting there thinking ‘oh my god! This is going around, don’t let them out!’

Interview 19, IMD decile 9, Child age 2 years 10 months.

Prevention of illness

Parents wanted to know how to protect their child from the symptoms of circulating viruses and anticipated increased vigilance, encouragement of hand hygiene and limiting interactions with others.

We tell them you know, ‘Be careful when you go to school. Wash your hands that way...’ if you know that there is something going around.

Interview 5, IMD decile 3, Child age 3 years 10 months.

2) Potential impact of online infection surveillance information

Lay diagnosis

Parents anticipated using the information to inform a lay diagnosis by matching their child’s symptoms to the circulating viruses.

However, the accuracy of this diagnosis was uncertain.

It’s that kind of feeling of ‘oh, it’s likely to be this’ if they’ve got x, y and z.

Interview 8, IMD decile 8, Child age 3 years 4 months.

Online real-time microbiological and syndromic surveillance data and symptom duration information may address the factors influencing parent consultation decision-making for paediatric RTI.

DISCUSSION

Parents liked the idea of online infection surveillance information and approved of clinicians using this information during consultations. The symptom information may inform a lay diagnosis of child symptoms.

Symptom duration information may also have the potential to increase the time before consulting or avoid consultation.

Knowing child symptoms matched those of viruses currently circulating could be reassuring. However, we also found that the information may increase parent concern and consultation intention. If parents felt their child needed to be seen by a healthcare professional and were concerned or felt unable to manage the symptoms at home the information was not expected to alter consulting decisions.

Improvements to the design and next steps

The findings have been used to develop the intervention material which will be pilot tested using an experimental design to explore the likely impact. The findings have implications for the design of interventions aiming to modify parental consulting behaviour.

Strengths and limitations

We achieved a diverse sample of mothers from the EPEIRS cohort. The sample was limited to mothers, however research has shown that mothers are more likely to take children to consultations than fathers. We have elicited hypothetical responses to a potential intervention, therefore future piloting to measure behaviour change are needed.

CONCLUSIONS

This research was partly funded by the NIHR Health Protection Research Unit in Evaluation of Interventions at University of Bristol.

The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR, the Department of Health or Public Health England.

ACKNOWLEDGEMENTS

REFERENCES

Is team sport the key to getting everybody active, every day? A systematic review of physical activity interventions aimed at increasing girls’ participation in team sport

Rosalie Allison1, Emma L. Bird2, Stuart McClean2
1Public Health England, Gloucester, UK
2Health and Social Sciences, University of the West of England, Bristol, UK

FININDINGS: In order to achieve their aims of increasing participation, approaches taken can be seen in Table 2

IMPLICATIONS:
1. Training for staff - Trainers should be a teacher or an expert in the field so that there is a mutual understanding between attendee and trainer
2. Flexibility in intervention timing, length and location of training workshops is crucial to success
3. Grant: Financial grants can be an incentive to join the scheme

PARTICIPANTS (P)

<table>
<thead>
<tr>
<th>Name of Intervention</th>
<th>Year</th>
<th>Girls (P)</th>
<th>Boys (P)</th>
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RESULTS & DISCUSSION

METHODS

Electronic databases and grey literature were systematically searched for studies of interventions targeting team sport participation among girls in the UK. The keywords used referred to the participant (adolescent girls), intervention and outcome (team sport) variables of interest. Results were exported to Refworks, duplicates removed and eligible studies identified. Extracted data included: participant details, such as sample size and age; components of the intervention; outcomes assessed; and each study was quality appraised. Due to heterogeneity across studies, results were presented narratively.

Four studies met the Inclusion criteria and were of appropriate quality.

<table>
<thead>
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<th>Total number of studies included</th>
<th>173</th>
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<tr>
<td>From Electronic Databases</td>
<td>160</td>
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<tr>
<td>From Other grey literature</td>
<td>7</td>
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<tr>
<td>Met the appropriate standard of quality to be used in a systematic review</td>
<td>160</td>
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<tr>
<td>Other grey literature</td>
<td>4</td>
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Figure 1. Flowchart of search results

CONCLUSIONS

This review presented a narrative assessment of four studies of physical activity interventions, with a specific focus on secondary school aged girls’ participation in team sports and other related health outcomes. The findings of the review suggest that further research should focus on tailoring the many gaps identified, such as: the need for quality, rigorous, high quality interventions designed to promote team sport among adolescent girls.

The results of this review identify recommendations for future interventions. For example, the importance of consulting with the girls: the importance of encouraging girls to try new sports and sustainable participation; the need for reliable, healthy role models in the media; and the role of the coach, were all identified as areas for consideration.

To move forward, there is a need for the provision of quality sport participation data to supply the evidence to inform well-structured programmes and policies to meet the community needs. This is not possible if sport participation remains hidden in the broader physical activity context, or is not reported in more detail.

ACKNOWLEDGEMENTS

We wish to thank Dairy Farm for their support and guidance throughout the systematic review process.

REFERENCES

Children’s compliance with wrist worn accelerometry over multiple time points: results from the Healthy Lifestyles Programme

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² University of Exeter Medical School, University of Exeter, Exeter, EX1 2LU, United Kingdom

Introduction

Assessing children’s physical activity (PA) using accelerometry is now common place in randomised control trials. However, researchers still face challenges regarding compliance with minimum wear time criteria and participant compliance which can substantially affect interpretation of results. Despite evidence of high compliance at single measurement points with wrist worn devices, compliance over multiple measure periods has not yet been reported; this is of particular importance in determining the effectiveness of behaviour interventions. Low compliance with the pre-specified accelerometer wear time can exacerbate any loss to follow up: as participants may complete all other trial outcomes but are treated as lost to follow up for PA outcomes due to their failure to meet the minimum accelerometer wear time criteria.

Aim: The aim of this study is to examine levels of compliance with a series of wear-time criteria for a wrist worn accelerometer at different measurement points throughout a randomised controlled trial.

Method

Data were collected as part of the healthy lifestyles programme (HeLP). 886 children were randomised to wear a GENEActiv accelerometer on their non-dominant wrist for a period of 8 days. Baseline physical activity data were collected in October 2012 and 2013 for Cohort 1 and 2 respectively. Schools were then randomised to receive HeLP or to the control arm. Follow up PA data were collected 18 months post baseline, in June 2014 and 2015 for cohort 1 and 2 respectively.

Data analysis

- Frequency = 87.7 Hz
- Analysed using GGIR software for R
- 1 second epochs
- Non-wear detection using SD < 13mg & range < 50mg
- Compliance with wear time criteria at baseline & 18month Follow up
  - ≥ 10 hours for ≥ 3 week and 1 weekend day
  - ≥ 16 hours for 7 days

Results

Baseline

| Frequency | 87.7 Hz |
| Data analysis | Analysed using GGIR software for R |
| 1 second epochs | Non-wear detection using SD < 13mg & range < 50mg |
| Compliance with wear time criteria at baseline & 18month Follow up | ≥ 10 hours for ≥ 3 week and 1 weekend day |
| ≥ 16 hours for 7 days |

886 children randomised to receive accelerometry

Baseline

- 851/886 (96.0%)
- Files analysed

1 broken equipment error
1 did not wear
11 absent

18month follow up

- 861 available for follow up
- 789/861 (91.6%)
- Files analysed

25 lost to follow up
14 absent
48 device failure
4 not provided due to baseline
1 rash
5 devices lost

Discussion

- High compliance with accelerometer wear time was apparent with both time points for minimum and extended wear criteria.
- High rates of compliance were also apparent when assessing whether minimum wear time criteria was met at both time points: 705/886 (97.5%)
- Baseline compliance in the present study is higher than previously reported in childhood populations with wrist worn devices
- Extended wear time at both time points allows for more accurate estimates of physical activity as the possibility of misclassification is reduced.
- The percentage of participants treated as 'lost' due to accelerometer non-compliance is low when using a combination of wrist worn devices, a 24 hour wear protocol and comprehensive trial procedures
- Future studies measuring children’s PA at multiple time points should utilise waterproof, wrist worn accelerometers alongside robust trial procedures to minimise the number of children lost to follow up through non-compliance.

Conclusion

High compliance with accelerometer wear time protocols can be achieved with children participating in a randomised controlled trial at both baseline and follow up.

Table 1. Number and percentage of children complying with minimum and extended wear period at baseline and 18month follow up

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<th>Baseline</th>
<th>Follow up</th>
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<td>≥ 10 hours for ≥ 4 days</td>
<td>830/851 (97.5%)</td>
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<td>≥ 16 hours for 7 days</td>
<td>789/851 (92.7%)</td>
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705 / 886 (79.5%) children met the minimum inclusion criteria for both baseline and follow up.

References


HeLP, Healthy Lifestyles Programme. Programme for a cluster randomised controlled trial of an after-school dance programme to increase physical activity among 11–13 year old girls. Trials 2013; 14:95

Figures and tables were tortured using Adobe InDesign software and other Microsoft Office applications. Figures and tables were formatted for page layout with Adobe InDesign software and other Microsoft Office applications.
Review of public health messaging in antenatal teaching across three NHS Trusts

Gemma Brinn
North Somerset Council

INTRODUCTION

The antenatal period is an important time for parents preparing for the birth of their baby, particularly for women when actions and behaviours not only have an effect on their health, but also the growing baby. The NHS plays an important role in supporting women during this time and has a regime of antenatal appointments that all expectant mothers go through, with additional antenatal (parental) classes also offered simultaneously to routine antenatal appointments.1 The principles of health promotion are critical in the development of antenatal education. There is recognition that information transfer by itself should not be the sole focus of antenatal education; rather, it should provide opportunities for people to develop skills and increase capabilities.2 e.g. meal planning to facilitate healthy diet, practicing different positions for breastfeeding to increase confidence.

Antenatal courses have the capability to encourage parents to adopt a range of healthy behaviours that affect pregnancy, birth and early parenthood such as eating more healthily, cutting down or stopping smoking and taking more exercise.3

METHODS

This project sought to explore the public health messages incorporated into antenatal teaching to identify good practice and potential for learning.

Three hospital trusts across North Somerset and Bristol were reviewed: Weston Area Health Trust (WAHT), University Hospitals Bristol (UHB) and North Bristol Trust (NBT).

Only the antenatal class content was reviewed for the purposes of this project. There are defined public health messages delivered as part of the NHS antenatal appointment schedule, which were not reviewed as part of this work.4

This review was undertaken to identify any gaps in the delivery of antenatal teaching. All classes were observed by a single observer who took detailed notes of the curriculum and content delivered.3

RESULTS

All of the antenatal courses were offered to women either at first point of contact (phone call – UHB) or at booking appointment (WAHT and NBT). At booking appointment, course details are provided through provision of a course schedule being given to the women either verbally, on paper or electronically, supported by the midwife explaining what classes entail and how to sign up.

UHB provide Early Pregnancy Clinics (EPCs) to women, which take place prior to the booking appointment, usually at about 7–8 weeks gestation. At the initial phone call to the service, women are provided with an appointment at an EPC as well as their separate booking appointment. Attendance is not mandatory, however uptake of these clinics is high (about 80% for first time mothers), and provides an opportunity to share key health messages with the pregnancy women early in their pregnancy.

Course delivery

All areas deliver courses across a range of locations, with the majority of classes held in health centres or children’s centres. All sessions are delivered by midwives and open to women and their partner(s) and without any charge.

Accessibility

Classes were held at a variety of times in each area, with attendance routinely encouraged by midwives at multiple points though a woman’s antenatal journey. Sessions were mostly offered during working hours, with WAHT additionally providing evening classes.

Birth supporters

All classes were welcoming for birth supporters, and information was framed for all attendees. All attendees were actively encouraged to participate in activities, increasing the opportunity for learning.

Teaching styles

All classes provided a mix of delivery styles e.g. flipchart, group discussions, props. The majority of classes used leaflets to provide supporting information, with one trust utilising a smartphone app. All groups (expect the EPC) used props to complement teaching, however only one class included an opportunity to use props to practice skills (e.g. hold a doll to practice breastfeeding positions / nappy changing).

Early pregnancy information

 Provision of an EPC was utilised to provide public health messaging to expecting mothers in their first trimester. The EPC provided information around a range of topics focusing on maternal health, lifestyle advice and sources of support.

Multips

One Trust offers a class specifically for multiple mothers, where they combine content from two teaching sessions (labour and delivery & feeding and early parenting) into one afternoon session. This approach was felt beneficial to increase uptake of classes by multiple mothers, who commonly do not attend antenatal classes for subsequent pregnancies. It provided support for their specific needs, and still provided the valuable networking that these groups provide as well as ensuring women had the latest health advice.

Infant health

Breastfeeding was a focus of all antenatal classes, with health benefits, positioning, latch and sources of support covered by all. Two Trusts includes Cafe Mamma peer supporters attending a section of the class to introduce the service and share where and when they meet to provide support to mothers (or pregnant women).

DISCUSSION

Classes and activities are receptive to participant led discussions, leading to variation in content. Despite this, there are differences in the content covered across the three Trusts, particularly with regard to maternal lifestyle behaviours.

Early Pregnancy Clinics provided a valuable opportunity in women’s first trimester of pregnancy, to provide information and advice on key lifestyle factors such as healthy maternal weight and smoking cessation, topics which were rarely discussed in the classes attended.

Encouraging healthy behaviours increases the opportunity for benefit both for mother and baby, and could compliment any additional support being provided to the women during her pregnancy e.g. support to stop smoking.

Antenatal vitamins, breastfeeding advice and sources of support were covered across all areas. Provision of information around immunisation (pertussis and dependent on time of year, influenza) and oral health were less frequently covered, identifying areas of discrepancy across the three Trusts.

CONCLUSIONS

The opportunity for antenatal education to provide health improvement advice to prospective mothers has the potential to improve the health outcomes for both mother and child. There were inconsistencies identified in the scope of information, timing and methods of delivery of antenatal advice across three NHS Trusts.

A series of recommendations has been shared with maternity networks to raise awareness of these findings and work to explore how a more consistent approach can be applied is underway.

Certain aspects of classes could be shared as best practice to improve the scope and delivery of public health messages to parents, such as an increase use of props in classes, giving hands on experience of basic skills e.g. breast feeding positioning and the incorporation guest speakers to give details of support available postnatally e.g. breast feeding peer supporters.

REFERENCES


Figure 1: Antenatal classes provided across the three NHS trusts

Figure 2: Course topic matrix

Figure 3: Example of material provided at classes; breastfeeding peer support

Figure 4: Report reviewed and accepted by the Bristol, North Somerset and South Gloucestershire Maternity Voices group

Acknowledgements

Thanks to the three Heads of Midwifery for supporting this project and to the midwives involved in delivering the classes.