



An Evaluation of the effectiveness of the Injury Minimization Programme for Schools (I.M.P.S.)

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Background

History of I.M.P.S.

I.M.P.S. began in 1993, in response to the Government White Paper '*Health of the Nation*' (1992) recommendations, when colleagues from Community Child Health and the Accident and Emergency Department at the John Radcliffe Hospital, Oxford met to address the problem of childhood injury. The programme was piloted in 1993 in Oxford and in 2000 the Department of Health awarded a section 64 grant to allow hospitals across the UK to open I.M.P.S. centres.

At present there are nine national centres running the I.M.P.S. programme and over 300,000 children have currently been trained in injury prevention and emergency skills. The programme is particularly focused on those children who are at transition from primary to secondary school (aged 10-11) – a time when the unintentional injury rate climbs significantly¹. Bedding I.M.P.S. into the National Curriculum key stage attainments, and compliance with guidance, such as that from the European Resuscitation Council, the National Institute for Health and Clinical Excellence and the Health and Wellbeing of government agendas, has been critical to its success.

The I.M.P.S. Programme

I.M.P.S. aims to empower young people to take personal responsibility for their own risk management and equip them with the skills to cope in an emergency situation.

Choices for life involve taking risks and we believe that children should understand how to make risks safer by being aware of the consequences of their actions.

I.M.P.S. gives children this choice with a three part injury prevention education programme for ten and eleven year olds.

1. Curricular linked work to identify, assess and manage risks within their day to day experiences.
2. Learning emergency life skills within a hospital environment.
3. Follow up activities at school and at home including an e learning resource

Introduction to study

Over the last three years children in year six, participating in I.M.P.S., have been asked to complete an online evaluation quiz² before and after the programme. This has proved difficult to analyse due to some non-compliance from the schools. In many cases the quiz was completed by groups of children or as a whole class. Sending facilitators into schools to sit with the children as they took the quiz meant all the data was collected correctly and the results therefore more robust.

The evaluation had no funding.

¹ ROSPA (2013) '*Managing Safety in Schools and Colleges November 2012*'

² The I.M.P.S. quiz was put together in 2009 by Sandwell IMPs to evaluate the effectiveness of the IMPs programme.

Aim of Study

- To evaluate the effectiveness of the I.M.P.S. programme by measuring children's skills and knowledge in injury prevention and emergency skills pre and post intervention.
- To measure retention of skills and knowledge after three months

Method

Introduction

The research was conducted in eight areas within England. These areas were decided by the geographical position of I.M.P.S. centres. Each centre enrolled up to twenty year six children across one or two schools and the evaluation was run by members of the I.M.P.S. staff. Fifteen schools participated.

Appendix 1 – list of participating schools

Evaluation method

The evaluation used an online quiz to measure the children's knowledge and skills. I.M.P.S. trainers visited schools to facilitate the evaluation. They stayed with the children as they completed the online quiz. The scores were entered into a central database where they could be analysed.

The quiz

The quiz was accessed through the Kidzone section of the I.M.P.S. website

www.impsweb.co.uk/kidszone

It has twenty eight questions. The children were each asked twenty questions. Six of which were compulsory, the other fourteen were selected at random by the quiz program. The questions were compiled to test the children's risk awareness, accident prevention and first aid skills. Questions were split in to several sections covering different parts of the I.M.P.S. visit and the key stage 2 resource book.

The compulsory questions were chosen to test the children's knowledge of emergency skills that they were unlikely to learn elsewhere. *Appendix 2-list of questions*

The evaluation

Staff from each I.M.P.S. centre visited local schools to facilitate the online quiz using ten children from each school. The children took the quiz three times; at the beginning of the academic year, immediately following the I.M.P.S. visit and approximately three months later. *Appendix 1 -dates of visits.*

One hundred and forty eight children were tested from eight I.M.P.S. regional areas. The children were chosen randomly from the year six classes.

The intervention

The children participated in the I.M.P.S. programme which consisted of curricular linked work given by the teacher from the I.M.P.S. key stage 2 resource book, learning emergency life skills within a hospital environment and follow up activities in school and at home.

Quiz attempt 1

Prior to the intervention, at the beginning of the academic year in autumn 2012, the schools were visited by a member of the I.M.P.S. staff (the facilitator).

Each child was given a username and password that would identify them to the evaluator but anonymise them within the results.

The facilitator introduced the children to the quiz using a predetermined script and assisted them with the log on. There was no further assistance unless help was needed with reading the questions.

Appendix 3 - script

Quiz attempt 2

The schools were visited by the facilitator and the children undertook the quiz for a second time within a few weeks of their I.M.P.S. training. The predetermined script was read to the children.

Appendix 3 - script

Eleven children were unavailable for the retest therefore only one hundred and thirty six were tested for a second time. The children who were unavailable this time had their pre-test results removed from the evaluation.

Quiz attempt 3

The facilitators visited the schools and the children took the quiz for a third time three months after the intervention. Unfortunately one centre was unable to access the quiz on their visits so the number of children taking the quiz for a third time was one hundred and twelve.

Results

The first set of results are based on 136 children who took the quiz before and immediately after the intervention

The mean score before the intervention was 10.6 correct answers, which gave a percentage score of 53%.

The mean score immediately after the intervention was 15 correct answers, giving a percentage score of 75%

Mean quiz score before and after the intervention and mean difference (n=136)

	Mean score	Mean difference
Before	53.2%	
After	74.9%	21.7%

The second set of results is based on the 112 children that took the quiz before, immediately after and three months after the intervention.

The mean score before the intervention was 10.6 correct answers, which gave a percentage score of 53%.

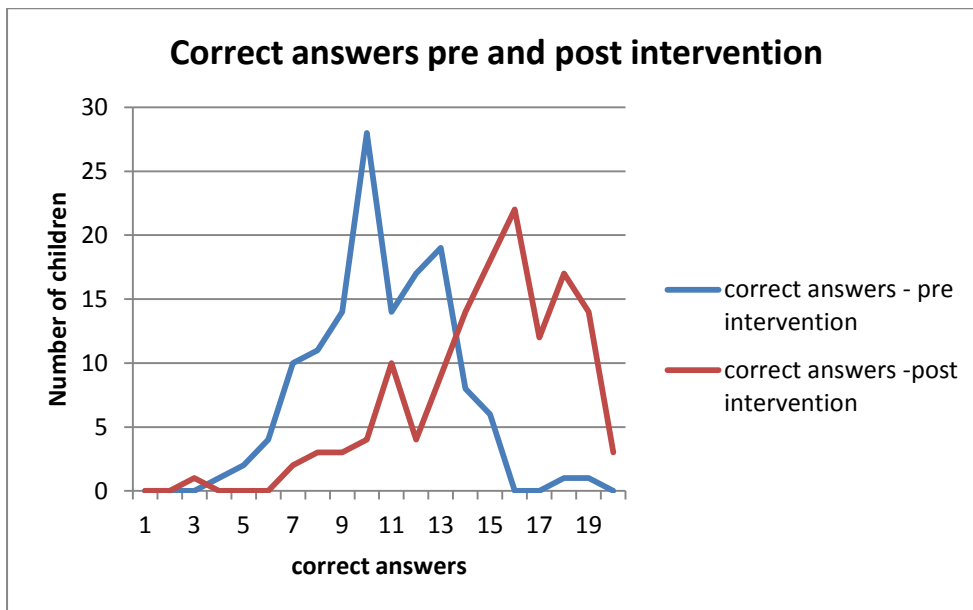
The mean score immediately after the intervention was 14.9 correct answers giving a percentage score of 74%.

After three months the mean score was 14.3 correct answers giving a percentage score of 72%.

Post intervention results and those after three months showed a statistically significant increase in knowledge.

Mean quiz score before and 3 months after the intervention and mean difference (n=112)

	Mean score	Mean difference
Before	53.2%	
After 3 months	71.9%	18.7



Figs. 1 and 2 show how many children correctly answered each number of questions.

For example before the intervention the highest number of children answered 10 questions correctly but after the intervention the highest number of children answered 16 questions correctly.

Figure 1

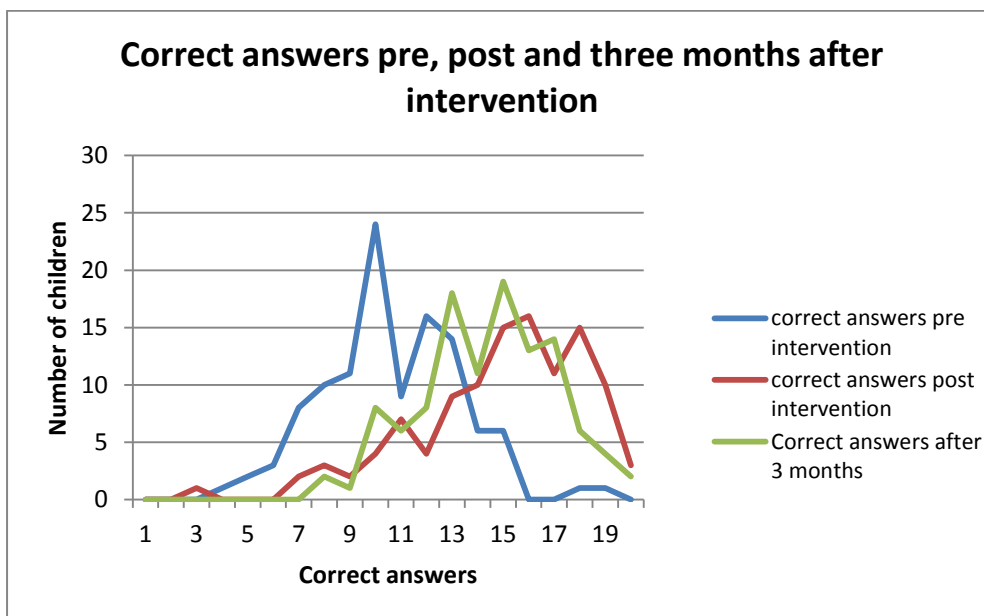


Figure 2

Further evaluation

The six compulsory questions are based on information that is taught during the I.M.P.S. hospital visit rather than in school through the resource book and is unlikely to have been taught elsewhere.

Appendix 2 - questions

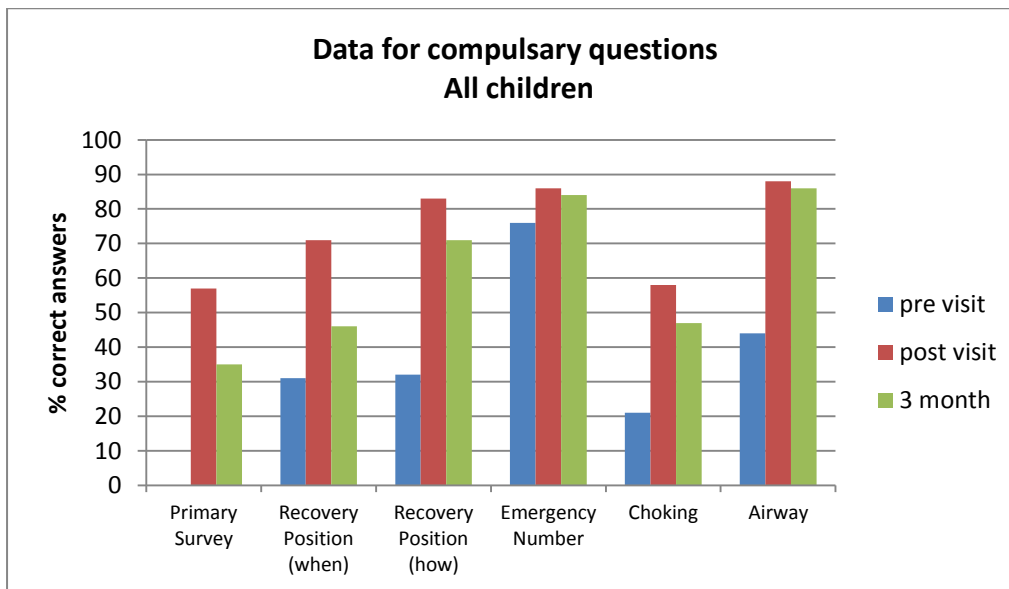


Figure 3 shows the percentage of children that correctly answered each of the compulsory questions before, immediately after and three months after the intervention.

n.b. the primary survey question had no correct answers before the children took part in the programme

Figure 3

The mean pre visit score for the compulsory questions was 34%. This increased to 73% post visit and 62% after three months.

Limitations

In hindsight, it would have been preferable for all of the questions to be compulsory. With fourteen of the questions being randomly selected and therefore not answered by the same children at each attempt, in depth evaluation was limited to the six compulsory questions.

Some children had problems accessing the quiz due to difficulties with internet access in schools.

This made it difficult to run the evaluation efficiently and in some cases meant that they were unable to complete the evaluation.

Conclusions

Points of note

- None of the children knew the primary survey before the intervention however this information was retained by 57% of the group immediately following the intervention and over 30% of them after three months.
- 76% of the children were aware of the emergency number but this still increased to 86% following the intervention.
- 71% of the children could remember what the recovery position was after three months, a drop of only 12% from immediately after the intervention, but there was a drop of 25% in the number of children remembering when you put someone into the recovery position. Although the number of children knowing this information was still higher than before the intervention it would be worth considering how we can help the children to retain this information.
- The majority of the children could remember how to open an airway after three months. Is there something we could learn from the way we teach this element that helps the information to be retained?
- Each of the compulsory questions had more correct answers after the intervention and after three months than before the intervention.

The results of this evaluation were comparable to those results we have had from schools over the last two years which has proved to us that exact compliance isn't necessary to show the increased knowledge and skills of the children taking part in the programme.

This evaluation demonstrates that having taken part in the I.M.P.S. programme, the children increase their knowledge and skills in first aid and emergency skills and that a high percentage of that knowledge is retained over three months.

The evaluation has shown that the I.M.P.S. programme is an effective way of teaching children life saving skills.