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Abstract

Evidence suggests that diets rich in fruits and vegetables boost the body's natural defences against diseases caused by infection. Gold kiwifruit is rich in vitamin C and contains several phytochemicals that may influence immune function. The effect of consumption of ZESPRI® GOLD kiwifruit on the incidence, and symptoms of upper respiratory tract infection (URTI) have been investigated in children attending local crèches and play-centres. In a randomised, crossover trial, 66 children (aged two to five years) were randomised into one of two groups following a 2-week washout period and consumed an equivalent of 2 servings of gold kiwifruit (group A) or 2 servings of banana (group B) daily for 4 weeks. This was followed by a 2-week washout period and a cross-over of the treatments i.e. group A consumed 2 servings of banana and group B consumed 2 servings of gold kiwifruit for a further 4 weeks, followed by a final 2-week washout period. Parents completed a daily questionnaire of URTI symptoms, the validated Canadian Acute Respiratory Illness and Flu Scale (CARIFS), which assessed the incidence of cold-and flu-like illnesses and the severity of those symptoms. The fruit and vegetable consumption of the children along with their food liking was also investigated at baseline and at the end of the intervention. Additionally, children's fruit and vegetable eating habits along with their parent's motivation to provide them with fruits and vegetables were also investigated. The odds ratio of having a cold- or flu-like illness was 0.55 (95% (0.32, 0.94), $P=0.03$) for the kiwifruit intervention compared to the banana intervention. The sum of total URTI symptoms scores over the treatment periods were significantly lower for the kiwifruit treatment compared to the banana treatment ($P<0.05$), along with the incidence of certain URTI symptoms (including cough, headache, and feeling unwell). Children's fruit consumption did not differ from baseline to end but their kiwifruit liking scores improved. There was a strong positive correlation between children's fruit and vegetable consumption and parents' motivation to provide them with fruits and vegetables (r values ranged from 0.22-0.61). In conclusion; Children had a lower incidence of cold- and flu-like illnesses during the kiwifruit intervention phase of the trial compared to banana phase. Some of the URTI symptoms were significantly less during the kiwifruit intervention phase compared to the banana phase. Regular consumption of Zespri® Gold Kiwifruit during the cold & flu season may reduce the incidence or symptoms of URTI in children.

Acknowledgments

This thesis was completed with the help and support of several people without which it would not have been achieved.

Firstly I would like to thank the 66 children, their parents, and the crèche and play-centres that participated in our study for their time and efforts.

Secondly, I would like to thank my supervisors, Dr. Rozanne Kruger, Associate Professor Welma Stonehouse, and Professor Margot Skinner, for their knowledge, guidance, and constant support and encouragement throughout the study and thesis process. Also special thanks to Mark Wohlers for his valuable input in statistical processing and analysis.

I would also like to thank my family and friends for their help and support.

Finally, I would like to dedicate this thesis to my husband Gregory Oliver King, and also thank him for his help and support. Especially for allowing me time to complete this work, for listening to me when I needed support and for all the late nights spent reading over it when I needed proof reading or a second opinion.

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