

Title: FACTORS ASSOCIATED WITH ROTAVIRUS VACCINE UPTAKE IN HONG KONG CHILDREN

Yeung KHT¹, Fung GPG², Tarrant M³, Tam WH⁴, Nelson EAS¹

¹ Department of Paediatrics, The Chinese University of Hong Kong, Hong Kong SAR, PR China

² Department of Paediatrics and Adolescent Medicine, United Christian Hospital, Hong Kong SAR, PR China

³ School of Nursing, The University of Hong Kong, Hong Kong SAR, PR China

⁴ Department of Obstetrics and Gynaecology, The Chinese University of Hong Kong, Hong Kong SAR, PR China

Abstract

Background

Two rotavirus vaccines (RVV) have been used in private sector in Hong Kong since licensure in 2006 but have not yet been incorporated in the government's Childhood Immunisation Programme (CIP). The vaccine uptake is relatively low. In this analysis, we investigated factors associated with vaccine uptake.

Methods

As part of a knowledge, attitudes and practices study related to pneumonia and diarrhoea, 500 eligible mothers were recruited postnatally from two public hospitals in 2014. Approximately 1 month later mothers completed a telephone questionnaire based on the Health Belief Model. When children were at 6-10 months old, their rotavirus vaccination histories were documented and copies of immunisation records were sought. Univariate and stepwise multivariable logistic regression analyses examined factors associated with RVV uptake.

Results

Among the 314 subjects, whose mothers responded to the final questionnaires and provided immunisation records, 147 (47%) had received RVV. Factors associated in univariate analyses with vaccine uptake included: (1) family household income, (2) mothers' place of birth, (3) infant feeding practice at 1 month, (4) maternal knowledge of diarrhoea at birth, (5) agreeing vaccine can protect against rotavirus diarrhoea, (6) heard of RVV, (7) knowledge of oral rehydration solution (ORS) (8) agreeing that "if most parents you know vaccinate their children against rotavirus, you will vaccinate your child too" (peer effect), (9) disagreeing that developing immunity by getting the disease was better than getting a vaccine to prevent that disease, (10) disagreeing that convenient clinic location and (11) having to make an appointment were important factors influencing decisions to vaccinate their children. After putting these factors in a multivariable logistic regression with stepwise Akaike's Information Criterion selection, eight variables remained: continued breastfeeding at 1 month (OR=2.48;95%CI:1.19, 5.16), Hong Kong-born rather than China-born mother (OR=2.13;95%CI:1.12, 4.08), disagreeing that making an appointment is an important influencing factor (OR=0.29;95%CI:0.15, 0.59), heard of ORS (OR=2.20;95%CI:1.06, 4.56) and RVV by 1 month (OR=1.87;95%CI:0.79, 4.43), agreeing vaccine can protect against rotavirus diarrhoea (OR=2.89;95%CI:0.79, 10.51), peer effect (OR=4.45;95%CI:0.84, 7.13) and better maternal knowledge of diarrhoea at birth (OR=2.57;95%CI:0.79, 8.34).

Conclusion

Hong Kong-born mothers with better knowledge about diarrhoea and rotavirus were more likely to take their child for rotavirus vaccination in private sector. Although further efforts are needed to better inform all mothers of the benefits of this vaccine, its inclusion in CIP will be necessary to ensure that all children can be equally protected from rotavirus gastroenteritis.

Contact

Karene Hoi Ting YEUNG

Address: Department of Paediatrics, 6/F, Lui Che Woo Clinical Science Building, Prince of Wales Hospital, Shatin, N.T., Hong Kong, China

Tel.: +852 2632 2917

E-mail: karene@link.cuhk.edu.hk