



Discrepancies between knowledge and practice of childhood motor vehicle occupant safety in Nova Scotia—A population-based study

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ABSTRACT

Objectives: To determine discrepancies between knowledge and practice of childhood motor vehicle restraints (CMVRs) and vehicle seating position amongst parents within the province of Nova Scotia.

Design: Random telephone survey.

Setting: The Canadian province of Nova Scotia.

Subjects: Four hundred and twenty-six households with at least one child under the age of 12 years, totaling 723 children.

Main outcome measures: The proportion of parents whose children who should be in a specific stage of CMVR and sitting in the rear seat of the vehicle, and who demonstrate correct knowledge of that restraint system and seating position, yet do not use that restraint system/seating position for their child (demonstrate practice discrepant from their knowledge).

Results: Awareness of what restraint system to use is good (>80%). However, knowledge of when it is safe to graduate to the next stage is low (30–55%), most marked for when to use a seatbelt alone. Awareness of the importance of sitting in the rear seat of a vehicle was universal. Discrepancies between knowledge and practice were most marked with booster seats and rear-seating of older children. Factors influencing incorrect practice (prematurely graduated to a higher-level restraint system than what is appropriate for age and weight) included lower household income, caregiver education level, and knowledge of when to graduate from forward-facing car seats and booster seats. Incorrect practice was also more commonly observed amongst children of weight and/or age approaching (but not yet reaching) recommended graduation parameters of the appropriate CMVR.

Conclusions: Discrepancies between knowledge and practice are evident through all stages of CMVRs, but most marked with booster seats. The roles of lower socioeconomic status and gaps in CMVR legislation, in influencing discrepant practice, must be acknowledged and suggest the need for targeted education concurrent with development of comprehensive all-stages CMVR policies.

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1. Introduction

Many studies have now clearly demonstrated the efficacy of child motor vehicle restraints (CMVRs), from rear-facing car seats to booster seats, in significantly reducing the risk of severe injury and death of children involved in motor vehicle crashes (Nance et al., 2004; Durbin et al., 2005; Elliott et al., 2006; Rice and Anderson, 2009). However, despite advances in promotion of CMVR usage over the past few decades, including engineering, public education and legislation to encourage their appropriate use, mis- and non-use of these continue to occur. In 2003, recommendations by Transport Canada were based on 4 stages of CMVRs. Stage 1, a rear-

facing car seat (RFCS) should be used until a child is at least 10 kg in weight and 1 year of age. Stage 2, a forward-facing car seat (FFCS) should be used until the child is at least 18 kg in weight and 4.5 years of age. Stage 3, a booster seat (BS) should be used until 28 kg or 8 years of age after which a seatbelt (SB) alone can be used (Stage 4). In 1997, Transport Canada revealed that only 70% of infants under 1 year of age were traveling in a RFCS, 43% of those aged 3–4 years were either using a SB alone or were not restrained and only 6% of 5–9 year olds were using a BS or FFCS (Transport Canada, 1998). A similar 2006 study showed some small improvements: only 61% of infants under 1 year were in RFCSs, 67% of 1–3 year olds were in rear- or forward-facing car seats and only 22% of children aged 4–8 were in BSs (Snowdon et al., 2009).

Compounding mis- and non-use of appropriate CMVRs is the practice having young children ride in the front seat of vehicles. One large observational study in Canada in 2006 revealed that of

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