

## **A systematic review investigating the factors that affect the participation of children and adolescents in vaccine research – Lopa Banerjee - Cardiff University**

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### **Introduction:**

Clinical research requiring participation of children and adolescents, including vaccine research, may be controversial and require greater ethical, legal, and cultural considerations than research involving adults. The aim of this review is to identify the factors (i.e. motivators, barriers, and solutions), which affect the participation (i.e. recruitment and retention) of children and adolescents in vaccine research. Children undergo cognitive development and experiences with vaccines have the potential to create future attitudes toward vaccines. This can influence future vaccine behaviour, including their participation in decision-making around adolescent vaccines, their decisions to vaccinate themselves when they are adults, and their decisions to vaccinate their own children. Interventions aimed at children, such as education, can create positive attitudes toward vaccines. Areas Covered: This review focuses on the lack of literature in this area and argues for more vaccine hesitancy research involving child and adolescent populations. In view of this, we directed a subjective investigation of young people, their folks and the youths' social insurance suppliers to distinguish likenesses and contrasts in inoculation perspectives and practices among these gatherings and to investigate the job of every partner in the antibody choice procedure. We at that point questioned these gatherings for their thoughts on potential mediations to improve antibody take-up that tended to distinguished obstructions in the immunization choice procedure. Methods: A systematic review was completed using a search strategy, eligibility criteria, and proforma in a predefined protocol submitted to PROSPERO (131360). Papers published up to April 2019, on factors that affect the participation of participants aged 18 years and younger were searched for using seven online databases and hand searching. Data

were extracted using the pre-defined proforma, analysed thematically, and summarised using narrative synthesis. Results: Of 1216 citations found, 304 full-text articles were reviewed, and 77 papers were included, covering 19 vaccine types from 28 countries. Based on the most frequently occurring reasons, participants and their parents were primarily motivated by their level of understanding, perceived personal benefit, altruism, access to better healthcare, and trust in researchers and healthcare professionals. Barriers included misunderstanding information about the trial, risks of sideeffects, mistrust of researchers, conflict between stakeholders (i.e. parents, children and researchers), and fears about trial procedures. Suggested solutions were better education of participants and parents, clear consent and assent processes, and community support. In contrast to Parents, changing antibody necessities was not referenced by any of the suppliers as an obstruction to pre-adult immunization, recommending that suppliers may not perceive that these progressions add to parental inoculation aversion. Furthermore, suppliers detailed that school-based immunization commands seemed to improve inclusion levels everything being equal, despite the fact that guardians showed that they had differential perspectives dependent on whether antibodies were ordered or not. Conclusion: Many factors that affected participation were identified, with overlap between motivators, barriers and solutions. Literature quantity varied by country and vaccine type, and areas identified for further researches were those in which evidence was contradictory or lacking. Utilizing ageappropriate consent/assent processes, gaining the support of the entire community, and more effectively delivering information about research and vaccines, both generally, and specifically regarding randomisation,

blinding and dispelling therapeutic misconceptions, could improve the participation of children and adolescents in vaccine research. We found several similarities in vaccine attitudes that could be used as foundations for future interventions. Furthermore, the integration of technologies such as e-mail and the Internet may offer new strategies to address the perceived lack of comprehensive medical information available to parents as well as enhance direct communication between patient/parent and providers. A next step will be to use these findings to develop interventions that support the specific needs identified by each of these stakeholder groups.

Keywords: Paediatric Research, Research Participation, Vaccine, Vaccine Research.