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Impact of Educational Interventions in Childbirth Classes on Uptake of Recommended Vaccinations during pregnancy in the Metropolitan Area of Palermo, Sicily

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Background. Maternal immunization represents an effective public health strategy for the prevention of vaccine-preventable infections during pregnancy and in the first months of life [1]. Despite the recommendations introduced by the Italian Ministry of Health in 2018, vaccination coverage during pregnancy remains suboptimal [2]. In this context, vaccine counselling provided during childbirth classes may improve both knowledge and vaccine uptake.

Material And Methods. Between January 2025 and March 2026, an observational study was conducted among pregnant women attending childbirth classes at three hospitals in the metropolitan area of Palermo. Participants completed an anonymous Google Forms questionnaire assessing knowledge, attitudes, and vaccination practices. An educational intervention on maternal immunization, the cocoon strategy, and childhood vaccinations during the first year of life was subsequently delivered by physicians from the University of Palermo. Vaccine uptake was evaluated 30 days later through telephone or email follow-up.

Results. Among the 132 pregnant women enrolled, uptake of the dTpa vaccine reached 92% (relative post-intervention increase - PII: 55%), influenza vaccination uptake was 43% (PII: +26%), and COVID-19 vaccination uptake was 5% (PII: +3%). Previous influenza vaccination was strongly associated with vaccine uptake during pregnancy, both for influenza vaccination (OR:30.61; 95%CI:6.84–136.97; p-value=< 0.001) and COVID-19 vaccination (OR:5.6; 95%CI:1.177-26.748; p-value=< 0.05). Furthermore, vaccine-related knowledge was significantly associated with the uptake of at least one recommended maternal vaccine, including awareness of the correct timing of influenza vaccination (OR:6.1; 95%CI: 2.378-15.682; p-value=< 0.001), knowledge of the recommendation for Tdap vaccination during pregnancy (OR 10.09; 95%CI:2.524-40.343; p-value= <0.01) and its administration during every pregnancy (OR: 7.8; 95%CI:0.970-64.217; p-value= <0.05), and awareness of RSV (OR: 14.87; 95%CI:1.824-121.206; p-value= <0.01).

Conclusions. Vaccine counselling interventions delivered during childbirth classes appear to be effective in improving uptake of vaccinations recommended during pregnancy. The systematic integration of these strategies into regional maternity care pathways is desirable in order to increase vaccination coverage and strengthen maternal and infant health prevention.

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