Pregnancy and Pertussis: Why the Change in TDAP Administration?

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Introduction/Background

Previous recommendation of “cocooning” to prevent pertussis or “whooping cough” to newborns, including the number of cases, hospitalizations & deaths have not decreased the incidence in the newborn population and continues to rise. 2014 was the highest number of cases since the introduction of the vaccine in the 1940’s. Increase historically has been seen cyclically every 4-5 years, and also is thought due to use of acellular vaccine, which although not as long lasting, has less serious side effects than previously used live vaccine.

Prior Recommendation vs. New

Prior recommendation: Vaccinate mother after delivery & all others in close contact with the newborn “cocooning.”

Recommenations

Provide a Physician/Patient Tool with the following elements:
- Locations that have vaccines available -ie., associated clinics or “Most Major Pharmacies” wording. Map if possible.
- CDC website with “vaccine finder” by zip code.
- Explanation of importance of vaccination
- Prescription incorporated for convenience of physician to sign at bottom of tool.

Give Physician/Patient Tool to Physician’s, and to patients at pre-natal education classes/tours to take to physician for Rx.

Have CDC handout/posters posted & available in units where maternity patients frequent with current recommendation.

Orient Physician to Physician/Patient Tool
- Provide patient who do not carry vaccine page brief intro to tool.
- Educate Physician’s Staff with in-service:
  - Put Physician/Patient Tool on pregnant patients chart.
  - Documentation of Tdap in pre-natal.
  - Provide sticker/stamp for pre-natal to document patient receiving information, and/or reporting getting Tdap vaccination.

Educate Hospital Staff on appropriate Tdap administration:
- Be mindful of orders to give to antepartum patients per CDC who haven’t had Tdap during pregnancy.
- Administer post-partum only if patient has never had Tdap or is due for 10 year booster and did not receive it during pregnancy.
- Give patient CDC vaccination Tdap information sheet with recommendations to get during subsequent pregnancies.

Materials and Methods

The process involved the following:
- Comprehensive search of materials/studies related to pertussis in the newborn in CINHAL, PUB MED, Centers for Disease Control (CDC), and California Department of Public Health (CDPH).
- Data was analyzed for history and current literature available on subject for last 5 years.
- Development of a universal Physician/Patient Tool based on recommendations from literature search.

Current Statistics

No. of mothers reported getting Tdap info: 50%
No. of mothers reported receiving Tdap vaccination during pregnancy:
- 9%-18%
- No. of Newborns who get “whooping cough from:
  - Mother- 30%-40%
  - All family members 70%-80%

Obstacles

- Patients not getting current information/asking for vaccine at sub optimal time.
- Patients not getting any information regarding Tdap vaccine.
- Cost of the vaccine to physicians/physicians not carrying vaccine/not “having time” to inform patients.
- Cost of the vaccine to the patient.
- Hospital staff not giving patients updated recommendation.

RESULTS Old vs. New (projected)

OLD
- Mothers vaccinated post partum:
  - Prevention of 549 infant cases
  - Prevention of 219 hospitalizations
  - Prevention of 3 infant deaths.

NEW
- Mothers vaccinated during pregnancy:
  - Prevention of 906 infant cases.
  - Prevention of 462 hospitalizations.
  - Prevention of 9 infant deaths.

Conclusions

With a multi-faceted strategic approach involving:
- Physician strong recommendation
- Pre-natal education
- In-service of physician’s staff
- Education of hospital staff
- Use of an easy, physician/patient tool with Rx incorporated

Compliance of Tdap administration during the appropriate time can be realized up to 87%, which would decrease the incidence, hospitalizations, and deaths attributed to pertussis, or whooping cough in infants under 3 months of age.

References

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