

**Research Article****Use of Talcum Powder on Infants and Toddler**Shally Magon\*<sup>1</sup>, Abhinaya .V<sup>2</sup><sup>1</sup>Associate Professor, Obstetrics and Gynecology, Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry, India<sup>2</sup>Student Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry, India**\*Corresponding author**

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**Abstract:** Use of talcum powder on infants and in the first few years of life is worrisome for several reasons. Infants under 1 year of age should not be exposed to any powders unless medically recommended. 90% of mothers in the sample reported applying powder. A considerable doubt has been cast on the safety of powders containing talc, particularly when used on infants. 1) To get as complete a picture as possible about use of talcum powder use in infants. 2) To sensitize the parents about the possible adverse effects of talcum powder and to assess whether babies whose mothers applied talc had a higher incidence of breathing difficulties compared to those who did not apply the same. The research was conducted in Sri Lakshmi Narayana Institute of Medical Sciences. The sample was a randomly distributed consumer opinion survey administered in 2014 to approximately 100 mothers 18 years of age and older. The mothers reported giving infants a variety of powders (67%), the most common of which included local talcum powder (70%). The commonest reasons that mothers reported using talcum powder to their infants were to help manage excessive perspiration (local soothing), as well as to make the child smell better (56% and 34% respectively). Only 1% had some idea that talcum powder can cause some problem to the child. We found that the most commonly reported sources of information about talcum powder, was the media (40%).

**Keywords:** Talcum powder, Infants, Toddlers, Safety

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**INTRODUCTION**

Infants, because of differences in their physiology and metabolism as well as, obviously, a much smaller body weight, may be more susceptible to adverse effects from talcum powder. Concerns include the possibility of asbestosis in young infants from the wide variety of powders applied on infants. Powders have the potential to cause allergic reactions, as well. It has an ability to incite a localized inflammatory reaction. The current study is the first to focus specifically on use of powder in infant during the first year of life. The study was conducted on infant care practice of applying talcum powder in South India, because we had many prior concerns about this issue. Several infants each year have died or become seriously ill following accidental inhalation of baby powder. The research was conducted in Sri Lakshmi Narayana Institute of Medical Sciences. The sample was a randomly distributed consumer opinion survey administered in 2011 to approximately 100 mothers 18 years of age and older. We included questions about use of talcum powder to get as complete a picture as possible about its use in infants. We included questions about type of powder used and whether awareness of any hazard due to powder existed etc. No data from India about use of talcum powder exists for a sample

of the general population of infants. They are often labeled simply as “baby powder” Our study was descriptive in nature, and it will be valuable to us in designing future studies.

**Aims and objective**

- To get as complete a picture as possible about use of talcum powder use in infants.
- To sensitize the parents about the possible adverse effects of talcum powder and to assess whether babies whose mothers applied talc had a higher incidence of breathing difficulties compared to those who did not apply the same

**MATERIALS AND METHODS**

The research was conducted in Sri Lakshmi Narayana Institute of Medical Sciences. The sample was a randomly distributed consumer opinion survey administered in 2014 to approximately 100 mothers 18 years of age and older

**RESULTS**

The mothers reported giving infants a variety of powders (67%), the most common of which included local talcum powder (70%). The commonest

reasons that mothers reported using talcum powder to their infants were to help manage excessive perspiration (local soothing), as well as to make the child smell better (56% and 34 %) respectively. Only 1 % had some idea that talcum powder can cause some problem to the child. We found that the most commonly reported sources of information about talcum powder, was the media (40 %).

Our main findings were:

- 70% of mothers in the sample reported applying powder to their infants in the first year of life. The ingredients in talc powder vary by brand but usually contain hydrated magnesium silicate. We believe that the true national prevalence rate of infant powder use is much less. The mothers reported giving infants a variety of powders, the most common of which included local talcum powder which is the cheapest(70%) .
- The 3 most common reasons that mothers reported using talcum powder to their infants were to help manage excessive perspiration (local soothing action) (56%) reduction in diaper rash (10%) and pleasant smell as well as to make the child look fairer(34%).
- We found that the most commonly reported source of information about talcum powder was the media (40 %) relatives 32% doctors (28%).
- Only 1 % had some idea that talcum powder can cause some problem to the child
- 3 babies suddenly had an attack of cyanosis / apnea and or violent cough soon after use of talcum powder and were admitted for the same. All these children were found playing with talcum powder. All of these children were hospitalised. The mean period of hospitalisation was 5 days
- 80 % of children in category of powder applicants had 6 or more episodes of respiratory problems in last 12 months as compared to 20% in the non applicant group.
- We generally recommend that consumers check with their healthcare providers about the use of any powder. However, our study found that not a single woman reported having consulted with a healthcare professional. We also found that mothers who used powder on their infants were more likely to have used talc powder themselves.
- We only looked at region by prevalence of use. South Indian mothers were more likely to apply daily talcum powder on their infants than mothers from other states (100%) versus (40%) from other states.
- Because we could not find any previous studies in infants, we did not know what to expect. However, we had not anticipated that the rate of use would be this high. We also did

not expect to find the variety of products that were given to infants like turmeric and herbal unspecified powders.

## DISCUSSION

Talc, or magnesium silicate, is made up of finely ground particles of stone. Talcum powder is a traditional mainstay of freshness because of its soothing, lubricating, and absorptive properties when applied to the skin being the softest mineral on earth. We use it liberally on babies' bottoms and to absorb perspiration in summers

### Acute Inhalation

Talc is insoluble in water, causing drying of the mucous membranes of the tracheobronchial tree when it is inhaled. This results in impairment of the normal ciliary function that is required to clear particulate matter from the airways [1]. At times Massive aspiration of talcum powder by an infant can occur [2]. It can cause mechanical obstruction of the small airways Edema and inflammation of the bronchial epithelium occur, leading to a pattern typical of acute lung injury. Mice that inhaled talcum powder were found on autopsy to have bronchioles obstructed with talc, and histologic examination of the bronchial epithelium revealed hemorrhage, edema, and desquamation [2]. Furthermore, adsorption of surfactant to the magnesium silicate powder may contribute to pulmonary injury [1, 3].

The primary goal in the treatment of patients with acute talcum powder inhalation is to maintain adequate ventilation and oxygenation.

- Supplementary oxygen intubation and mechanical ventilation and bronchodilators and steroids are frequently administered in an attempt to mitigate the local inflammatory response and reduce mortality [4]. Methylprednisolone 0.5 to 1 mg/kg IV every 6 hours, or prednisone /prednisolone 1 to 2 mg/kg/day orally, for a total of 3 to 5 day is beneficial

### The chronic inhalation

The chronic inhalation of talc dust has long been associated talcosis (chronic bronchitis, interstitial fibrosis, and/or granuloma formation. Naturally occurring talc is often contaminated with crystalline silica and asbestos because it is a mined product. Although most of the asbestosis removed from the talc during processing, traces may still remain in the final product. Not only the occupational exposure to talc but everyday talc use can also be problematical.

Even if it doesn't contain asbestos, talc has fine particles of stone that can lodge in the lungs and never leave. Babies whose mothers apply talc should thus have a higher risk of breathing difficulties.

## CONCLUSION

Healthcare providers should recognize that infants under their care may have been using a wide variety of powders e.g to keep the baby's bottom soft and dry. Most contain active ingredients that have potentially harmful biological effects on the body that could make exposure to them unsafe especially in children because of age. It acts as an irritant when it is inhaled [1]. Findings can range from cough, sneezing, and transient dyspnea to cyanosis, severe respiratory distress, respiratory failure, and even death [1, 3]. Many cases of symptomatic talc inhalation have been reported, primarily in infants and preschool-aged children [4].

Parent education is paramount. Given the significant number of infants using these products, it is important that healthcare professionals specifically ask mothers about their use. Asking about use of these products provides an opportunity to educate about the potential adverse effects of talcum powder. However, healthcare professionals should also be aware that in some populations in Tamil Nadu use of these products is very common and consistent with cultural patterns. Hence finding the best alternative is a challenge corn starch-based baby powder is associated with substantially lower risk if inhaled. However, talc-containing products are still readily available at many shops. The bottom line is that it is better not to use talc or talc-containing products and giving up body powders is relatively easy.

## RECOMMENDATIONS

There have been no IAP policy regarding use of talcum powders and changes are likely after this study; for example talcum powder containers should have warnings cautioning against the dangers of inhalation This type of information helps the community to better understand the public health impact of the products that we may sometimes inadvertently encourage. We should limit the use of powders as more we use; the greater is the market demand.

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