CHILD DAY CARE AND INFECTIONS: IS THERE A WAY TO MINIMIZE THEM?

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THE NAME

Play

Jardín de infancia
Kindergarten

Jardim de infância
Giardini d’infanzia

Llar d’infants

Learn

Scuola materna
Ecole maternelle

Kleuterschool
Escola bressol

Scuola materna

Keep

Child day care center

Guardería infantil
Creche

Garderie
Parvulario

Asilo nido
Strong social demand for day care centers
SOCIAL CHANGES

- Massive incorporation of women (traditional caretakers of the infant) to employment and professional jobs, without a significant change in parental roles.

- Active working grandparents + no other caregivers in the family.

- Distrust of non-professional home caregivers.

- Young parents sometimes do not want to ask for help.

- Some mothers consider day care is “better” than “their care”. The trend...
ATTENDANCE IN DAY CARE 1998-2008 (SPAIN)

1998

< 12 months old  4.4%

2+ years old  49.6%

2008

< 12 months old  22.4%

2+ years old  90%

ADVANTAGES

Advantages (or pseudoadvantages) for the child:

- Stimulation
- Affection
- Social relation
ADVANTAGES

Advantages for the parents:

- Quality of care
- Avoids having to ask for help in the family
- Both parents can continue their personal / professional development...
- Easier
COMMON PERCEPTIONS OF PARENTS

- Perception that being in day care is good for the child...

- No perception of risk...
RISKS

- Infectious diseases
- Accidents
- Emotional
Risk of infectious diseases

- Closed space
- Cluster of susceptibles
- High circulation of microbes
DCC ATTENDANCE AND RISK OF INFECTION

- Increased risk for:
  - Upper respiratory tract infections
  - Acute otitis media
  - Otitis media with effusion
  - Conjunctivitis
  - Laryngitis
  - Bronchitis
  - Bronchiolitis
  - Pneumonia
  - Acute gastroenteritis
DCC ATTENDANCE AND RISK FOR SPECIFIC MICROBES

- Increased risk for viruses, bacteria and parasites:
  - *S. pneumoniae*
  - Rotavirus
  - Hib invasive disease
  - Men C and B
  - Giardia Lamblia
  - and others...
**DCC ATTENDANCE AND RISK FOR CARRIER STATE**

- Day care center attendance is a risk factor to be carrier of *S. pneumoniae*
  - RR is 4.7 (IC 95%: 2.5-8.6)
  - Higher in centers with more than 45 children
  - Directly related to duration of stay (full day vs. half day)
- Antibiotic treatment is a risk factor to carry
  - More resistant strains

DCC ATTENDANCE AND RISK OF INFECTION

- Statistically significant differences in number of infectious disease episodes between assistants and non assistants 6,7 vs 4,0.

- Statistically significant differences for use of antibiotics 1,3 vs 0,4.

- Statistically significant differences in number of visits to the paediatrician 10,3 vs 6,3.

- Statistically significant differences in number of visits to the emergency room 0,6 vs 0,4.

(Ref. Lafuente, 2008)
SEVERITY OF INFECTIONS

- Excess risk (RR: 5.14) for a potentially serious illness like pneumonia

- A Finnish study shows a RR of 9.49 for pneumonia in children <12 m. With a fraction attributable to day care of 85%.
DCC ATTENDANCE AND RISK OF INFECTION

- Increase in the number of infectious episodes during the first and second year of DCC attendance regardless of the age at admission

- Very few data for under 12 months of age (but it is known that the number of infectious disease episodes doubles in that age group)

(Ref. Lafuente, 2008)
Results generally referred to the development of asthma and chronic respiratory disease.

- Increased risk of episodes of wheezing until the age of 3-4 years and subsequent protective effect between 6-13 years.
- Cohort studies: early respiratory infections associated with an increased incidence of asthma in later childhood
BENEFITS OF EARLY INFECTIONS IN TERMS OF HEALTH

- Immunological relationship between early experiences and decreased risk of developing some types of cancer diseases (neuroblastoma and acute lymphoblastic leukemia)

- Early respiratory infections have a protective effect in the development of asthma (only for patients with a history of atopy in the family)
QUALITY OF DAY CARE CENTERS

- Need to choose a DCC of high quality
  - Age groups have to be separated (< 12 months)
  - Enough space, air and light
  - Outroom activities

- Ratio personal / children adequate to the number of attendees

- Protocols of hygiene and disinfection of surfaces
QUALITY OF DAY CARE CENTERS

- Handwashing policy (Teachers, other personnel and children)

- Admission and exclusion criteria in case of diseases
GUIDELINES FOR OUT-OF-HOME CHILDE CARE

Caring for Our Children

National Health and Safety Performance Standards: Guidelines for Out-of-Home Child Care
Second Edition

A Joint Collaborative Project of
American Academy of Pediatrics
1241 Northwest Point Blvd.
Elk Grove Village, IL 60007-1098

American Public Health Association
800 I Street, N.W.
Washington, D.C. 20001-3710

National Resource Center for Health and Safety in Child Care
University of Colorado Health Sciences Center at Fitzsimons
Campus Mail Stop F541, PO Box 6508
Aurora, CO 80045-6508

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Guía de Pasos Principales
para el Cuidado de Nuestros Niños

Normas Nacionales de Salud y Seguridad:
Pautas para el Cuidado de Niños Fuera del Hogar

Caring for Our Children ha sido un proyecto colaborativo por parte de
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Health Resources and Services Administration,
Department of Health and Human Services
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ROLE OF THE PEDIATRICIANS AS ADVOCATES OF THE HEALTH OF CHILDREN

Advise families

Asking questions and providing data

Taking sides when necessary
The Questions could be for example...

- For what purpose will the child go into day care?
- Have you considered any other option?
PROVIDE DATA

- Avoid trivializing the risk
- Explain that child day care almost certainly will cause ...
  - An increase in medical consultations to paediatricians
  - An increase in visits to Emergency Dept.
  - Hospital admissions due to more emergency department consultations
  - Increased use of drugs
PROVIDE DATA

- Explain that child day care almost certainly will cause...
  - Increase of infections suffered by parents, grandparents and other relatives.
  - Investigations arising out of anxiety caused by recurrent infections.
  - Increased risk of potentially serious infections
IS THERE A WAY TO MINIMIZE THE RISK?

- Delay the onset of child day care attendance as much as possible

- Fully vaccinate the child before going in to day care. Scheduled vaccines +
  - Pneumococcal conjugate vaccine
  - Rotavirus
  - Varicella (> 12 months)
  - Hepatitis A (> 12 months) where appropriate
IS THERE A WAY TO MINIMIZE THE RISK?

- Avoid taking the child to day care if he is ill
- Encourage strict adherence to hygiene rules
IS THERE A WAY TO MINIMIZE THE RISK?

- Prescribe “temporary” exclusion when the number of recurrent infections exceeds what is tolerable.

- Prescribe permanent exclusion if the problem persists during months.
Thank you very much... and good counseling to your patients when day care has to be discussed