

CASE-CONTROL STUDY OF DAIRY CATTLE MILKING INJURIES: RATE RATIOS FOR INJURIES ASSOCIATED WITH ENVIRONMENTAL FACTORS.

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Animals have been implicated as an important source of injury for farm household members. On dairy farms, many injuries occur while milking. However, little is known about which environmental exposures may increase or decrease the risk for a milking injury. The primary aim of this nested case-control study (36 cases, 94 controls) was to identify which milking-related environmental exposures were associated with an increased or decreased risk of injury. Logistic regression was used to model the dependence of injury involving milking dairy cattle on environmental exposures of interest and confounders. Increased risks for milking injuries were associated with Grade B dairies (RR = 2.32); free stalls (RR = 3.02); restraining cattle (RR = 2.87); moving cattle to and from a milking facility (RR = 2.03); participation in two, three, or four job tasks associated with the milking activity (RR = 3.32, 6.09, and 9.27); and hilly terrain around the barn (RR = 3.66). A decreased risk was seen with the use of no kickers (RR = 0.30) and having dividers present between all stalls in the barn (RR = 0.35).

Agricultural Machinery Injuries to Children in Ontario, Canada

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In order to provide baseline information for the development of locally relevant injury control programs, we developed systems for the surveillance of fatal and hospitalized agricultural machinery injuries in Ontario. These systems were used to identify and describe children, aged 0-19, who experienced an agricultural machinery injury in Ontario over a five year period ending March 31, 1990. Injury rates were described by age, sex, geographic region, type of machinery, and mechanism of injury. Case fatality ratios were calculated by agent and mechanism of injury. Common patterns of injury deserving of priority for prevention were described. We identified 283 injuries to children. Injury rates were 116 and 25 per 100,000 per year for boys and girls respectively. The farm tractor was the machinery type most commonly observed in association with these injuries (32.2%). Entanglement, usually of clothing, was the mechanism cited most often (36.3%). The case fatality ratio was generally very high (mean: one death per eleven hospitalizations) whether assessed by machinery type or by mechanism of injury. Common patterns associated with injury risk included: (1) inadequate supervision of small children, (2) permitting children to be in the area of moving or unguarded machinery, and (3) having children performing work-related tasks that were inappropriate for their age. Feasible strategies for the prevention of these injuries need to be developed and implemented by public health professionals, working in cooperation with the agricultural industry. To this end, this paper is used to present four approaches to the prevention of these injuries that organizations such as public health units can act upon.

A POPULATION-BASED STUDY OF TRACTOR-RELATED INJURIES: REGIONAL RURAL INJURY STUDY-I (RRIS-I)

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Although tractors account for the majority of fatal farm injuries, little is known about the magnitude of this problem. The study population is from the five state Regional Rural Injury Study-I (RRIS-I) that included 3,939 farm households and 13,144 persons, during 1990. Rates were calculated for sociodemographic variables and various exposures; logistic regression was used to calculate the relative risks and respective confidence intervals. Among the total farming-related injury events, identified in RRIS-I (n=764), 65 (8.4 percent) were related to regular tractor (≥ 20 horsepower) use, accounting for a rate of 495 injured persons per 100,000 persons per year. The rate among those who only rode on a tractor was 99 per 100,000 persons while the rate among those who only operated a tractor was 781 per 100,000 persons; the rate among those who both rode on and operated a tractor was 745 per 100,000 persons. Males had a much higher injury rate than females (814 and 119 per 100,000 persons). The rate for those working 20-39 hours per week was 529 per 100,000 persons and increased incrementally to 1,430 per 100,000 persons for those working 60-79 hours per week. Among the 14,261 regular tractors in use in 1990, 12 rollovers were reported that resulted in three injuries. The majority of injury events occurred while persons were mounting or dismounting the tractor (42%). While only 7% of the cases were hospitalized, 83% required some type of health care. Moreover, the fact that 43% of all persons injured were restricted from regular activities for one week or more, with 20 percent restricted for one month or more, and that 28% continued to have persistent problems, is evidence that significant injuries were incurred that may further impact the overall farming operations. The finding of the large proportion of events associated with activities of mounting and dismounting suggests a need to investigate specific design characteristics of the tractors associated with these events and, in general, the tractors to which the population is exposed.

USE OF DEMOGRAPHIC AND HEALTH SURVEY (DHS) DATA AS THE BASIS FOR INFORMED DECISION MAKING ON OPTIMAL INFANT AND YOUNG CHILD NUTRITION

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In its statement on infant and young child nutrition, the World Health Organization encourages mothers to exclusively breastfeed their infants for six months, introduce nutritious supplements at that time, and continue supplemented breastfeeding until 24 months postpartum or beyond. In our analyses conducted on 25 DHS I data sets from developing countries, we observed that initiation of breastfeeding is common in almost all of the countries studied. The introduction of supplements, however, often occurs either too early or too late. The introduction of supplements at too early an age contributes to increased level of infant morbidity and mortality. Similarly, a delay in the introduction of nutritive supplements past six months is unhealthy for the infant. Findings on the timely introduction of supplements will be presented by infant feeding pattern and age with illustrative examples from the 25 countries. Rigorous and thoughtful analysis of available data describing current feeding patterns is a necessary first step in the process of formulating policies and programs designed to improve infant feeding practices. To that end, the DHS project provides policymakers with valuable data that may serve as the basis for informed decision making at a national and international level.

UPDATE: IS THE U.S. MAKING PROGRESS IN BRINGING HOME THE INTERNATIONAL LESSONS LEARNED IN BREASTFEEDING

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Over the past few years, a great deal of attention has been focused, in various international fora, on the importance of "bringing back home" the lessons we are learning through our assistance to other countries. This presentation will focus on the recent impact of international efforts that have begun to take root in the United States. Examples of these efforts include the Baby Friendly Hospital Initiative, legislative U.S. support of the May 1994 World Health Assembly (WHA) Resolution on infant and young child nutrition, research such as the Multicenter Study on Lactation Amenorrhea Method, and other initiatives. The presentation will discuss the progress of these initiatives to date. In addition, some of the lessons that initially were thought to be applicable in the United States may not be as relevant as initially thought. This presentation will review some of these lessons briefly and discuss why they have been applicable in the U.S. setting.

CONTROL OF PARASITIC INFESTATION IN CHILDREN 1-5 YEARS OF AGE: RANDOMIZED PILOT STUDY OF SIX MONTHLY ALBENDAZOLE **Shalby Awasthi, Richard Peto, Robert Fleck, Henry Glick** King George's Medical College, Lucknow, India, Oxford University, Harvard Medical School, and the University of Pennsylvania Medical Center.

Objective: To investigate the effect of six monthly administration of 400 mg of albendazole for children 1 to 5 years of age on weight gain and to ascertain if administration can be linked with the UNICEF recommended six monthly Vitamin A schedule.

Methods: Out of 203 urban slum units of Lucknow, North India, 25 were randomly selected for intervention and 25 for usual care. All children aged 1 to 5 years consenting to the study were enrolled. On two occasions, six months apart, the groups received vitamin A from the local health service; the intervention group also received 400 mg of albendazole. At randomization and 6 months, data were collected on such variables as age, weight, and hospitalization for respiratory or diarrheal diseases in past six months. After randomization, information also was collected on cause-specific mortality.

Results: 1818 children received usual care and 1858 received albendazole. Those receiving albendazole gained 0.67 kilograms more than those receiving usual care (p = 0.0001). Age-specific mean weight gains (SE) in the usual care and albendazole groups were: 1-2, 0.91 (0.05) vs 1.36 (0.04); 2-3, 0.92 (0.04) vs 1.15 (0.04); 3-4, 0.71 (0.05) vs 1.16 (0.03); and 4-5, 0.64 (0.04) vs 1.03 (0.03). No side effects of albendazole were observed, and it was easily administered and fully accepted when given with Vitamin A. The sample was too small to detect differences in hospitalization or mortality rates.

Conclusions: Albendazole, which was easily administered with vitamin A, resulted in increased weight gain in preschool children at 6 months. Longer follow up is needed to determine if this growth pattern will be maintained, and substantially larger numbers are needed to evaluate the effect of regular six monthly albendazole administration on outcomes such as mortality or hospitalization rates.

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AN INTERNATIONAL COMPARISON OF HEALTH CARE DELIVERY SYSTEMS FOR CHILDREN IN DEVELOPING COUNTRIES AND THE UNITED STATES.

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It is estimated that about 12 million children in the United States do not receive basic preventive health care. There are many urban pockets of poverty in the United States where conditions are parallel to those in the developing countries and much can be learned and applied from the experience of these countries. Some Asian countries like Sri Lanka have implemented an active nutrition based intervention program for children with much success. Similarly, countries like Burma and Thailand have developed many nongovernmental agencies to help provide nutritional and preventive care for children. Comparisons between countries need to be critically scrutinized especially given the difference in resource base. We look to what can be learned from the experience of health care delivery systems for children in developing countries, and also indicate the limitations of directly extrapolating from the experience of one to the other. The implications for the U.S. health care policy for health care delivery for children are discussed throughout.

EVALUATION OF THE PATTERNS OF SERVICE ALLOCATION OF A DIARRHEAL-DISEASE CONTROL PROGRAM IN MEXICO.

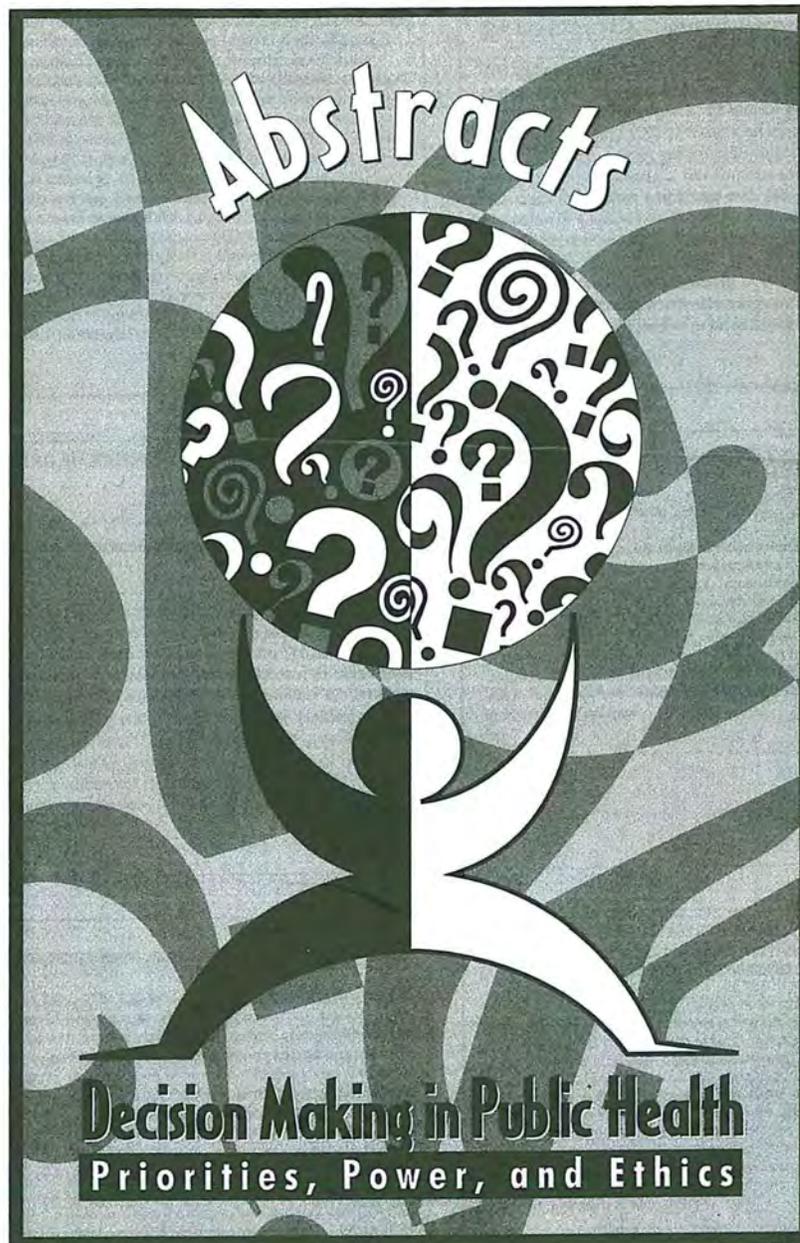
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Infectious and parasitic diseases constitute a major component of infant and child mortality in Mexico. Although evidence shows that generally mortality rates have been declining, deaths from diarrheal disease continue to be a severe health problem affecting young age groups of the Mexican population and, specifically, the poorest and most underserved states of Mexico.

In order to accelerate the reduction of child and infant mortality, numerous health policies and health interventions programs have been developed. This paper evaluates the patterns of service and resource allocation followed by the National Program of Control of Diarrheal Diseases (PRONACED) in Mexico in the 1993-1994 period. This study analyzes if the allocation of seven different health resources, (including interventions and services) believed to affect diarrheal incidence and case fatality, among the thirty-two Mexican states corresponds to their levels of infant and child mortality.

The distribution of program interventions and services was determined by using a regression analysis with data from the 1993 Mexican National Health and Evaluation Systems. This regression controlled for levels of marginality, and it uses a corrected mortality schedule (accounting for under-registration) for the year of 1990 (5q0) considered the dependent variable of the model.

The information collected in this study revealed that although PRONACED is making efforts to provide state of high priority and/or high marginality levels with higher number of diarrheal diseases control interventions, consistent distribution based on the levels of health needs has not been accomplished. It was documented that along different indicators of PRONACED performance, states with lower mortality levels receive high levels of provision of services; while, the provision of these services is limited for other more needy states. This identifies a trend of service allocation provides valuable information for a revision and improvement of the current distribution of services by PRONACED.



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