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Neonatal Care Public Policy and Care for the Neonate

Fossari Sippel Marcio A[1,2*]

[1]*Consultant Neonatologist, Health Departament City of Itajai, Brazil*

[2]*Intensive Neonatologist, Marieta Hospital Av. Marcos Konder, Brazil*

***Corresponding author:** Fossari Sippel Marcio A, Intensive Neonatologist, Marieta Hospital Av. Marcos Konder, Brazil n.º 1111 Downtown - Itajaí/SC - Cep: 88.301-303, Brazil, Tel: +55 47 9915 9998; Fax: +55 47 3348 8946; E-mail: marcio.fossari@gmail.com

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Abstract

The current practice of neonatal medicine has been carved with recent findings based on studies and prospective or follow-up studies of potentially very severe patients who, at birth, are more likely to not survive than grow and develop normally.

Thanks to a better understanding of the pathophysiology of specific diseases of the immature newborn and technical and scientific improvements in the care and treatment of these patients. Especially the introduction of antenatal corticosteroids, parenteral nutrition, synchronized mode of ventilations which are patient triggered and non-invasive ventilation, like CPAP (Continous Positive Airway Pressure) for newborns. The better resuscitation care, the knowledge about the golden hour approach and the exogenous surfactant was a dramatic reduction in mortality of these patients over the past 3 decades.

Having reached a low neonatal mortality, the focus of Perinatology now also addressing the quality of life in the medium and long-term patients discharged from the Maternity Hospital.

Discussion

The main objective of this work is to demonstrate how Strategic Management of People and commitment of services related to the care of the mother and newborn are an essential part in the development of Public Health Policy for prevention, care and knowledge of prematurity in Itajaí, Brazil [1].

We are at a maternity reach at least three thousand births a year in a medium size city, almost 200.000 people and have to discuss the number of complicated premature born and prenatal care for our city and our entire region.

We will discuss the positive impact of knowledge management and the generation of the commitment of the professionals who work in the care of pregnant women, women in labor and preterm infants bringing results in the short, medium and long-term effects on prematurity in regions where the project is adopted.

In the context of the subject we must expose the fragile national position among the 15 countries in the world with 2/3 (two thirds) of preterm births in the world, certainly one given quite uncomfortable for the people as we develop a function of extreme importance and technical security, but we see a very close neonatal mortality rate in comparison to other developing countries with much less work conditions. According to our perception [2-5] (Figure 1).

Figure 1: Data Source: World Health Organization Map Production: Public Health Information and Geografic Information Systems (GIS) World Health Organization © WHO 2012. All rights reserved.

To quote the closest Dem Republic of Congo and Ethiopia, among others. The excellent report overall preterm birth, 2012, conducted by a worldwide study that brought over 30 international organizations working in the study of causes, consequences and outcome of premature births, including UNICEF and the World Health Organization (WHO) help us seek international references for the work that must be developed in our project.

The project is justified by the strategic position we have against a region of great economic importance in the state of Santa Catarina with a comprehensive hospital close to one million inhabitants, this hospital provides tertiary level education and training in health to health care personals and seek excellence in patient care and premature pregnancy.

The main objective is to mobilize in its entirety doctors and nurses, as well as nursing technicians and administrative assistants, and most of the managers of our catchment area around the problems and needs generated by premature birth. Realization of seminars illustrative and discussion of results compared to reference services nationally and internationally, and seek tools to develop a similar job or better than has been done.

Secondary objectives can form a great base to achieve the main objective or goal of all this work that in our service mode would be a model very close to ideal. The indicators that will be key in this process will be the quantification of premature births, the study of perinatal infection and mortalities of maternal and neonatal periods, We plan a better antenatal structure for the reference and counter reference service.

After 10 years running the medical work in the basic medical care to patients and premature babies in hospital care unit I believe that the advantage of a comprehensive approach, and laborious, overcome disarticulation and fragmentation of the current proposal, a network of physicians without any previous contact with the primary care units and are the beginning of the hierarchical network, proposed by the Public Health Policy in Brazil [6].

The health department for child care from our city, Itajaí, has the organizational capacity to receive at least 80 people meeting in their facilities and conduct research with the regional adaptation and integration of resources. We have institutional links with the Maternity Hospital Marieta Konder Bornhausen which is the site of reference for treatment of high-risk pregnancies and premature infants in the region, have residency in maternal and child health, qualifying us to perform academic work and in research format [7-10].

The Project Management Plan includes administrative meetings to raise awareness and formulation of proposals for the interactivity and effective monitoring of the various referrals occurring every day to the hospital without proper precautions or care transport risk for preterm birth. With birth annual average from 2005 to 2010 (data from DATASUS) of 7489 live births (total number of live births / number of years) in the cities of our Macroregions, Itajai, Balneario Camboriu, Camboriu, Navegantes, Itapema, Penha, Luiz Alves, Balneario Picarras, Ihota and Porto Belo, preterm birth averaged 698 births in these municipalities.

These births are very expressive of the total number. The proposed approach emphasizes the theoretical framework that will be developed, but seeks to change the daily practice used by municipalities. Work will be performed in situ analyzing information on the results of premature births and the need for professional feedback between different levels of care, which does not occur [11] (Figure 2).

It seems we are again in a time of crucial decisions on the subject prematurity, every year 15 million infants are born prematurely, or ahead of time, in reference to the report BORN TOO SOON about 1 million newborns die each year due to a complication associated with prematurity [12]. The scenario of premature birth is very staggering with expected 1 premature birth for every 10 live births. We need to implement evidence-based solutions to both reduce the premature birth and prematurity related mortality and morbidity.

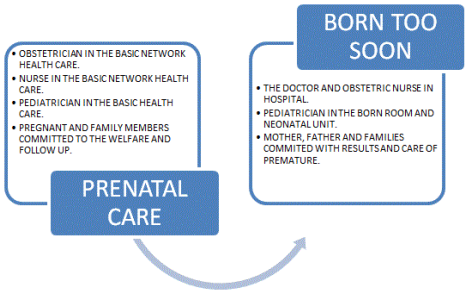

Figure 2: Prenatal Care

The Sheppard Towner Act, 1921, promotes "GOOD CARE OF MOTHERS AND NEWBORNS", establishing records of births and deaths, early neonatal care, hygiene determinations of neonates and scientific solutions to social problems facing mothers and their babies [13-15].

Amazingly we have not yet solved the problem after 90 years since the Sheppard Act, the Secretary General of the United Nations, Ban Ki-moon launched challenge of global strategy to achieve better health for women and children in 2010, with a view to the objectives of millennium and hoping to avoid an estimated 16 million deaths worldwide by 2015. The rapid dissemination of scientific knowledge and intensive exchange with the scientific communities of developing countries led to the development in Brazil, some of Intensive Care Units (ICU) with characteristics similar to those existing in the 1st world. Still, most newborns who need intensive care in the country could benefit from health care units in semi-intensive or simplifying devices (instruments) for use even in non-ideal conditions.

To overcome the fragmentation of health policies and programs, the way it stands today is the structuring of a solidarity network and regionalized services and actions that qualify the management process. The Unified Health System (UHS) from Brazil has faced since its creation, continuing challenges, including the completeness and fairness in the care of pregnant patients at risk, this being just one of the bottlenecks in the appropriate care patients throughout the Single Health System [16].

The current Public Health Policy is based and regulated by laws, rules, ordinances and resolutions that control the operation of the Unified Health System (UHS), but away from the managers of the daily decisions that occur in different sites of urgent and emergency care.

Need up, diffusing the knowledge already theoretically substantiated and that underlie some important decisions about premature birth, such as proper use of corticosteroids and treatment of maternal infections during prenatal care. This has lead to an improvement in the completeness and anticipation of potential problems for the care of women who need the Health System for the birth of a newborn, currently somewhere around 2 million births year. Still, pregnancy is a physiological phenomenon and, therefore, its evolution occurs in most cases without complications, but the public health system does not establish ties with their core network service and secondary and even tertiary levels of care, causing disruption in

the network of global support of pregnant woman and her newborn and difficulty in drafting of adequate coverage of beds in the neonatal care unit and intensive care unit adult.

Ignorance and lack of inter-relation between different levels of care for pregnant women make increases misinformation and disintegration in diagnostic and therapeutic support necessary to reduce problems at birth. We seek a mapping similar to that conducted by the March of Dimes Premature Birth Report (Figure 3), with definitions and proportion of premature births by municipality and if possible by micro areas with the highest occurrence within the determinations of the teams of the Family Health Program each municipality in our region.

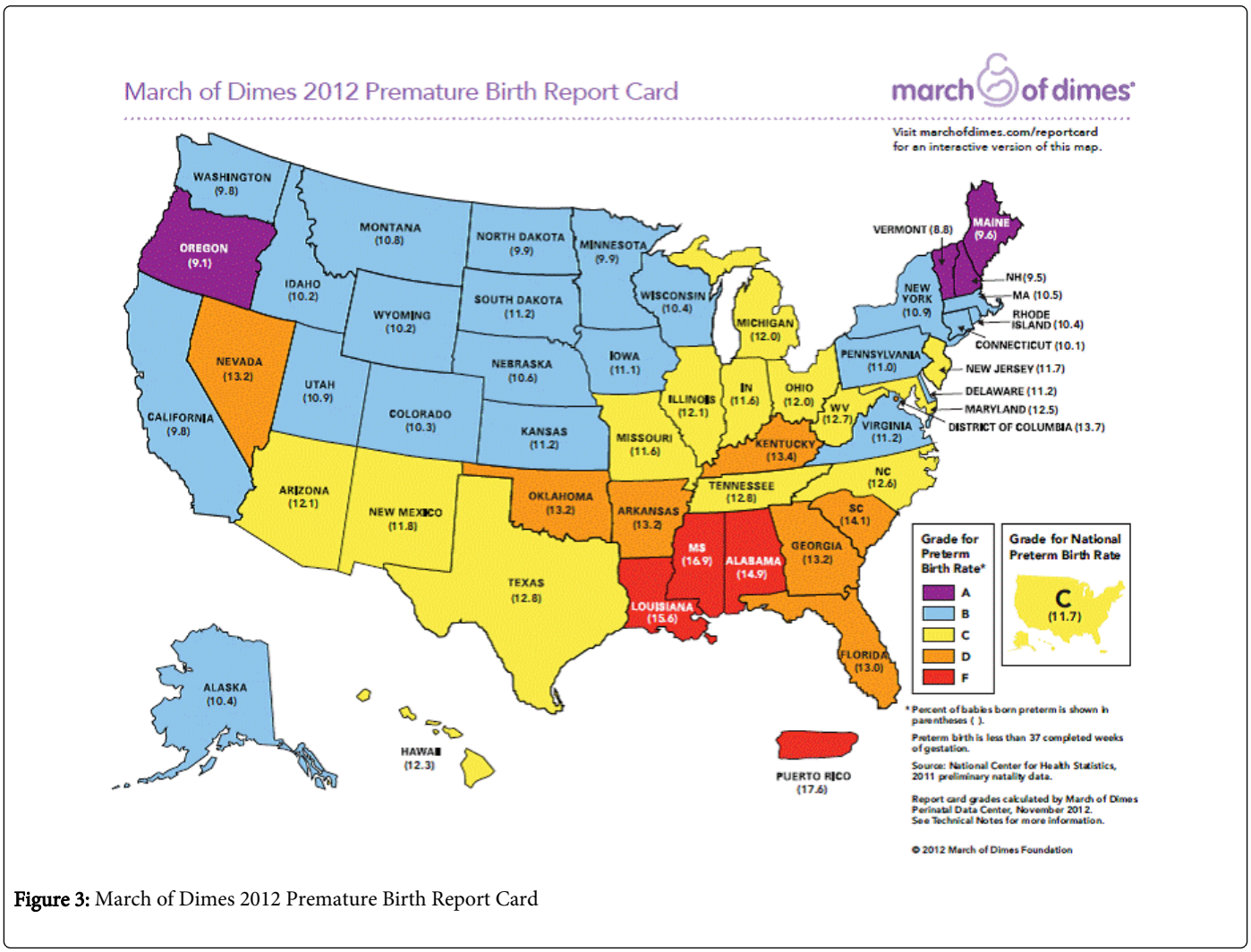

Figure 3: March of Dimes 2012 Premature Birth Report Card

The development of a research project that uses updated data and regional information database with search and verification of occurrences of events with patients and newborns will be extremely useful for general and specific knowledge of the current conditions of the 17 municipalities Regional Health Authority of Santa Catarina and public policies management. The project can serve as a basis for improving the current policy management and reference in the State of Santa Catarina, as in the municipalities of the micro-region analysis are operating today 30 adult ICU beds (care for pregnant and postpartum women severe) and 20 neonatal ICU beds, so a region with large numbers of specialized care. (approximately 46% of adult ICU beds in the macro-region of Vale and approximately 35% of neonatal ICU beds in the same region).

The use of an appropriate model of data collection and actions as needs arise in each area generates a new model more operational and effective. The initial step should be fully aware of the number of patients followed in the prenatal recognition of municipalities and their gestational ages, as well as setting the number of professionals committed to prenatal care in the municipalities.

In 2005, the Lancet Neonatal Survival Steering Team reported 16 proven interventions in the context of maternal and child health programmes to universal (99%) coverage could avert an estimated 41-72% of neonatal deaths worldwide (Table 1) [15-18].

Stemming from the recent national policy of care for pregnant women and newborn stork network, it is essential to carry out studies to assess the care provided in order to strengthen the development of health pact. With analysis it is feasible proposals seek to reduce maternal and neonatal mortality, with an emphasis on preventable deaths with dubious diagnosis or interrogated.

The current model assumes the doctrinal health holistic treatment of pregnant patients, ie, in order to meet the whole patient, with their

socio-cultural and biophysical. Being different from the integrated service, which in health requires the interrelation of the different levels of health and the different specialties in the care of patients.

Currently, the municipal public health has two possible assistance to their citizens:

a) management of the primary care.

b) management of the district health system encompassing to the hospital level and high complexity.

Thus we need greater interaction between different levels of care for improvement, dissemination and knowledge of current results. The public system of care for pregnant woman and her baby works without expected results and lacking alternative proposals for health care for the population of pregnant women and newborns in our region.

	16 interventions included in The Lancet Neonatal Survival Series (2005)	**Changes in the approach**	**Is the indicator agreed and tracked?**	**Coverage for 75 Countdown countries, median (IQR; number of surveys)**	
				2000	**Most recent since 2010**
Preconception	Folic acid supplementation	Shift from supplementation to fortification of foodstuffs	..	No coverage data	43 countries have mandated fortification at least one grain; 17 countries planning; 3 countries voluntary
Antenatal	Tetanus toxoid immunisation	Campaigns and increased progress towards Maternal Neonatal Tetanus Elimination	Yes;	65·1	85·0
			Countdown	(IQR 54·4–78·5)	(IQR 76·0–88·3)
			UNICEF, WHO		
	Syphilis screening and treatment (percent of women being tested for syphilis at first antenatal care visit)	Rapid diagnostics and more focus on health system approaches	Yes, in high prevalence countries (DHS)	No coverage data	44·1 (IQR 7·3–74·7; 47 countries)
	Calcium supplementation to prevent pre-eclampsia and eclampsia	Trials still in process and limited policy cohesion	No	No coverage data	No coverage data
	Intermittent preventive treatment for malaria	Added insecticide-treated bednets in pregnancy	Yes	No coverage data	IPTp 41.0 (IQR 32·0–48·0) Insecticide-treated bednets in pregnancy 26·5 (15·0–42·0)
	Detection and treatment of asymptomatic bacteriuria	Less policy agreement on scale-up because complex to test and impact not so convincing	No	No coverage data	No coverage data
Intrapartum	Antibiotics for PPROM		No	No coverage data	No coverage data
	Corticosteroids for preterm labour (betamethasone)	Present focus on dexamethasone, cheaper available and on Essential Medicines List, While awaiting comparison trials	No	No coverage data	No coverage data
	Detection and management of breech (caesarean section)	Shift to EMoC and appropriate caesarean section	Yes; tracked caesarean section-not for breech	No coverage data	5·9
			Included in most HMIS		(IQR 3·4–8·8;
					57 countries)
	Labour surveillance (including partograph)	Some small-scale innovations for electronic monitoring and documentation aids, fetal heart rate monitoring perinatal audit	No	No coverage data	No coverage data

	Clean delivery practices	Including chlorhexidine cor cleansing where appropriate	Yes, in some DHS, clean cord care is defined locally as per policy	No coverage data	<10 countries with data
	Resuscitation of newborn	Innovations in simplified algorithms, devices and investment through private-public partnerships	Yes, not possible in household surveys. In most service provision data tools and HMIS	No coverage data	No coverage data
Postnatal	Early initiation of breastfeeding	Opportunity to scale up, through	Yes, in DHS, Countdown	..	51·4
	Exclusive breastfeeding	antenatal and postantal home visit			(IQR 41·4–57·0)
		packages for women and newborns			(42 countries)
		and improved care at birth			42·6
					(IQR 31·8–60·5)
					(48 countries)
	Prevention and management of hypothermia	More attention on skin-to-skin care for all babies, delayed bathing, maintaining the warm chain	Various indicators agreed, few collected routinely	No coverage data	No coverage data
Emergency newborn care	Kangaroo mother care (low birthweightbabies in health facilities)	More convincing mortality RCT evidence for facility KMC and wide-scale experience of scale-up	Yes; possible to track in surveys, HMIS but not yet done	No coverage data	No coverage data
	Case management of neonatal infections	Simplified antibiotic trials allowing for	Possible to analyse in DHS but small numbers and low	No coverage data	No coverage data
	including community-based pneumonia	outpatient or home-based treatment	sensitivity and specificity.		
	case management	of neonatal sepsis	Possible to track in HMIS		

Table 1: Data availability and coverage change for the 16 interventions identified in 2005. Data from Countdown to 2015 and specific analysis for Every Newborn. HMIS=health management information systems. KMC=kangaroo mother care. MICS=multiple indicator cluster survey. DHS=demographic and health surveys. IPTp=intermittent presumptive treatment during pregnancy for malaria. EMoC=emergency obstetric care. RCT=randomised controlled trial. CoIA=UN Commission on Information and Accountability for Women's and Children's Health. PPROM=preterm premature rupture of membranes.

As the main result forward to creating an integrated model and interrelation between primary care, secondary and even tertiary in a humanized model, integral, and technically suitable for pregnant women in medium and high risk as well as the best possible care to Newborn product of this gestation.

The applicability of the project depends on the recognition of professionals currently working specifically in the context of high-risk pregnancies and their way of working. The analysis resulting from research will be the subject of discussion with teams from public, especially the Family Health Program, discussion with hospital staff at different levels of resolution (adult ICU, neonatal ICU, Maternity, Obstetric Radiology, Psychology, Puerperal monitoring, including major infectious diseases that can harm the newborn). We intend to discuss a model paid to possibilities of monitoring and knowledge in different areas of professional activity [19].

We believe that the key indicators will be the development of articles and information for the regional search for a corresponding service policy guidelines and doctrines of UHS. The indicators should remain related to the general objectives of the program, operated through the actions and possible administrative information for the public Statistics.

Often used for decision making these indicators can be a tool for assessment and quantification of organized information. This information could be useful for the construction of an index, to the calculation of proportions, ratios, rates or indices more sophisticated, such as neonatal life expectancy at birth.

With the current national policy on care for pregnant women and newborns are necessary conditions and achievements of recent studies on care provided to strengthen the development of health pact with feasible proposals for, among others, the reduction of maternal mortality and neonatal [20].

Thus, the use of mortality indicators are fundamental to the development of knowledge and monitoring data on the population of pregnant women and newborns in our area.

Indicators point approximate and translate into operational terms the social dimensions of interest defined from theoretical or political choices made previously. Health indicators express the most varied areas of life of a population, since no indicator is an isolated value of social context, thought and interpretation of certain data should be made broadly seeking to interdisciplinarity.

The process of developing diagnostic organization with a plan of public policy based on the indicators generated should be part of a broader process of diagnosis → strategic planning → evaluate → diagnostic assessment, turning into a cycle of information, action and control of action.

In the specific case of mortality indicators there is a human reason for this concern directly, seeking the best stocks on the health of the population to reduce mortality. The large number of possible interpretations for each indicator generated can cause erroneous decisions, but public policy is, or should be, an eternal thinking, implement and evaluate.

We are at the beginning of the project and I liked to discuss this in open access really for disseminate the great ideas from the BORN TO SOON and MARCH of DIMES REPORT, that we really need to work for.

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