

Hospital Outcome of Newborns with a Health Cheque System in Comparison to Those Without

Kamo Sélangai Doka Hélène^{1*}, Tony Nengom Jocelyn², Naiza Monono³, Epée Jeannette², Mekone Nkwele Isabelle², Mbardjouk Aoudi Stephane¹, Sap Suzanne²

¹Faculty of Medicine and Biomedical Sciences of Garoua, University of Ngaoundéré, Ngaoundéré, Cameroon

²Faculty of Medicine and Biomedical Sciences of the University of Yaoundé I, Yaoundé, Cameroon

³Department of Internal Medicine and Paediatrics, Faculty of Health Sciences, University of Buea, Buea, Cameroon

Email: *nissilena@yahoo.ca

How to cite this paper: Hélène, K.S.D., Jocelyn, T.N., Monono, N., Jeannette, E., Isabelle, M.N., Stephane, M.A. and Suzanne, S. (2023) Hospital Outcome of Newborns with a Health Cheque System in Comparison to Those Without. *Open Journal of Pediatrics*, 13, 164-169.

<https://doi.org/10.4236/ojped.2023.132021>

Received: December 31, 2022

Accepted: February 24, 2023

Published: February 27, 2023

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Abstract

Introduction: The health cheque system is a prepayment mechanism aimed at reducing neonatal and maternal mortality through improving the management of pregnant women. The pregnant woman with the health cheque system that she pays at six thousand francs XAF (African financial community) is covered free of charge for all the care provided by the cheque system in the health facilities accredited to the health cheque project. We did a study, with objective to determine the hospital outcome of newborns with a health cheque system (HCS) compared to those without health cheque system. **Method:** A descriptive cross-sectional study with retrospective data collection was carried out at the Ngaoundere Regional Hospital from January 2018 to September 2021. **Results:** During our study period, 2985 newborns were received. We saw an increase in admissions over the years, particularly in the group of newborns with the health cheque system. Comparatively, the percentage of newborns cured in the health cheque system group was 76.73% (n = 1643) versus 77.72% (n = 656) those in the non-health cheque system group. Those who died were 8.96% (n = 192) in the health cheque system group compared to 6.27% (n = 53) in the non-health cheque system group. **Conclusions and Recommendations:** Most patients admitted to our service have the health cheque system. We notice an increase in hospital attendance with the health cheque project. The outcome of the newborn under the health cheque system is not different from that without health cheque system. The health cheque system was successful in getting the larger number of newborns into care. The next step is to put strategies in place to keep these patients in care for the duration of hospitalization.

Keywords

Outcome, Newborns, Health Cheque System

1. Introduction

Cameroon, a low middle-income country, currently has more than 30 health finance schemes [1], of which depend on donor funding. Among the main categories of schemes in Cameroon is the voucher program called Health Cheque. The donors funding the Health Cheque program aim at improving access to maternal and neonatal care in the three northern regions of the country [1] [2]. Women get a voucher for a set of maternal and neonatal health services. The health cheque is a prepayment mechanism for care aimed at reducing neonatal and maternal mortality through improving the management of pregnant women [3]. The pregnant woman with the health cheque of six thousand XAF is covers free of charge for all the care provided by the cheque in the health facility accredited and agreed by the health cheque project [4]. The health cheque project thus intervenes in an environment in which the financial determinants of access to care remain disproportionately high compared to the standard of living of the population [1] [3]. The mechanism operates through the establishment of a prepayment system allowing full monitoring of pregnancy, safe delivery and post-natal monitoring up to 42 days after delivery. Initiated by the Cameroonian government and funded by the French Development Agency and the German Development Bank, the programme aims to reduce maternal and neonatal mortality. This prepayment system should improve the hospital outcome of newborns in the structures where it is applied. We carried out a study with general objective to determine the hospital outcome of newborns with health cheque system. Specifically, it was a question of identifying all the newborns hospitalized with and without health cheque system, following them during their hospitalization and determining their outcome from the service after their management.

2. Method

A descriptive cross-sectional study with retrospective data collection was conducted in the neonatology department of the Ngaoundere regional hospital in Cameroon, during a period from January 2018 to September 2021 (3 years 8 months). Included were all infants hospitalized and followed in the neonatal ward at the time of the study. These patients were divided into two groups: those who were under the health cheque system and those whose parents paid for each care directly. Excluded were all patients who had other health insurance other than the health cheque system. The research was conducted in compliance with ethical and administrative formalities. The anonymity and confidentiality of the respondents were respected. A questionnaire was used as an interview guide, filled out either directly by the mothers or by a health care worker who assists

uneducated mothers. The values studied in both were: Identification, reason for consultation, diagnosis on admission, intrahospital evolution, and mode of discharge. The elements of becoming were as follows: the number of children hospitalized, the percentage of newborns cured, deceased, discharged against medical advice or escaped. The escapees are those who left the hospital without notifying the nursing staff. Administrative and ethical procedures were obtained. The data collected through a questionnaire was analyzed in SPSS version 20.0. The significance threshold was set to $P < 0.05$.

3. Results

During our study period 2985 newborns were included. Most patients 71.72% ($n = 2141$) of hospitalized newborns had a health cheque system, the remainder ($n = 844$) had no health insurance. We saw an increase in admissions over the years mostly in the group of 2018 newborns with health cheque system ($n = 420$) 2019 ($n = 750$) 2020 ($n = 990$), 2021 January to September ($n = 889$) (**Figure 1**).

Comparatively, the percentage of newborns cured in the group with health cheque system was 76.73% ($n = 1643$) versus 77.77% ($n = 656$) in the non-health cheque system group (**Table 1**).

The deceased were 8.96% ($n = 192$) in the health cheque system group compared to 6.27% ($n = 53$) in the non-insured group.

Some parents in the health cheque system, although supported free of charge, still left the hospital against medical advice: 11.39% ($n = 244$) versus 11.6% ($n = 98$) in the uninsured group. The reasons for release against medical advice found in both groups were identical: Parents found that their child is too small to take an infusion, He is no longer ill, they have no one to look after the other siblings, one parent refused hospitalization and one last point specific to those who were insured was the refusal to pay for drugs outside the health cheque program.

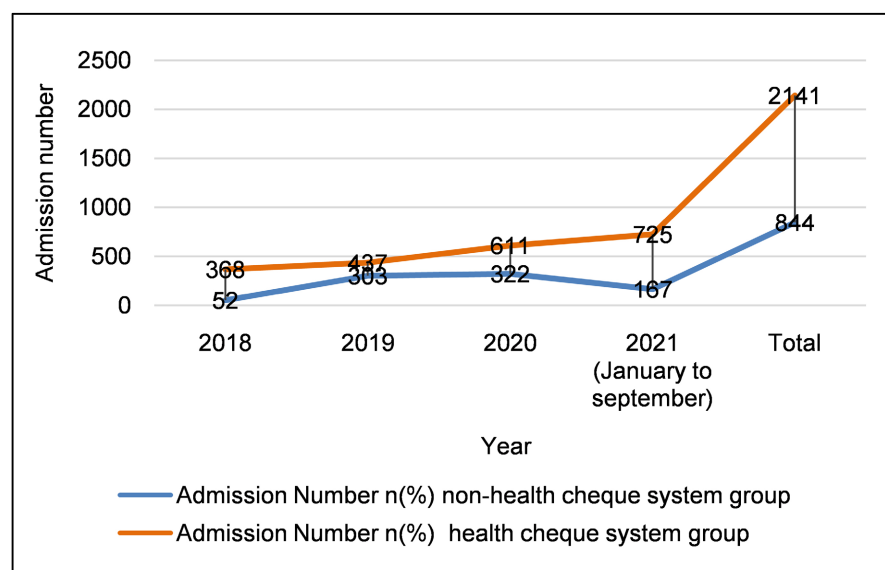


Figure 1. Trend in the number of admissions to the neonatal ward.

Table 1. Summary of newborn infant outcome in the Neonatal unit.

YEAR		2021 (January to September)	2020	2019	2018	Totals (N)	Percentage (%)
Number of Admissions N(%)	Total	889	990	740	420	2985	
Cured N(%)	Uninsured	153	263	239	1	656	77.77
	Health cheque system (HCS)	548	442	313	340	1643	76.73
	Total	701	705	552	341	2299	
Exits Against Medical Advice N (%)	Uninsured	3	33	40	22	98	11.6
	HCS	72	83	64	25	244	11.39
	Total	75	116	104	47	342	
Escapees N (%)	Uninsured	0	14	8	7	29	3.43
	HCS	31	24	12	3	70	8.29
	Total	37	38	20	10	99	
Deceased N(%)	Uninsured	3	12	16	22	53	6.27
	HCS	54	62	48	28	192	8.96
	Total	57	74	64	70	245	

Cases of escape were also noted in the service; staff simply discovered that the patient is no longer on his hospital bed. In the health cheque group there was a higher percentage of 8.29% (n = 70) compared to 3.43% (n = 29) among non-insured persons.

4. Discussion

The health cheque insurance program is an asset for the population we are seeing an increase in the number of patients. This increase had already been reported by Amougou [3], according to him, compared to the total number of deliveries recorded in the intervention health training, the contribution of the health cheque will have been 69% in 2016, 75% in 2017 and 68% in April 2018. A similar trend was observed in prenatal consultations, which increased from 10% at the beginning of the project to 69% in May 2018 [5]. Kisito had suggested after his study that a care grant was favorable for a reduction in neonatal mortality [6]. The health cheque has its place in the African paediatric health system [7]. Children and adolescents are a vulnerable population that deserves special attention. National and international laws and customs recognize the rights of all young people to the care and assistance they need to grow and reach their full potential. The “best possible state of health” right, as ratified in the UN Conven-

tion on the Rights of the Child, is at the heart of this philosophy [8]. Mortality was 8.96% (n = 192) in the insured group versus 6.27% (n = 53) among uninsured persons; This mortality rate is identical to that found by KedyKoum 8% [9] but lower compared to 20.3% found in a reference hospital in Douala [10]. These Cameroonian hospitals have a higher technical plateau than our study site. The low mortality rate found in our cohort may justify the effectiveness of the health cheque program and early arrival in newborn care services. The outcome of the newborn under the health cheque system is not different from that without insurance. There's been a slight increase in the percentage of unethical ways of leaving the hospital with the health cheque system. The health cheque is a tool that reinforces the strategy to combat neonatal mortality as recommended by World Health Organization (WHO) [11] [12] [13] [14]. In a study of Ramanganavalona in Madagascar, the two biggest reasons for patients refusing care were financial issues (62%) and family pressure (22.2%) [15]. The health problem in Cameroon is probably not only a problem of finances but also a problem of understanding the importance of hospital care for newborns or the satisfaction with the way the health check project is running. This calls for strengthening of counselling during prenatal consultations on the principles of taking care of the sick newborn [16]. Limitations of this study were the lack of information on the readmission of patients encountered in other centers and assessment of satisfaction with the way the health check project is running.

5. Conclusions and Recommendations

Most patients admitted to our service have the health cheque system. We saw an increase in attendance with the health cheque project. The outcome of the newborn under a health cheque project is not different from that without insurance. The health cheque was successful in getting the larger number of newborns into care. The next step is to put strategies in place to keep these patients in care for the duration of hospitalization.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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