BACKGROUND

One in every 2,805 among 12,233,971 newborns screened from July 1996 to December 2018 were diagnosed with Congenital Hypothyroidism in the Philippines. Congenital hypothyroidism (CH) is a disease caused by insufficient production of thyroid hormones. This can be secondary to anatomic defect, inborn errors of thyroid metabolism, or iodine deficiency. The birth of Newborn Screening Program in 1996 addressed the need of early detection of CH. In 2004, this became a part of standard newborn care and was fully implemented. In October 2009, the country’s third Newborn Screening Centre (NSC) in the Southern Philippines Medical Center (SPMC) was authorized by the Department of Health and international newborn screening experts. NSC in SPMC became the primary referral center for newborn screening in Mindanao.

Since 2014, confirmed CH cases referred to the Newborn Screening Continuity Clinic (NBSCC) of SPMC for long-term follow-up care had reached 411 patients to date. This follow-up care includes anthropometric measurement, monitoring of FT4 and TSH levels, neurodevelopmental assessment and counseling. Hence, a checklist is created for CH for the first year of life for baseline and monitoring.

OBJECTIVES

The objective of this study is to determine the laboratory and clinical outcomes of patients with Congenital Hypothyroidism that was enrolled in the NBSCC in their first year of life.

METHODOLOGY

A retrospective, cross-sectional research design was employed and data were obtained through retrospective chart review. The study was conducted in the NBSCC of SPMC. The record of patients enrolled in the NBSCC from January 2014 to December 2018 were collected.

RESULTS

A high dose and low dose thyroid hormone replacement was compared to patients who were diagnosed early (<30 days of life) and the drop rate of TSH level to normal was seen already on the 2nd follow up visit. But this was not sustained using the low dose on the 7th visit. FT4 and T4, however, sustained its normal level after the 1st visit.

CONCLUSION AND RECOMMENDATION

Patients diagnosed with CH and treated with high dose hormone replacement therapy (>10mcg/kg/dose) within the first 2 weeks of life along with timely monitoring was effective in controlling hormone levels (FT4, T4 and TSH) in CH. However, it was not totally protected for neuro developmental delays if not sustained after the first year of life. Also, anthropometric measurements were not totally attributed to hypothyroidism alone but may be caused by various factors such as nutrition, genetics and pregnancy states.

This study suggests on using a standardized tool and a formal developmental assessment of cases in a prospective study to identify early signs of developmental delay as early as the first year of life for patients with good follow-up visits using high dose thyroid hormone replacement therapy.