

**Objective:** Initiation of continuous subcutaneous insulin therapy (CSII) requires an appropriate basal rate profile. Although different approaches exist; there is a lack of evidence-based recommendations, especially in young children.

**Aim:** To show how % of basal rates change at the end of first year of therapy when basal rates were equally distributed at the start of therapy

**Materials and Methods:** Basal insulin requirement and diurnal distribution of 129 CSII patients were analyzed at the initiation of pump therapy and in the first year. Patients were divided into four age groups:

- <5 yr (n = 27),
- 5 to < 8 yr (n = 20),
- 8 to <12 yr (n=33), 12 to <15 yr (n = 28),
- 15 to < 18 yr (n=16) and > 18 yr (n = 5)

## RESULTS;

129 cases; (Figure 1)

- Age:  $14,7 \pm 5,7$  year
- Age of onset of IPT:  $9,7 \pm 5,0$  years
- Diabetes duration:  $8,2 \pm 3,6$  years

• According to age groups, daily insulin requirement (U/kg) was different (Table 1).

• Basal insulin requirement (%) did not differ between the beginning of therapy and first year except in the group 8 to 12 yrs (Figure 2).

• In every age group basal insulin (U/kg) circadian insulin profiles were different except in the group 15 to <18 yr and >18 yrs. (Figure 3)

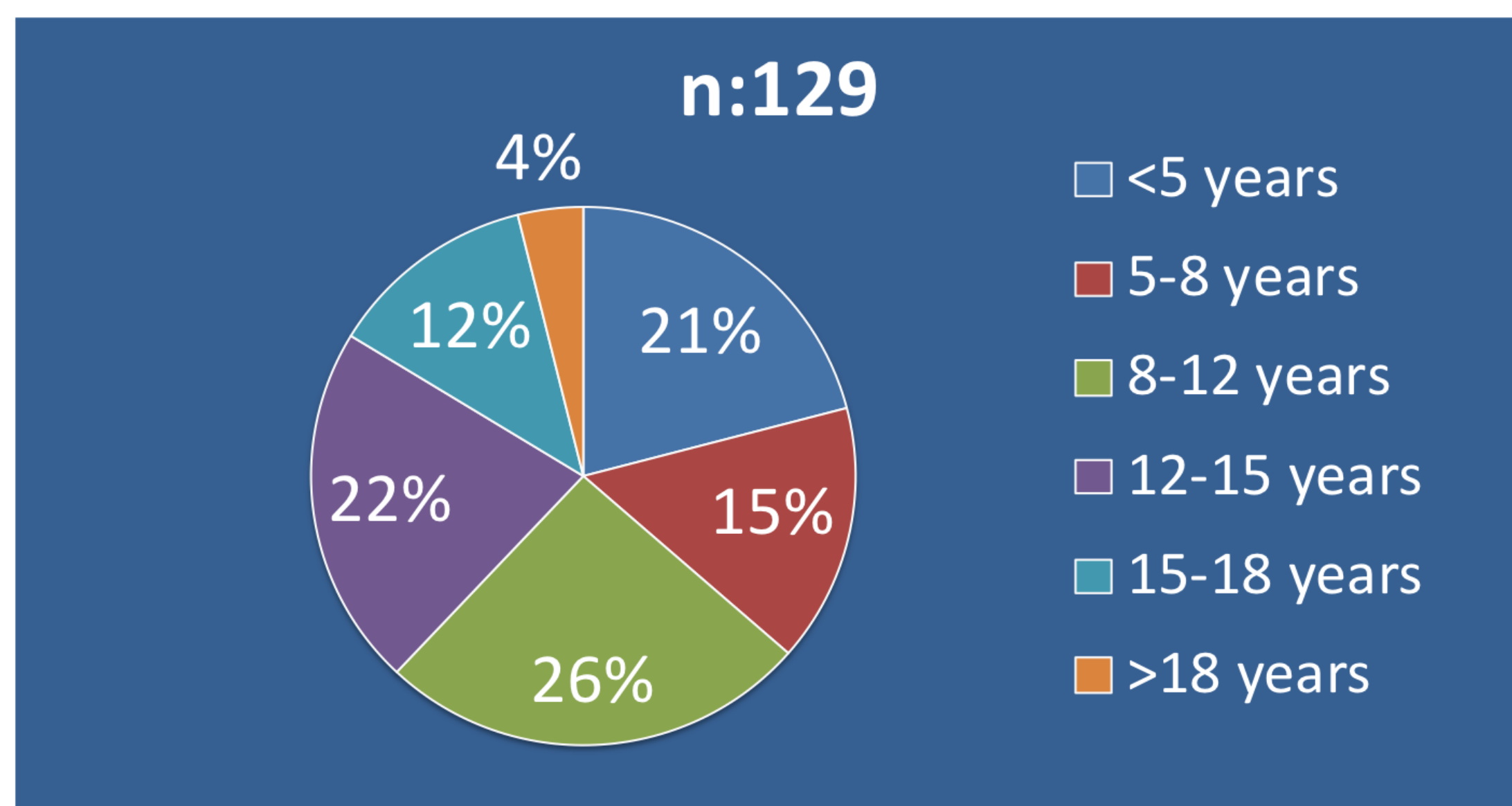


Figure 1. Age distributions of the study subjects

	BASAL İNSULİN BEGINNING U/KG	1 ST YEAR BASAL İNSULİN U/KG	P
0-5 yr n:27	$0,41 \pm 0,88$	$0,26 \pm 0,68$	0,13
5-8 yr n:20	$0,29 \pm 0,12$	$0,30 \pm 0,09$	0,50
8-12 yr n:33	$0,31 \pm 0,13$	$0,32 \pm 0,09$	0,27
12-15 yr n:28	$0,33 \pm 0,08$	$0,35 \pm 0,09$	0,34
15-18 yr n:16	$0,32 \pm 0,10$	$0,34 \pm 0,11$	0,43
>18 yr n:5	$0,22 \pm 0,05$	$0,24 \pm 0,06$	0,5
$p^a$	0,006	0,002	

Table 1. Basal rates according to age groups at the beginning and first year

p: basal and first year change  $p^a$ : change according to age groups

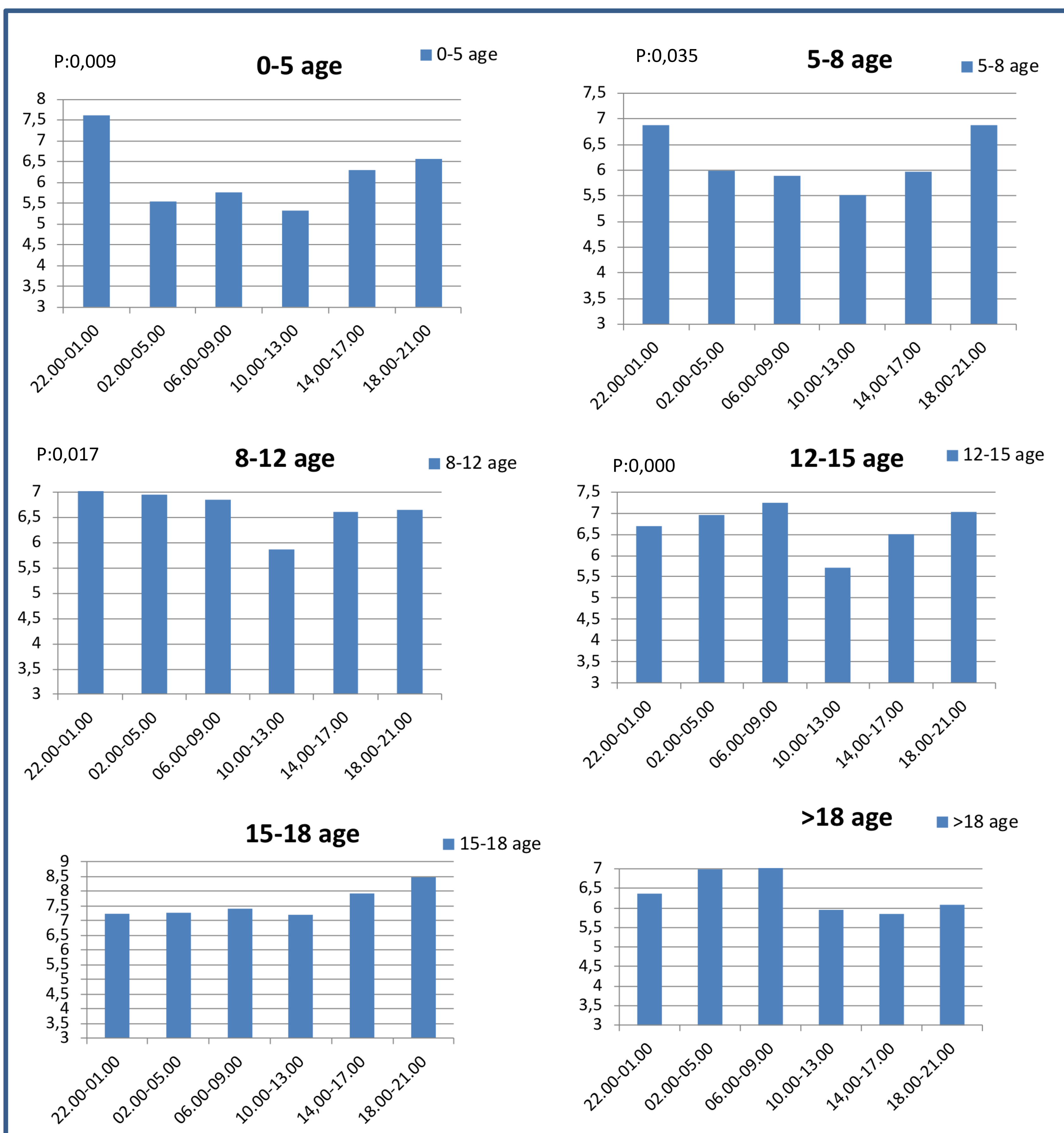


Figure 3. According to age groups; hourly baseline rates

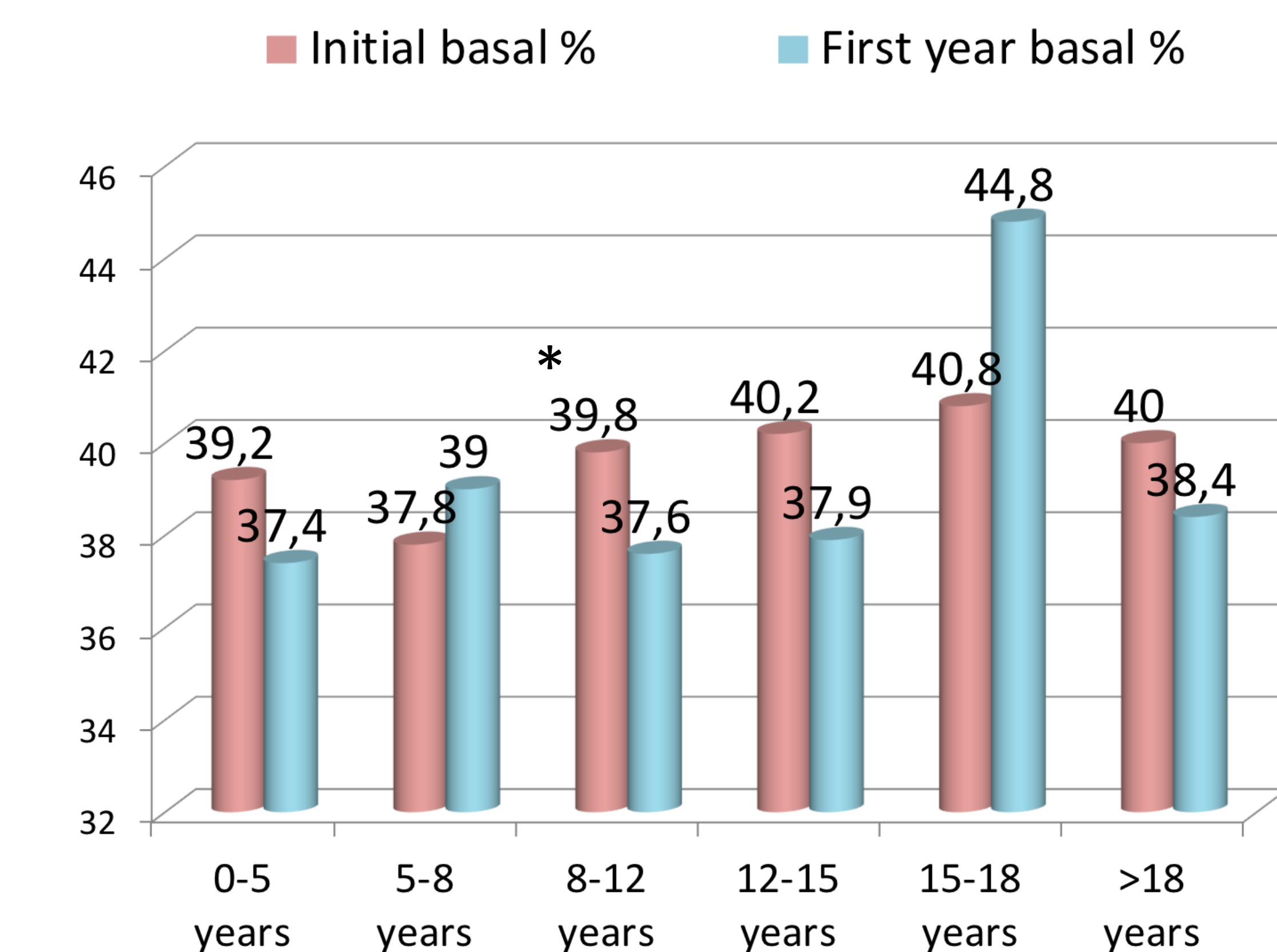


Figure 2. Within the age groups, baseline and first year basal %

**As a result,** at the start of pump therapy basal rates should be designed according to circadian rhythm.