

Circadian biological rhythm of normal deliveries

Asadi Pooya A. A. (M.D.)¹, Sadeghi Hassan Abadi A. (M.D.,M.Ph.)².

1. Assistant Professor, Pediatrics Department, Faculty of Medicine, Shiraz Medical Sciences University, Shiraz, Iran.

2. Professor, Community Medicine Department, Faculty of Medicine, Shiraz Medical Sciences University, Shiraz, Iran.

Abstract

Uterine contractions are considerably more frequent in night in compare with day. Base on a research out of 39628 recorded contractions, 67% of them happened between 8:00 pm to 8:00 am. Base on this circadian special rhythm of uterine contractions, delivery frequency should more during night. Probably special rhythm of uterine contractions and deliveries are due to oxytocin secretion. Since knowing the exact and precise frequency of deliveries and circadian and yearly delivery rhythm is important in many aspects (proper assigning of personnel and facilities for duty hours, precise determination of circadian delivery rhythm and correlation of various factors such as age of mother, parity, sex and weight of neonate , ...) this research has been designed. For this purpose, for doing the research, we choose Zeinabiyeh Hospital which is the main Obs. and Gyn. Hospital in Shiraz and all present information were gathered and collected regarding normal delivery in 1998 which included 3868 cases of normal delivery. In total of deliveries 51.4% of cases were boy and 48.6% of cases were girl (ratio of boy to girl was 106:100). Mean weight of babies in this research was 3117 ± 599 gram and mean age of mothers was 23.9 ± 6.1 years. In 45% of cases, mother was primiparous. In 1% of total deliveries, twin and in 0.1% of cases were triple reports. Birth percentage in different seasons of year did not show any special differences but frequent deliveries were reported between 1:00 am to 8:00 am which was significantly more than 8:00 am to 4:00 pm and 4:00 pm to 24:00 ($p<0.00001$). The peak of deliveries was at 3:00 am. Variants such as age of mother, parity, sex and weight of mother did not have any correlation with circadian rhythm. In this research it has been shown that circadian rhythm of normal deliveries has high frequency between 1:00 am to 8:00am (39%). Base on results of this research and similar researches done over frequency of delivery contractions, it is necessary to design precise researches to determine correlation of circadian rhythm of delivery contractions and body hormones (especially oxytocin).

Keywords: Biological rhythm, Delivery and Uterine contractions.

Corresponding address: Dr. Asadi Pooya A., Office of Pediatrics Diseases, Namazi Hospital, Shiraz, Iran.

Email: asadipoa@sums.ac.ir