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Comparing the Educational Readiness in Children with Breech Presentation Versus Cephalic Presentation

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Abstract

***Background*:** Considering the fact that breech presentation is the most common abnormal presentation, the present paper compares the preparation of those people who had been born with breech and cephalic presentation.

***Materials and Methods*:** In this cross-sectional study we examines 1847 children in primary schools in Zahedan who had been born in 1994-1999; they were selected randomly from three elementary schools in Zahedan. Questionnaires were used to collect information and information about educational preparation of students were gathered using the standard and approved questionnaires by the Education Department of Iran archived in the patients' profiles. To analyze the data, *t*-test and χ^2 test had been used and $p<0.05$ was considered significant.

Results Out of the 1847 examined children , 1446 children (3.78%) were male and 401 ones (7/21%) were female. 1738 patients (94%) had cephalic presentation (evident group) and 109 (6%) had breech presentation (cases). There was a significant statistical difference among the age averages of the mothers with the fetus presentation ($p=0.001$) and also among the average marks of the educational preparation of students and the fetus presentation ($p=0.017$) and children born with the breech presentation had higher scores in preparation. There was no significant difference between the mean score of the educational preparation and child delivery method ($p=0.13$).

***Conclusion*:** This study showed that school preparation scores, regardless of the mode of delivery, in breech presentation are higher than that in cephalic presentation.

Introduction

Educational researches indicate the fact that the mental and physical health of children warrants their natural developments during evolution stages, while the inability to identify and pay attention to the physical and mental problems can menace the overall health of children and will result in various educational and behavioral problems. Based on the international statistics, almost 10 to 15 percent of children have physical or sensational disabilities or various growth problems. Recognition of these problems at the early stages can be helpful in preventing them from reaching the very severe condition.

Identification of children with the physical disorders or inappropriate academic preparation and presenting educational methods and equipments suitable for their problems is necessary in educational achievements. Educational preparation means to have proficiency, knowledge, attitudes, motivation and other behavioral characteristics which are the first condition for eliciting the highest rate of benefits from education. Several factors can reduce both the mental and physical abilities of children. One of which is abnormal presentation and the most common abnormal presentation is breech presentation. The breach presentation importance is its effect in increasing the side effects and mortality rate in mothers and newborn [2, 3].It has been imagined that the breech presentation and particularly natural delivery of children with breech presentation causes mental damages in infants; therefore cesarean had been considered as the best method of giving birth to children.

According to some recent studies on IQ and the educational preparation of those children who have been born with breech presentation with each kind of child delivery equal to or higher than cephalic (fetus presentation of the head), the necessity of breach child delivery with cesarean method went under question and it seems that presentation and the type of child delivery has no impact on the levels of educational preparation of children. Considering the above points, this study had been done to investigate the role of presentation on the level of educational preparation as a significant index for physical and mental health of infants in elementary schools of Zahedan.

Materials and Methods

In this descriptive-analytical study in its cross sectional type, 1847 students of primary school who had been born 1994 to 1999 were randomly selected from three elementary schools in the city of Zahedan. After receiving parent's satisfaction and confidentiality of research

results, questionnaires had been distributed among families and the following information gathered: mothers' age at the time of child delivery, student's age, the weight at the time of birth based on available documents on children's growth curve, gender, presentation condition at the time of birth (cephalic or bridge), immaturity or maturity at the time of birth, the number of twins, birth delivery method (natural or cesarean). Then we had caring card and questionnaire of students' educational preparation based on their profiles and finally, students with breech and cephalic presentation had been compared together considering the score of educational preparation. Preparing students include assessment of knowledge, attitudes and skills based on standards questionnaire of education institute and achievement of score based on evaluating curve and central likes. In this study, twin cases, hereditary and congenital deformities and defects, trauma leading to fractures of the head before entering school, and other similar factors interfering were excluded as far as it was possible. To analyze results, *t* and χ^2 test had been used and values of $p<0.05$ was considered as a significant level in statistical view. Gathered data had been statistically analyzed by SPSS-16 software.

Results

The present study included 1847 students of primary school, among which 1446 (78.3%) were male and 401 (21.7%) were female. Among them 1738 individuals had childbirth with cephalic presentation (control group), and 109 individuals with breech presentation (group A). The results shows that there is a significant difference from statistical point of view between mother's age and fetus presentation that shows mothers' age is important in fetus presentation (p= 0.0001), the average weight at the time of birth in cephalic group 3.19 and in breech group 3.15 kilograms which there was no remarkable statistical difference (p=0.555). The average of school preparation scores in cephalic group was 44.61 and 45.76 in breech group which illustrates a significant statistical difference (p=0.017) and the average score was higher in breech group.

Similarly, there was no statistical difference between gender distribution based on cephalic or breech presentation in both groups (p=0.2). Among them, 1790 students (97.1%) were born in hospitals and 54 students (2.9%) in a non-hospital place. 1,790 students (% 1.97) were born in hospitals and 54 students (2.9%) were born in a place other than a hospital. We had 38 (2.2%) and 8 (7.3%) immature infants in cephalic and breech groups, respectively. A remarkable difference exists in infant immaturity and infant presentation (p=0.001) and also we observe more immaturity in breech group. We had 1706 individuals (98.2%) and 32 twins (1.8%) in cephalic group while in breech group, we have 104 single individual (95.4%) and 5 twins (4.6%). Generally, we had 1810 single persons (98%), 37 twins (2%). A remarkable difference had been observed between the two groups in terms of being twins or more (p=0.047). Regarding the delivery method, in cephalic group we had 1376 vaginal childbirth (79.2% and 73 cases of cesarean (20.8%). And in breech group, we have 36 (33%) cases of vaginal childbirth and 73 (67%) in cesarean which shows that cesarean is more common in breech group (p=0.0001). based on the average of educational preparations, in comparison with investigated variables between two groups we obtained the following results:

The average of scores in educational preparation in cesarean is 46.15 while in natural childbirth is 44.97 which indicates no significant statistical difference (p=0.26), removing immaturity we have the average score of 44.55 in cephalic group and 45.82 in breech group which means a remarkable difference (p=0.019). Similarly, we observe that the average score of educational preparation in cephalic group which were born in cesarean method was 45.18 while in breech method it was 46.15 and we had no significant statistical difference (p=0.133). Finally we have 44.34 for those cephalic born through vaginal method while we have 44.97 for those breech born through vaginal method (p=0.0487) (Table 1 and 2).

Table 1. Frequency distribution of birthplace based on the cephalic and breech presentation of the students

Delivery method	Delivery in hospital N (%)	Not Delivered in hospital N (%)
Cephalic	1684 (97.1)	51(2.9)
Breech	106 (97.2)	3(2.8)
Total	1790 (97.1)	54(2.9)

Table 2. Comparison of the measured variables in the breech and the cephalic groups of the students

Variables	Delivery method	Number	Mean±SD	*p*-Value
Mother age (year)	Cephalic	1738	26.0±5.1	0.001
	Breach	109	27.6±5.2	
Student age (year)	Cephalic	1337	9.2±1.5	0.085
	Breach	109	8.9±1.6	
Birth weight (kg)	Cephalic	1659	3.2±0.5	0.555
	Breach	101	3.1±0.6	
Scores in educational preparation	Cephalic	1738	44.5±5.3	0.017
	Breach	109	45.6±5.2	

Discussion

The results of this study showed that the school preparation scores of students with breech presentation are higher than those born through cephalic presentation. Presentation of abnormal fetus in womb is associated with side effects including intrauterine mortality, infection, fetal distress, damages during childbirth, nervous damages, etc. The scores of educational preparations of students are highly concentrated as a significant indicator of physical and mental health of children which is also among one of the health concern in children of breech presentation. Based on the results of the study, we had two significant statistical differences in age of mothers indicating that the age of mother is important in fetus presentation, in this regard we can advise no to be pregnant in old ages. Although we had remarkable difference in the scores of educational preparation in both

groups which indicates higher preparation in breech group, we had no significant difference in those born through cesarean or natural method.

Roemer et al. studied IQ and educational preparation of born people through breech (658 cases) or cephalic (1151 cases) method in a period of ten years illustrated that those born through breech presentation have higher IQ compared to those born through cephalic presentation [5]. The results are in line with what we have figured out. Moreover, there had been a study on children 3-7 born through breech and cephalic method in 1965-1970 to understand IQ and muscular power. The mentioned study relates children IQ and muscular power to the following factors: the age of mother, the number of childbirth, the method of childbirth, duration of childbirth, the first minute Apgar, infant weight, bilirubin concentration as well as brain damages at the time childbirth. In t his study we have no significant difference in terms of IQ of both groups [6]. Sorensen et al. implemented Boerge Prien IQ test between the years 1973-1976 in Danish epidemiology center on those who registered for military service. IQ was 43.2 in those born through cephalic presentation and 39.9 in those born through breech presentation which does not accord with our study [7].

Based on some other studies, it is figured out that IQ level in children born through breech method is higher than those through cephalic method [8-10] and also we no significant difference in the levels of IQ based on studies upon the relationship between IQ and fetus presentation and the methods of childbirth [11, 12], although side effects including fetal distress, umbilical cord prolapsed, aspiration of amniotic fluid and other common side effects in breech presentation makes vaginal childbirth more difficult [13, 14], but it seems, provided that we prepare the pleasing conditions for natural childbirth, caesarean childbirth has no positive impact on student's IQ and educational preparation with breech presentation. In some other studies, the small weight of infants born through breech childbirth based on fetus age had been proposed to reduce IQ in comparison with breech group. Based on various results that show similar or higher IQ in breech method, it is inferred that factors leading to different weights and fetus age is different in breech and cephalic group; therefore, further investigations are necessary. Brain damage is the reason that almost all pregnancy with breech presentation will end in cesarean, based on different investigations in this regard, it is suggested that considering the fact that we don't have sufficient information for birth indexes, these questionnaire should be modified by university professors to reduce unnecessary cesarean cases in our country and approach the standard of WHO through broader researches and presenting parents with appropriate teachings.

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Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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References

1. Seif Naraghi M, Naderi E. Education & pedagogy of exceptional students. Tehran: Payam-e-Noor University Press; 1995: 1-4.
2. Hardardottir H, Kelly K, Bork MD, et al. Atypical presentation of preeclampsia in high order multi fetal gestation. Obstet Gynecol 1996; 87(3): 370-4.
3. Gocke SE, Nageotte MP, Garite T, et al. Management of the nonvertex second twin: Primary cesarean section external version or primary breech extraction. Am J Obstet Gynecol 1989; 161(1):111-114.
4. Goldenberg RL, Iams JD, Miodovnik M, et al. The preterm prediction study: Risk factors in twin gestations. National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Am J Obstet Gynecol 1996; 175 (4 Pt 1): 1047-53
5. Roemer FJ, Rowland DY. Long-term development outcomes of method delivery. Early Hum Dev 1994; 39(1):1-14.
6. Hohlweg-Majert P, Willard M. A comprative follow up study about intellectual and motoric development of breech presentation. Z Geburtshilfe Perinatol 1975; 179(6): 441-9.
7. Sorensen HT, Steffensen FH, Olsen J, et al. Long-term follow up of cognitive outcome after breech presentation at birth. Epidemiology 1999; 10(5): 554-6.
8. Divon MY, Marin MJ, Pollack RN, et al. Twin gestations fetal presentation as a function of gestational age. Am J Obstet Gynecol 1993; 168(5):1500-2.
9. Meisels JS. Assessing readiness. CIER (Center for the Improvement of Early Reading) report achievement. Michigan: University of Michigan, Ann Arbor; 1998.
10. Gilbert WM, Hicks SM, Boe NM and Danielsen B. Vaginal versus caesarean delivery for breech presentation in California: A population-based study. Obstet Gynecol 2003; 102(5pt1): 911-7.
11. Ulander VM, Gissler M, Nuutila M and Ylikorkala O. Are health expectations of term breech infants unrealistically high? Acta Obstet Gynecol Scand 2004; 83(2): 180-6.
12. Hannah ME, Hannah WJ, Hewson SA, et al. Planned caesarean section versus planned vaginal birth for breech presentation at term: A randomized multicenter trial. Lancet 2000; 356(9239): 1375-83.
13. Roman J, Bakos O, Cnattingius S. Pregnancy outcomes by mode of delivery among term births: Swedish experience 1987-1993. Obstet Gynecol 1998; 92(6): 945-50.

14. Eide MG, Qyen N, Skjaerven R, et al. Breech delivery and intelligence: A population-based study of 8,738 breech infants. Obstet Gynecol 2005; 105(1): 4-11.
15. Wilcox AJ. On the importance and the unimportance of birth weight. Int J Epidemiol 2001; 30(6): 1233-41.
16. Cunningham FG, Leveno KJ, Bloom SL, editors. Williams Obstetrics. 23th ed. New York: McGraw-Hill; 2005: 386-399.

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