

Assessment of nurses' knowledge towards signs of gross motor delay for children at Alhawija District in Kirkuk Governorate

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المستخلص

الهدف: التعرف على معارف الممرضين ذات العلاقة بعلامات التأخر الحركي الكبير عند الأطفال وعلاقتها بالصفات الديموغرافية للمرضيين. **المنهجية:** أجريت دراسة وصفية في (١٨) مركز رعاية صحية أولية في قطاع الحويجة الأول للرعاية الصحية الأولية في قضاء الحويجة في محافظة كركوك بدأت الدراسة من شهر أيلول ٢٠١٠ إلى نهاية شهر كانون الثاني عام ٢٠١١ لغرض التعرف على مستوى معارف الممرضين تجاه علامات التأخر الحركي الكبير عند الأطفال في مراكز الرعاية الصحية الأولية. عينة غير احتمالية (غرضية) من (٢٠) من الممرضين اختيروا من (١٨) مركز رعاية صحية أولية. جمعت معلومات الدراسة بواسطة الباحثين الذين قاموا بمقابلة الممرضين في مكان عملهم بمراكز الرعاية الصحية الأولية وملئ الاستمارة الاستنبائية المعدة لغرض الدراسة. تم إجراء المصادقية والثبات لأداة التقييم من خلال الدراسة المصغرة وعرض الأداة على مجموعة من الخبراء.. تم تحليل البيانات من خلال أسلوب الإحصاء الوصفي (التكرار والنسب المئوية).

النتائج: النتائج وبشكل عام كشفت أن معارف الممرضين تجاه علامات التأخر الحركي الكبير عند الأطفال ضعيفة. وأثبتت نتائج الدراسة عدم وجود علاقة ذات دلالة إحصائية بين معارف الممرضين ومعلوماتهم الديموغرافية (العمر والتحصيل الدراسي وسنوات الخدمة ونوع المركز الذي يعملون فيه). **التوصيات:** أوصت الدراسة أن تعاون وزارة الصحة قد يكون مساعد في تحسين معارف الممرضين تجاه علامات التأخر الحركي الكبير عند الأطفال في مراكز الرعاية الصحية الأولية من خلال تطبيق برنامج تثقيفي.

Abstract

Background: the early identification of developmental disabilities allows intervention at the earliest possible point to improve the developmental potential.

Objective: Identify the scope of knowledge of nurses toward signs of gross motor delay for children and its relation to their demographic characteristics.

Methodology: A descriptive study design was conducted at (18) primary health care centers in first of the primary health care sector of Alhawija District in Kirkuk Governorate. This study started from September 2010 to the end of January 2011, in order to identify the level of nurses' knowledge toward signs of gross motor delay for children in primary health care centers. Non probability (purposive) sample of 20 nurses selected from (18) primary health care centers. Data were gathered by the investigators who interviewed nurses in their Primary Health Care Centers and filled out the constructed questionnaire a format which was designed for the purpose of the study. Reliability and validity of this tool is determined through application of a pilot study and panel of experts. Data were analyzed through the application of descriptive statistical (frequencies and percentages).

Results: The findings revealed that the nurses' knowledge in general was poor concerning nurses knowledge about signs of gross motor delay for children, and there is no a relationship between nurses' knowledge and their demographic characteristics (age, educational level, years of employment and type of their primary health care centers).

Recommendations: The study recommended that the collaborating work with the Ministry of Health would be helpful in improving nurses' knowledge toward detecting of the signs of gross motor delay for children in primary health care centers through the application of an educational program.

Key words: Nurses' knowledge, Gross motor delay, Children

Introduction:

Child development is an important determinant of health over the course of life. The early years of life are a period of considerable opportunity for growth, or vulnerability to harm. Therefore, it is of great importance that children with developmental delays are identified as early as possible⁽¹⁾. Motor behavior is essential aspect of child development. Given the unique opportunity provided by the World Health Organization (WHO) Multicentre Growth Reference Study (MGRS), a component to assess gross motor development was included in the MGRS's protocol. Motor development is usually assessed in terms of age of achievement of motor milestones⁽²⁾. Gross motor is the least critical to long-term outcomes or survival. However, it is the one that parents frequently focus on first, and it is central nervous system (CNS) derived. So it looked at it first⁽³⁾. The primary care providers, in particular the public health nurses and the general practitioners are the professionals with whom many parents may have contact during the first 5 years of their child's life⁽⁴⁾. Systematic early identification of young children is vitally important⁽⁵⁾. Early intervention indicates early detection, diagnosis, and rehabilitation training for children with developmental delay (DD). It is beneficial to determine at an early stage whether a developmental problem really exists in children with suspected DD, and to clarify the range of associated deficits. Then a complete service system is offered for early intervention⁽⁶⁾.

The main objectives are identification and treatment of children with developmental and behavioral problems so as to correct developmental dysfunctions, minimize the impact of a child's disability or of prevailing risk factors, strengthen families, and establish the foundations for subsequent development⁽⁷⁾. Any number of providers who work with children younger than five can be trained to conduct comprehensive developmental screenings, such as physicians, nurses, developmental specialists, home visitors, and child care providers⁽⁸⁾. Trained fieldworkers assessed 816 children aged 4 to 24 months at scheduled visits and caretakers also recorded ages of achievement independently to describe the attainment of six gross motor milestones. They estimated that 1st and 99th percentiles in months are: 3.8 - 9.2 sitting without support, 4.8 - 11.4 standing with assistance, 5.2 - 13.5 hands-and-knees crawling,

5.9 - 13.7 walking with assistance, 6.9 - 16.9 standing alone and 8.2 - 17.6 walking alone⁽⁹⁾. The significant delays in gross motor development include the inability to hold the head up securely by about age 3 months, to sit independently when placed in a sitting position by 10 months, or to walk independently by 18 months. By 10 months an infant's gross motor development should include crawling backward and forward using reciprocal movements; assuming the sitting position and sitting with the back straight; and pulling to stand⁽¹⁰⁾.

The motor delay in a child is most notable when a child fails to accomplish known gross motor milestones. Walking is the most recognized developmental milestone and occurs in most children at 12 months with the upper limit of the normal range being at 16 months. The presence of persistent head lag, poor sitting balance, inability to bear weight on the legs, and the inability to walk by the appropriate time are other common triggers for an evaluation⁽¹¹⁾. The early, accurate identification of fine and gross motor skill deficiencies is important, because early treatment can lead to better developmental outcomes. Health practitioners can become familiar with local childcare options in order to make better recommendations for programs to stimulate the development of fine and gross motor skills. In addition, practitioners can educate parents on appropriate developmental expectations for their children⁽¹²⁾. Screening can determine whether a child is developing on track, and is the first step in determining if a child has delays within a normal range, or has delays or disabilities outside the normal range⁽⁸⁾.

Attainment of gross motor milestones may be of clinical importance for detecting delays. Delays in motor milestone achievement are thought to be an indicator of abnormal development. It is therefore important to identify the factors that influence the normal range of attainment for motor milestones⁽¹³⁾.

Methodology:

Descriptive study design was conducted at (18) primary health care centers in one of the primary health care sector of Alhawija District in Kirkuk Governorate. The approval of conducting of this study was obtained from the Ministry of health. This study started from September 2010 to the end of January 2011, in order to identify the level nurses' knowledge about signs of gross

motor delay for children in primary health care centers. Non probability (purposive) sample of 20 nurses were selected from (18) primary health care centers from Alhawija first primary health care sector in the districts of Alhawija in Kirkuk governorate. The sample was 2 nurses from each primary health care centers classified as main primary health care centers and (1) nurse from other types of primary health care centers. Data were obtained by the investigator who interviewed nurses in their PHCCs to assess their knowledge. The instrument was designed and constructed by the investigators to measure the variables underlying the present study. The questionnaire consisted of two parts: Part I: presented the demographic data sheet, which includes of the nurses' age, gender, level of education, years of employment, and type of their primary health care centers (PHCCs). Part II

was concerned with nurses' knowledge and comprised of 6 items related to signs of gross motor delay. The items were rated according to a 3 point-Likert scale as (know, uncertain and don't know) and levels of the scale were scored as 3 for correct answer, 2 for uncertain and 1 for incorrect answer, to measuring mean of score. The questions take (30 -60) minutes to be answered through the time of collecting the data. Internal consistency of reliability was determined through the computation of split-half technique correlation coefficient for the internal scale coefficient for the nurse's knowledge concerning signs of gross motor delay. Reliability and validity of this tool is determined through the application of a pilot study and panel of experts respectively. Data were analyzed through the application of descriptive statistical approach (frequencies and percentages).

Results:

Table 1. Distribution of Nurses According to their Demographic Characteristics

Demographic characteristics	Nurses distribution	
	F	%
1- Age (years)		
less than 25	1	5.0
25-29	3	15.0
30-34	4	20.0
35-39	1	5.0
40-44	3	15.0
45 and more	8	40.0
Total	20	100
2-Gender		
male	20	100
female	0	0
Total	20	100
3-Level of education		
Intermediate school graduate	1	5.0
Secondary school graduate	2	10.0
Institute graduate	16	80.0
College graduate	1	5.0
Total	20	100
4-Years of employment		
1-5	3	15.0
6-10	4	20.0
11-15	2	10.0

Table 1. (continues)

Nurses' Demographic Characteristics	F	%
16-20	2	10.0
21-25	5	25.0
26 and more	4	20.0
Total	20	100
5- Type of (PHCCs)		
Primary (main)	4	20.0
Secondary with physician	1	5.0
Secondary with health staff	15	75.0
Total	20	100

F=frequency, %= Percentage

This table shows that most of nurses age group (40%) were of age (45 years and more), (100%) were male, (80%) of nurses graduated from Institute, (25%) of nurses their years of employment were (21-25)and the highest percentage (75%) of nurses working in secondary PHCCs with health staff.

Table 2. Nurses' Knowledge within 3- Levels Scale by Total Frequencies, Percentages, Mean of Scores and Comparatives Significant

List	Nurses' Knowledge items	know		uncertain		don't know		Mean scores	C.S
		F	%	F	%	F	%		
	Signs of gross motor delay:								
1	Inability to sitting without support by age (10) months	-	-	1	5.0	19	95.0	1.0500	NS
2	Inability to standing with assistance by age (12) months	-	-	1	5.0	19	95.0	1.0500	NS
3	Inability to hand-and- knee crawling by age (14) months	-	-	-	-	20	100.0	1.0000	NS
4	Inability to walking with assistance by age (14) months	-	-	-	-	20	100.0	1.0000	NS
5	Inability to standing alone by age (17) months	-	-	-	-	20	100.0	1.0000	NS
6	Inability to walking alone by age (18) months	-	-	-	-	20	100.0	1.0000	NS

F=frequency, %= Percentage, C.S.= Comparative Significant, NS= Non-Significant

This table shows that all items were not significant relative to the mean of scores

Discussion:

The study sample consisted of (20) nurses who were working in the primary health care centers in one of the primary health care sector of Alhawija District in Kirkuk Governorate. Table 1 shows that more than half of the nurses participated in the study, their ages were (40 years and up), and their employment years were (16 years and up), which reflected that high number of nurses have enough experience related to their job because an increase in the number of years might help. All the nurses participated in this study were male, which

reflected that the majority of nurses working in the primary health care centers of the primary health care sector of Alhawija first were male, and most of the nurses were graduated from institute, which revealed that they got limited information from their academic study, and most of the nurses participated in this study working in PHCCs were classified as secondary and run by health staff, which means that the nurses are responsible on all primary health care services in their PHCCs.

Iraqi's Ministry of Health recommended that the nursing staff who is working in maternal

and child health care unit should be graduated from a college or an institution⁽¹⁴⁾. Also has been mentioned that the maternal and child health care unit services are one of duties of all PHCCs staff⁽¹⁴⁾. Primary care provider should specifically be interested in observing the growth and development of children⁽¹⁰⁾. Developmental screening is aimed at providing pre symptomatic detection of disability by examining apparently healthy children serially to determine whether they are developing normally or not. Community health workers, particularly maternal and child health nurses and family physicians, are uniquely placed to detect developmental problems at an early stage⁽⁷⁾.

Table 2 shows that the nurses' knowledge in general was poor concerning signs of gross motor delay, and there is no a relationship between nurses' knowledge and their demographic characteristics (age, educational level, years of employment and type of their primary health care centers) because all of them have poor knowledge. This reflected that the majority of nurses working in the primary health care centers have poor knowledge about one of essential health services of primary health care centers.

The Ministry of Health recommended that the one of essential health services of primary health care centers is monitor growth and development of children under five years of age⁽¹⁴⁾. Many health care providers who have frequent contact with children under age 5 during well-child visits are unaware of the government agencies and nonprofit social service groups that help children with developmental disabilities and delays⁽¹⁵⁾.

The public health nurse is often the first point of contact for parents with the public health services and is ideally placed to assist in the early identification and referral of any concerns regarding development of children⁽⁴⁾. The methods for developmental monitoring of young children by health care providers in low and middle income countries are lacking⁽¹⁶⁾.

The study which aimed to assessing primary health care workers' knowledge, attitudes and practices regarding monitoring growth and development in Nigerian children. Their results revealed that primary health care workers have poor knowledge of the procedures of growth monitoring with more than half not knowing the regularity of growth monitoring⁽¹⁷⁾. Nurses provide assistance in various ways, such

as maternal and child health nurses are monitors of children's early development and provide support to parents⁽¹⁸⁾.

Parents feel that knowing about child development helps them in raising their children, and they want information from their provider on child development⁽¹⁹⁾.

If child development monitoring is to be incorporated effectively into the primary health care context, health professionals must have basic knowledge about child development. They need to know how a normal child behaves, to understand the factors that can contribute to altered development, and to recognize behavior that may be indicative of a problem. In order for monitoring to be successful, the methods used must be simple, easy to apply, socially acceptable, and at the same time scientifically sound⁽²⁰⁾.

The primary care provider plays a vital role, not only by being aware of the risk factors for cerebral palsy, but also through vigilance for the manifestations of motor dysfunction in infants who present without risk factors⁽¹⁴⁾. The best health for children identifies the public health nurses as having a key role in the national child surveillance programme with core visits at birth, three months, seven to nine months, eighteen to twenty four months and three and a half years. The public health nurses' primary role with children is to provide anticipatory guidance to families thus promoting the health and development of their children⁽⁴⁾.

Recommendations:

The study recommended that the collaborating work with the Ministry of Health would be helpful in improving nurses' knowledge nurses knowledge about signs of gross motor delay for children in primary health care centers through the application of an educational program.

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