Evaluating Growth Charts Use among Children Less Than Five Years of Age at Primary Health Care Centers in Al-Hillah City

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Abstract

The study was conducted at two primary health care centers in Al Hilla city which covered Al Gameyah primary health care center and Al Kawthar primary health care center for the purpose of evaluating the use of growth chart and to determine mothers understanding toward the meaning of the weight chart in terms of growth. All registered children aged 0-5 years who were living in areas served by the above two mentioned primary health centers were included. The following results may be drawn on the objectives of the study. The proportion of registered children who possessed a chart was very high (99.8%). The proportion of registered children who acquired a chart at birth was high too (99.6%). It is of interest to find that the date of birth of (99.6%) of children was registered and the weight at birth of (99.2%) of them was known too. It was found that only (90%) of study population had their weight charted on the curve of growth charts. The study showed that no children of both sexes were attending regularly to have their weight charted in most months of the year. The study generally depicted that the level of immunization of the children in study area was remarkable and high.

Keywords: *Growth Charts, Children, Age, Primary Health Care Centers*

Introduction

Growth and development of children has fundamental importance in a country's overall progress. Growth monitoring is widely accepted and strongly supported by health professionals, and is a standard component of community pediatric services throughout the world [1,3]. The WHO has recommended use of growth chart (GC) for close monitoring of children's growth [2-6]. However, the availability of this tool does not automatically translate to its use. Knowledge of its meaning, usefulness and acceptance by the health professionals who are directly in charge of childcare is necessary [8,10]. Many conferences were held in the world to discuss the health of children in general with special emphasis on growth monitoring; this was voiced loudly in Alma-Ata, USSR, 1978. Since eighties till now researchers devoted much time and efforts to child health and emphasized that growth monitoring is an important technique for identifying individuals, groups, communities whose growth is not keeping up with the expected pattern [8,10]. Many Pediatricians believe that the two of the most important things about a healthy child are that he should be growing and that he should be about the right weight for his age [4,9,10]. Laraway and others reported that growth standards have been developed in most countries of Europe and North America by measuring normal healthy children both cross-section ally and also by following their growth longitudinally over a period of time [15]. Ben-Joseph and others stated that in developing countries where failure of growth is a common phenomenon, the need for suitable growth charts has been acutely felt, but the lack of appropriate local standards and absence of well-planned longitudinal studies of children are major obstacles [16]. World Health Organization (WHO) pointed out that, growth charts provided three channels of growth in weight based on internationally acceptable optimum and it was adopted by many different countries [5]. Moreover, the WHOs (1978) organized all efforts to promote the more widespread use of growth chart in primary health care and recommended a prototype of growth chart with guidelines for chart's use in health services [6,7]. Many

other concerned organizations have shown their deep concern on the benefits of using the growth chart and they stated that it can offer a simple and inexpensive means of monitoring child health and nutritional status and can be used by community health workers with very little instructions and supervision [7,11] Researchers have emphasized that, regular monitoring of weights of children on a weight chart is helpful for the promotion of optimum growth in children and also they stated that, such diagnostic, curative and promotive / preventive uses of the growth chart have needed clarification in order to achieve full acceptance of their use in clinical as well field conditions [9,10,13]. This study was conducted for the purpose of evaluating the growth charts use and to estimate the proportion of mothers understand the meaning of the weight chart in terms of growth.

Methodology

All registered children aged (0-5) years who were living in areas served by Al Gameyah primary health care center and Al Kawthar primary health care center at the time of the study were included. Interviewing of (400) mothers was conducted at the above two mentioned primary health centers and a question was asked whether they understood the meaning of the weight chart in terms of growth. The data were gathered from growth charts and health records available at the above two mentioned primary health care centers. The data described by using simple statistical analysis such as: frequencies, percentages to assess the results of the study.

Results and Discussion

Table (1) Chart – Carrying Children

Variables	No	%
- Registered children aged 0-5 years	12380	100
- Registered children with charts	12355	99.8
- Registered children who acquired chart at birth	12330	99.6

Table (2) Registered Children with Known Birth Dates and Birth Weight

Variables	No	%
- Registered children aged 0-5 years	12380	100
- Registered children with known birth date	12330	99.6
- Registered children with known birth weight	12280	99.2
- Registered children whose weight were recorded on the curve of growth chart	11170	90.0

Table (3) Median Number of Months Out of Each Year in Which Weight Was Charted

Year of Life	Boys	Girls
- First	4	4
- Second	2	3
- Third	-	1
- Fourth	1	1
- Fifth	-	-

Table (4) Approximate Total Visits per Child per Year to Primary Health Care Center

Year of Life	Visit / Child	Visit / Year
	Boys	Girls
- First	19	22
- Second	22	24
- Third	20	21
- Fourth	16	18
- Fifth	14	16
- Total	91	101

Table (5) Percentage of immunization status from growth charts

Immunization	%
- BCG	100
- Polio	100
- DPT	97.5
- Measles	97.9
- MMR	98.9

Table No (1) shows that children who registered in both primary health care centers aged from (o-5) years were 12380. The proportion of children who possessed a chart was very high (99.8%). Here the mothers considered the chart as a sort of passport to health care, and they were proud to possess it. It is of interest to report that the children who acquired a chart at birth were very high too (99.6%).

From table (2) it can be seen that between the ages of (0-5), of 12380 children registered in both PHC centers, the date of birth of 12380 (99.6%) was known, and the weight at birth of 12380 (99.2%) of them was known too while they were recorded in growth charts as normal ranged from 2.5kg-3.5kg (90%) of them only. This information will be valuable to the child as he grows up, as well as being important in assessing his health. In a study of the relationship between birth weight and child growth in Guatemala over a period of 9 years (1965-1974),the study showed that infants born with deficient weight tend to remain in lower growth tracks whether the variable measured was weight, height or head and chest circumferences through the entire length of the study [12]. But here in this study the problem is the absence of a suitable method of monitoring and recording the weight of children regularly on a simple growth char. That means recording is in adequate, and this is because of the fact that health workers have little or no training in the symbolism involved in such charts, therefore it is difficult in assessing child's health.

The research was done to discover how often the weight of children was charted in each year of their life. From table (3) it is clear that no children of both sexes, boys and girls in primary health care centers were attending regularly, therefore their weight was not charted in most months of the year. From the researcher's observation, it was found that most of their attendances

were consistent with the time of receiving their vaccines and when they were sick.

Studies conducted on the evaluation of the use of growth chart in in Northeast District of Delhi, India and in Isfahan found inconsistent results in that a high proportion of children both sexes were attending regularly enough to have their weights charted in most months of the year [17,18]. This difference in the results may be because the majority of mothers were not advised about the importance of weight chart in terms of growth. The study also showed how frequently children attended the clinic. The attendances for all children of the studied population were analyzed. From table (4) it was clear that mothers brought their children to the primary health care centers during their first three years of life especially the second year, this might due to the fact that mothers attended the clinic for the purpose of vaccination, while the numbers of attendances dropped during the fourth and fifth years of the children life. Besides that, the table shows that mothers brought their girls more than boys, and this finding is contradicting with most of Iraqi women's customs because male are always more protective than female. Therefore, this result could be due to small sample size studied which represented (1.6%) of study population only.

Estimation was made for the level of immunizations of children in the area, and the results are shown in table (5). The study generally indicated that the level of coverage in the study area is remarkable and high as compared to some other developing countries [14].

The high level of immunization in the area is partly due to many important points, first is the coordination and cooperation between health authorities and other organizations. Second is the experience gained by health staff from different aspects of preventive programs in encouraging women to bring their children. Similarly, the campaigns and the mass media has an important role contributed to the knowledge of the public about health and prevention of diseases by immunization. So by using these approaches it was possible to contact defaulters.

A question was asked for (400) mothers in the primary health centers during the time of the study whether they understood the meaning of the weight chart in terms of growth, and those involved concluded that a very small proportion (26%) only had some awareness and understanding.

Finally, the investigator recommended that the responsible authorities should follow the best use of growth charts in all primary health care centers, and conducting training courses for nurses and other health care providers who are working with growth charts units.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Al-Bayan University and all experiments were carried out in accordance with approved guidelines.

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