AN INVESTIGATION INTO THE KNOWLEDGE MOTHERS HAVE ABOUT CHILDREN'S GROWTH CHARTS.

E. Nombe

Abstract
A study of the amount of knowledge mothers have regarding children's growth charts was carried out on mothers with children under the age of five years in Bophuthatswana during June and July 1989.

218 Mothers who attended the Well Baby Clinic were interviewed to assess their understanding and interpretation of the growth chart. Results were disappointing and recommendations are made.

INTRODUCTION
In South Africa, Child Health Cards incorporating weight (mass) for age charts have long been recognized as a cornerstone of preventive and promotive paediatrics. Different health authorities have different cards which may vary in size, colour and position of the horizontal axes. Nevertheless, they are all used for the same purpose of assessing the growth of children and before they can be used effectively, mothers should have knowledge of the significance of the health cards. Philpott (1986) and Brimblecombe and Barltrop (1978) state that in developing countries, well organized Under-Five clinics are a proven method of reducing childhood mortality and morbidity. The objective is to provide low-cost curative and preventive care to as large a portion of the population as possible.

The growth chart is essentially visual and provides the nurse with a useful instrument for educating the mother and the family. Furthermore, it promotes a clearer understanding of the nature of growth and development, and portrays clearly the consequences of an inadequate diet and of infectious diseases. In this way it contributes to a greater acceptance of responsibility for child care by the mother and to the concept of family self reliance in health matters, but only if the mother, herself, understands the message conveyed by the card.

Statement of the Problem
The Government of Bophuthatswana has provided the basic infrastructure for the delivery of primary health care. One wonders whether such services are properly utilized or not.

However, records reveal that most sick children who are brought to the clinics and hospitals are diagnosed as suffering from malnutrition, upper respiratory infection and gastro-enteritis. These problems directly indicate poor health in children, and are likely to affect the growth of the child. In this study, it was the researcher's intention to investigate the amount of knowledge mothers have regarding the growth chart.

The Objective of the Study
The study was designed to assess:
- the mother's knowledge and understanding of the growth chart.
- the value of growth charts in primary health care.

REVIEW OF LITERATURE
Morley (1973) was the first person to promote the concept of special health and weight charts in his book entitled Paediatric Priorities in the Developing World in which he showed that the growth charts can form the cornerstone of preventive and curative paediatrics. He summarized these activities and aims as follows:
1. The supervision of the health of all children up to the age of five.
2. The prevention of communicable diseases with emphasis on malnutrition, measles, pertussis, tuberculosis, poliomyelitis and tetanus.
3. The provision of simple treatment for diarrhoea with or without dehydration, pneumonia and common skin disorders.

With the co-operation of experts and practitioners in different countries, the World Health Organisation (W.H.O.) co-ordinated an effort to promote the widespread use of the growth chart in primary health care. As a result of this work, W.H.O. in 1978 published guidelines for the international use of child growth charts in primary health care, giving recommendations on growth standards, a prototype of a growth chart, and suggestions on how to use the charts in the health services.

Donald and Kibel (1984) have shown that this chart serves the following functions:
- to record the gain in mass
- to record immunizations
- to record neurological development
- to promote family planning
- to create a home based medical record.

Wagstaff and De Vries, in their study conducted in Soweto in 1972, found that such charts serve as a valuable link between fragmented health services and were also regarded as a diagnostic tool to recognise poor nutrition and the effects of ill health. An interesting bonus attached to the use of the growth chart was that mothers found, in the absence of other documentation such as birth certificates, that the chart could provide entry for the child to crèches and schools.
A descriptive study was undertaken in the Ditsobotla, Molopo and Thaba’Nchu regions in Bophuthatswana. Fourteen research assistants who were BNSc students in their third year of study, trained initially by the researcher, were placed in these three regions in the respective clinics. The population comprised all the mothers who attended the Well Baby Clinics in the months of June and July 1989 at Montshiwa Clinic, Mmabatho, Itsoseng Polyclinic and Selosesina Clinic at Thaba’Nchu. A convenience sample of 218 mothers was interviewed in their own language about the understanding of the growth chart. Only mothers of the babies were interviewed although it was found that many babies were brought to the clinic by the child-minders. Eventually a total sample was achieved made up of 85 mothers from Ditsobotla, 73 mothers from Molopo and 60 mothers from Thaba’Nchu. Informed consent was obtained from the mothers prior to interviews being conducted.

**METHODOLOGY**

### TABLE 1
**FREQUENCY DISTRIBUTION OF MOTHERS’ LEVEL OF EDUCATION (n=218)**

<table>
<thead>
<tr>
<th>School Level</th>
<th>Molopo</th>
<th>Ditsobotla</th>
<th>Thaba’Nchu</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil - Std 2</td>
<td>12</td>
<td>21</td>
<td>7</td>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>Std 3 - 10</td>
<td>61</td>
<td>64</td>
<td>51</td>
<td>176</td>
<td>81</td>
</tr>
<tr>
<td>Tertiary Education</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>73</td>
<td>85</td>
<td>60</td>
<td>218</td>
<td>100</td>
</tr>
</tbody>
</table>

### TABLE 2
**MOTHERS’ KNOWLEDGE AND UNDERSTANDING OF GROWTH CHARTS (n=218)**

<table>
<thead>
<tr>
<th>Clinics</th>
<th>n=73</th>
<th>n=85</th>
<th>n=60</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Understanding</td>
<td>Molopo</td>
<td>Ditsobotla</td>
<td>Thaba’Nchu</td>
<td>Total</td>
<td>%</td>
</tr>
<tr>
<td>Ability to describe nature of chart</td>
<td>61</td>
<td>75</td>
<td>50</td>
<td>186</td>
<td>85</td>
</tr>
<tr>
<td>Basic Knowledge of uses of chart</td>
<td>48</td>
<td>38</td>
<td>45</td>
<td>131</td>
<td>60</td>
</tr>
<tr>
<td>Ability to give 2 + reasons for attending clinic</td>
<td>25</td>
<td>27</td>
<td>14</td>
<td>66</td>
<td>30</td>
</tr>
<tr>
<td>Ability to rank correctly plotted curve on chart</td>
<td>29</td>
<td>32</td>
<td>20</td>
<td>81</td>
<td>37</td>
</tr>
<tr>
<td>Knowledge of necessity of bringing chart with each clinic attendance</td>
<td>71</td>
<td>85</td>
<td>60</td>
<td>216</td>
<td>99</td>
</tr>
</tbody>
</table>

### DISCUSSION AND RECOMMENDATIONS

The growth chart offers a simple and inexpensive means of monitoring child health and nutritional status, and can be used by community health workers with very little supervision.

Ideally, all the purposes the chart serves should be fully exploited, and such information be transmitted to the clients. Most subjects interviewed in this study pointed out that nurses assigned a passive role to the mother regarding other uses of the card. More emphasis was put on actual clinic attendance of child with his card than on explaining the difficulty in assessing the child’s progress and continuing care if the card did not accompany the child. Advice and assistance should be given to the mother as necessary.

It is recommended that during such visits to the clinic, clients are educated about simple measures of treating diarrhoea at home and the understanding and interpretation of the child’s growth and weight gain as it is reflected on the card. This may be achieved through simple explanations to the mothers.

The findings of this study are revealing and would appear to justify Wagstaff’s and De vries’ suggestion that such local studies be carried out. Continuing health education on the functions of the growth chart is necessary and follow-up programmes should form part of the process. Such programmes should also include documentation.

### REFERENCES


Acknowledgements

The author wishes to thank the following:

The Department of Health and Social Services Bophuthatswana, the Chief Medical Officers and Nursing Service Managers of Bophelong, Thusong and Thaba’Nchu Community Hospitals, colleagues from the Primary Health Care Teams, Dr. L.C. Simbayi from the University of Bophuthatswana and all the fourteen BNSc students who participated in the project.

This project would not have been possible without the financial support of the University of Bophuthatswana.

E. Nombe
University of Bophuthatswana
MMABATHO
Republic of Bophuthatswana