

CHAPTER 8

GENERAL DISCUSSION

This study was done with the specific aims of establishing the current vitamin A, iron, (iodine), anthropometric and immunisation status in children 6-71 months old in South Africa. The purpose of this chapter is to discuss general issues of importance and highlight certain aspects of the study that could not be presented in the preceding chapters.

COLLABORATION

To the best of our knowledge, this study has established a precedent, not only because it was the first national assessment of health of children of this age group using a national probability sample, but also because, from its beginning, it represented a multidisciplinary and multi-institutional effort. While this in itself is not new in the country, the scale of collaboration was new and led to both new challenges and new opportunities.

Multidisciplinarity

Multidisciplinarity is an essential element of problem-solving research as opposed to question-driven research. In this study, one clinical nutritionist, a paediatrician, a biochemist and an epidemiologist/public health physician formed the study directorship. This combination of expertise allowed a number of aspects of micronutrient status to be studied simultaneously. The study was further strengthened by the expertise brought to it by a public health physician with expertise in infectious diseases, community health registrars, nurses, dietitians, statisticians, community members and others. Consequently, the recommendations proposed in the preceding chapters are close to addressing most, if not all, facets needed to implement an effective policy towards the reduction of vitamin A deficiency and for the other specific aims of the study. Notably absent from the pool of expertise, however, were communication specialists, social scientists, and food producers. Although some suggestions are made within their areas of expertise, this report does not claim completeness within these fields.

This study had a rather lengthy lead time; the first meeting of SAVACG on the need and feasibility of this study was held early in 1993, but the study only started in June 1994. In part, this was due to the need to align the goals and methods of the different disciplines involved. Nevertheless, the study has demonstrated the usefulness of establishing a multidisciplinary team using national expertise to solve a well defined health problem.

Public-Private Sector Interaction

The cooperation between a private company and researchers from academia, which for this report includes the Medical Research Council, proved essential to the study. Whereas academic institutions tend to focus their services locally or regionally and seldom nationally, and tend to have little discretionary funding available to explore new ventures,

the pharmaceutical firm involved in the initiation of the study, Roche Products (PTY) Ltd, and more specifically the Vitamin and Fine Chemicals Division (hereafter called Roche), had the opposite characteristics. This allowed initially for several meetings of a core team of researchers in which the objective(s) of the study could be defined and a protocol could be formulated. The total costs involved for the provision of the necessary secretariat and for travel and communication in the preparatory phase of the study is estimated at R 35 000. We believe that this initiating sponsorship by Roche together with financial assistance received from Task Force Sight and Life, Basel, Switzerland, was catalytic in conducting this study.

Clearly, not only the private sector can fulfil this "initiator" function. Governmental agencies, including research councils and local, provincial and national Departments of Health, can take similar action to initiate national problem-solving activities in health that are of relevance to them. Such action may shorten the time-lag between problem identification and problem resolution, since it would not be dependent on the voluntary services of the private sector. A prerequisite for such government initiated action is an inclusive national process of problem prioritisation and the provision of an adequate budget for health research.

Academic, Multicentre Collaboration

The academic institutions involved in this study include, in alphabetical order, the Universities of Cape Town, Durban-Westville, the Medical University of Southern Africa, Natal, Orange Free State, Pretoria, Stellenbosch, and the Medical Research Council. It became clear during the preparatory phases, and during the study itself, that physical distance was a major and costly obstacle to active collaboration. At the same time, the study design and the management of the study was enriched by the different knowledge, insights and approaches contributed by the staff from this large variety of institutions. In contemplating future national studies, even if only descriptive in nature as the current study is, the inclusion of institutions from all major areas of the country should not be dismissed on the grounds of distance and costs alone. It is unlikely that the comprehensiveness of the current study could have been matched by any singular effort. The advisability of reducing costs by diminishing institutional representation should, therefore, be carefully considered before embarking on health problem-solving interventions with a national character.

Cooperation between Academia and Health Services

The then Department of National Health and Population Development, now the Department of Health, was represented from the first SAVACG meeting in the planning of the study. This close collaboration at the earliest possible stage between researchers and those responsible for implementation has had several positive consequences for SAVACG, for this study and for the Department. Firstly, it must be unequivocally stated that without the funding, the largest, the Department made available, this study could not have been undertaken. Secondly, Department's personnel participated in the preparation of the study proposal. Thirdly, the cooperation that the research teams received from regional and local government staff was a consequence of the support given by the Department and of the careful planning of the work programme of health personnel in the

regions that could only have taken place through active interaction between SAVACG and the Department; without this ample provision of staff time by provincial and local health departments, the costs of this study would have been much higher, and the study might, therefore, not have been undertaken at all. Fourthly, during the planning of the "vitamin A study" it became clear that the Department was planning a national "immunisation status study", which would have assessed immunisation coverage of children 12-23 months of age. Due to the active interaction between SAVACG and the Department, unnecessary and expensive duplication of efforts were prevented by combining these two research projects into the current study. Finally, it is anticipated that the intimate involvement of the Department and the many provincial and local health authorities in this study will lead to a rapid implementation of the results and the proposed recommendations.

A word of caution is, however, also necessary. Although the study was to a large extent funded through the Department of Health, this did happen only after a very considerable delay. The cause of this delay was not the relevance or the proposed method of implementation of the study, but rather the extremely limited provision for "research" within the then Departmental budget, and the long funding cycle for the then Departmental budgets. If the new Department wishes to play a more significant role in stimulating multidisciplinary national health research, then a much more flexible approach and a more substantial budget for such research must be made available.

Collaboration with International Agencies

The multidisciplinary composition of SAVACG and its inherent expertise together with the prevailing need for data on which national policy can be formulated and implemented, and the known International Goals for Nutrition must have been significant factors in gaining the support of UNICEF for the study. In this regard, UNICEF was the second main financial contributor to the study, and its support facilitated the completion of the study as a whole and its immunisation component in particular.

INTERPRETATION OF RESULTS OF THE STUDY

Limitations of the Study

In the absence of a complete national sampling frame for children aged 6-71 months, an alternative method was used. The details of the sampling frame, sampling methods and sample size were discussed in Chapter 2. Limitations specific to the individual characteristics or analytical methods are contained in the chapters devoted to the specific objectives of the study. We believe that the results of this study are accurate at the national and provincial levels, but not necessarily at local levels. The confidence intervals around the estimates, i.e. the accuracy of the results, at provincial level are wider than at national level. Nevertheless, the results for all the specific objectives of the study are sufficiently accurate at the national and provincial level to allow firm recommendations to be made.

This report was compiled with a view to making the main results of the study available as soon as possible. For this reason, the statistical analysis of the data has been limited to the most important descriptors of vitamin A, iron, (iodine), anthropometric and immunisation status. Further detailed analysis, including refined analysis of socioeconomic status, regression analysis, and the calculation of confidence intervals around cluster estimates has not yet been completed. However, the results of this further analysis are unlikely to have a major influence on the proposed recommendations and will be provided in due course. The results of the study will also be published.

Use of Other Information in the Interpretation of the Results

The section on the assessment of immunisation status of children provides an accurate description of the actual proportion of children immunised and the punctuality of their immunisations. This study did not address the immunisation services, and, therefore, draws heavily on the 1994 national immunisation review, undertaken by the Department, for any observations and recommendations made.

RESEARCH CAPACITY BUILDING

While the prime aim of this study was to conduct a national survey, the manner in which the study preparation and execution was done has led to the increase in research capacity now, and for the future, at several levels of health personnel in the country. This became a subsidiary objective of SAVACG soon after SAVACG decided to undertake a national study, for two major reasons. Firstly, irrespective of the outcome of the national survey, an intervention following the study will need to be monitored and its impact evaluated. Secondly, it may be anticipated that similar studies at local, regional or national level could follow a successfully completed national study. The research capacity building achieved during this study includes the following:

1. Components of this study were used by three postgraduate students who provided their particular expertise and time to the study at either regional or national levels. Three postgraduate degrees (one M. Med. in Community Health, one Master's in Optometry and one Doctorate in Dietetics) will be the direct consequence of the participation of students in this study.
2. For fieldworkers, both those from the health services and those employed from local communities for the study, the extensive education in research methods, clinical examination methods, and quality control of field data have provided, on occasions for the first time, exposure to research; well over 300 such persons at various levels in the health services have been so engaged. While the direct impact of this aspect of the study was not measured, we believe that this exposure has been very useful and will be used for future surveillance of any of the proposed recommendations that are instituted as a consequence of this study, as well as for other interventions.
3. The entire experience of this study, including the financial and managerial difficulties experienced and the solutions found, is being written up as a learning module for future students in public health Master's courses.

GENERAL COMMENTS

Costs of the Study

A detailed cost analysis of this study is not available due to the urgency SAVACG attached to delivering the results. A copy of the overall budget is appended (Appendix 8.1). It is important to note that this budget of R 840 000 only includes the directly funded costs of the study. This means that no salary costs have been included, as these were contributed mainly by the institutions participating in the study. A formal cost-analysis of the study will be done to provide this essential information to key decision makers in the health research sector. For purposes of this report, however, it is estimated that the total salary component of the research is approximately R 600 000, thus almost doubling the estimate provided by the direct costs. Inclusion of all other costs incurred will increase the total further, thus providing a very rough overall cost estimate of R 1 500 000 for this study.

Use of Television for Health Promotion

While not a primary aim of this study, the possession of a working television set was incorporated in the study as a component of a complex of indicators used for socioeconomic status assessment. Of all households with children selected in this study, 42% had a television set. As expected, households in the most urbanised areas had a television set more often than those in rural areas. Nevertheless, even in rural areas approximately one-third or more of households with children had a television set. If one assumes that either the child or the parents or others members of such households invite friends to watch certain programmes, then the coverage of the nation's population by television is well above these figures. Given that this coverage will undoubtedly increase in the future, the use of television in health promotion, including food, immunisation and micronutrient education, should be encouraged and developed to a far greater extent than it is at present. Its effectiveness could, for example, be tested in the implementation of some or all of the proposed recommendations in this report.

In conclusion, we believe that this has been a successful study and SAVACG wishes to express its sincere gratitude to all those who made the study possible and successful. They are all acknowledged in the appropriate chapter.