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A profile of research presented at the Sri Lanka College of Paediatricians (1997- 2007)

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The main forum at which paediatricians in Sri Lanka disseminate their research findings is provided by the annual scientific sessions of the Sri Lanka College of Paediatricians (SLCP). Peer reviewed research papers, published in abstract form provided us with a ready resource for identifying priorities and trends in research, carried out locally. We describe a profile of research, which was presented at the SLCP, between 1997 and 2007.

Objectives

To identify research topics, research methodologies and institutional affiliations of authors whose work was presented at the SLCP from 1997 to 2007.

Method

A descriptive retrospective study was undertaken of oral and poster presentations published in abstract form by the SLCP from 1997 to 2007. A database created using SPSS version 15.0 helped analyze study design, setting, data collection method, topic of study, authorship, institutional affiliations, international collaboration, ethical approval and the subsequent publication rate. Categorization of projects into audits and research was attempted using NICE guidelines¹.

Results

Ten scientific sessions were held during the eleven years under study. This included two international conventions hosted by the SLCP. Of a total of 298 published abstracts, 278 were based on research projects and 20 were case series. Plenary lectures were excluded.

Cross sectional descriptive observational surveys were the commonest study design (233/278) and

interventional or experimental studies comprised of only a minority 19 (7%). Observational studies were cross sectional 143 (62%), retrospective 54 (23%) and prospective 36 (15%). Case control and cohort studies consisted of 15/278 (5%) of the research projects (Table 1).

Table 1
Study designs (n=298)

Study design	Number (%)
Observational/descriptive	233 (78.2)
Experimental	19 (6.3)
Case control	15 (5.0)
Cohort or case series	13 (4.4)
Audits	11 (3.7)
Others	07 (2.4)

Three fourths (211/278) of the studies were hospital based and a fifth (55/278) was community based. Of the 55 community based studies 20 (36%) were conducted in school settings.

Teaching hospitals were the setting for most of the hospital based studies (180/211) and research subjects were hospitalized patients 177 (84%), clinic patients (from specialized clinics or accident and emergency departments) and health care personnel (doctors, nurses, family health workers and medical students). The latter comprised the research subjects in 12 (4%) studies.

Data was quantitative (57%) and qualitative (43%); and was collected using questionnaires 167 (60%) either self administered 127 (76%), or interviewer administered 40 (24%). Postal questionnaires and telephone interviews were not employed to collect information. Hospital records were the source of data in 40 (14%) of studies.

Outcome measures were clinical features 55 (20%), biochemical or microbiological results 16 (6%), growth parameters, morbidity patterns, student performance and patient's responses. Interventional studies were few and involved behaviour modification (2), assessment of body composition (2), pain relief (2) and therapeutic regimes (5).

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Research on therapeutics focused on new regimes using medications already accepted as treatment options. The two main diseases studied were nephrotic syndrome (5) and thalassaemia. There were no clinical trials on new medications.

One hundred and ten abstracts made no mention of the sampling method. Simple random sampling 50 (18%) was the often mentioned method; cluster sampling was also used. Random allocation to study and control groups was described (5) but sample size calculation prior to commencement of research was evident only in two studies. The study duration varied widely from a single day to 8 years. Statistical analysis of data was mentioned in 90 studies but only 20 mentioned the statistical test, Z score, the most commonly mentioned statistical test.

Attempts at categorizing published abstracts as audits or research resulted in several research projects being considered as clinical audits. Approval from ethics committees was below expected level, with only 3.4% mentioning ethical clearance. However, several other abstracts (6%) mentioned ethical considerations, post research benefits and potential harm to research subjects. Written or verbal proxy consent had been obtained in 26%.

In 65% of papers the first or last author had a university affiliation.

Eight percent of studies were multi-centred and international collaboration was present in 7.7%. All but five research projects were self funded.

Most frequently researched areas of paediatrics were, in descending order: infections, therapeutics, nephrology and neonatology. Respiratory tract infections (6), diarrhoeal infections (6), central nervous system infections (5), dengue (5) and neonatal sepsis (5) were the commonly researched infectious diseases (Table 2).

Table 2
Topics most commonly researched (1997-2007)

Topic field	Number
Infectious diseases	43
Therapeutics	34
Nephrology	33
Neonatology	33
Epidemiology	32
Nutrition	26
Medical education	21
Non-infective respiratory	20

Morbidity and mortality patterns (6) and low birth weight (9) were the core areas studied regarding neonatology. Nutritional topics covered related to breast feeding (11), obesity (6) and protein calorie malnutrition (4) but there wasn't a single study on micronutrient deficiencies. Rheumatology, immunology and dermatology had received little attention with regard to further studies. Among the emerging health topics that lacked research, were environmental toxins, health economics and client satisfaction.

The subsequent publication rate in the Sri Lanka Journal of Child Health, which is the official publication of the SLCP, was 30%.

Discussion

A review of this nature enables assessment of scientific productivity, in terms of quality and quantity. It is hoped that the under researched areas in paediatrics during the past decade will be corrected in the future.

A limitation of our study was that some items we analysed were not requirements for submission of abstracts. Therefore their non visibility in the abstract did not necessarily mean its absence from the study or lack of adherence to sound scientific methodology.

Most of the research presented at the SLCP was of a descriptive nature. Interventional studies were rare. This may be due to research on children being restricted, due to their increased vulnerability, but the need for experimental studies cannot be completely ignored if children are not to become therapeutic orphans.

Differentiating between research and audit can be difficult^{2,3,4}. We considered studies that generated new knowledge as research and studies that brought about improvement in standard of care as audits and concluded that several research projects were in fact audits.

There was an overall shortage in mention of ethical approval. This cannot be attributed to an editorial oversight alone because ethical review was perhaps deemed unnecessary by the researchers, due to many studies being locally organized audits⁵. We recommend that clinical audits are scrutinized by ethics committees due to use of patient information, and possible publication of results.

In analyzing scientific presentations on topics related to paediatrics over a decade, it was noted that some

emerging infections in adults e.g. leishmaniasis and HIV had not surfaced as important issues among children⁶.

We did not include research presented outside the SLCP, either within or outside Sri Lanka because these abstracts were a representative sample of research carried out locally by paediatricians. The low rates of interventional studies and research by paediatricians in Ministry of Health perhaps indicates the lack of research support and time constraints for research. Therefore we wish to highlight the need for greater emphasis on research output and provision of research grants to paediatricians, through their workplaces.

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