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Student nurses' perceptions about the Integrated Management of Childhood Illnesses training received at the KwaZulu-Natal College of Nursing, South Africa

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Abstract

Integrated management of childhood illnesses (IMCI) is the WHO and UNICEF's strategy developed in the 1990s to reduce child mortality and morbidity globally. This integrated approach guides health care workers and ensures that the child is cared for effectively at a single visit to reduce morbidity and mortality rate of children younger than five years of age. South Africa is one of 12 countries with high child mortality and morbidity rates. The purpose of this descriptive quantitative study was to evaluate the IMCI training of 100 randomly selected student nurses in the KwaZulu-Natal College of Nursing. The objective was to assess teaching methods used to prepare learner nurses for this approach. A self-administered questionnaire designed by Goga and Muhe (2011) was used to collect data. The results indicated that the time allocated for theory was adequate, but for clinical practice and clinical training time was found to be insufficient. It was concluded that the recommended duration of training (11) days was inadequate for the amount of information contained in the IMCI course.

Keywords: Child mortality and morbidity, clinical learning experiences, integrated management of childhood illnesses (IMCI), nursing education in South Africa, public health in South Africa.

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Introduction

Millions of children in developing countries, including South Africa, die from illnesses such as pneumonia, diarrhoea, and malnutrition that are preventable and easy to treat. The IMCI strategy became South African government policy in 1998 to meet the fourth Millennium Development Goal (MDG) by 2015 (Saloojee & Bamford, 2006). South Africa is one of 12 countries where the under-five child mortality rate has increased from 56/1000 live births in 1990 to nearly 67 to 73/1000 live births in 2008 (Jonker, 2012).

The IMCI approach focuses on addressing the major causes of children's deaths through improving case management skills of health care workers (HCW's), strengthening the health system, and addressing family and community practices

by providing quality care to sick children younger than five years of age (WHO, 2001). IMCI has become a main child survival strategy in almost all countries in the African region (Ketsela, Habimana, Martinez, Mbewe, Williams, Nsungwa, Thiam, Narayanan & Bahl, 2006). The foundation of an IMCI strategy is a set of clinical guidelines that should be used by HCWs for the management of childhood illnesses at the first level health facilities, implying primary health care (PHC) clinics in South Africa (Amaral, Leite & Victora, 2005).

IMCI is taught to HCWs in a structured 11-day training course, combining theoretical work in the classroom with practical performance in a clinical setting. This aspect of IMCI is known as Case Management (WHO/UNICEF, 2009). Each trained HCW is provided with a booklet to use during consultations. Students acquire competency by repetition combined with individual feedback from IMCI facilitators, selected on the basis of their performance during an additional 5-day IMCI facilitators' training course. Each case management training course is facilitated by trained facilitators and the recommendation by WHO is a 1:4 facilitator to participant ratio and that 44.2% of course time be spent gaining clinical practice experience, 1.2% on the introduction; 20.8% on assessment and classification; 4.9% on identifying treatment; 11.6% on treatment of the child; 6.9% on counselling the mother; 6.9% on the sick young infant and 3.5% on follow up (Goga & Muhe, 2011). The goal of follow up visits was to reinforce skills acquired by HCW's during the IMCI training. During the visits, HCW's discuss their performance post IMCI training and address issues encountered in the process of applying their new skills. The supervisors also used this opportunity for supervisors to assess availability of supplies and medication in each of the facilities (WHO, 2007a).

UNICEF's (2011) study in South Africa revealed that the infant morbidity and mortality rates among children under-five years of age were declining at a very slow pace. This is the case because the under-five mortality rate of 57 per 1,000 live births in 2010 decreased from 67 per 1,000 live births in 2008 and would be unable to meet the target of MDG 4 by 2015. Whilst HCWs have been trained on the IMCI case management, the challenges of providing care to children under-five years of age remain daunting, particularly in the face of childhood illnesses such as diarrhoea, acute respiratory infections, malaria, measles and malnutrition. Thus research was deemed vital in assessing the IMCI training of students in the use of IMCI guidelines as offered by the KwaZulu-Natal College of Nursing (KZNCN). This entailed the assessment of the teaching and learning methods used by facilitators in preparing student nurses for the management of childhood illnesses against the guidelines set by the WHO and adopted by the health department of the KwaZulu-Natal Province.

Methodology

Design and setting

This study followed a descriptive quantitative approach and evaluated the training of student nurses with regard to IMCI in the KZNCN campuses. KZNCN is located in the uMgungundlovu District which includes the city of Pietermaritzburg and comprises 25 sites that are made up of 11 campuses and 15 sub campuses. The study was carried out on campuses that provide the four year diploma course (R425) programmes. KZNCN is located in the uMgungundlovu District which includes the city of Pietermaritzburg.

Sampling process and sample size

In this study the population was all student nurses that undertook the R425 programme, and the target population were those students nurse in 2nd 3rd and 4th year because they had completed the IMCI module. The total population was 240 students in each of the three campuses totalling 720 students. In each campus, 100 students were selected to participate in this study. The sample size was determined with the assistance of a statistician. These students were used because they provided a better insight into the questions because they had been through IMCI training and therefore, had the expertise and the understanding to respond to the questionnaire.

Data collection

Data collection was conducted using questionnaires designed by Goga and Muhe (2011) that had been adapted to focus on students who had completed the IMCI training.The group mentors assisted with access to the student nurses. The researcher shared the purpose of the study and its benefits with the IMCI trained students. Their suggestions such as rewording or adding of questions were implemented. To gain access to students, a convenient time to distribute questionnaires was organised with lecturers to meet students after lectures. The questions with the consent forms were placed in individual sealed envelopes and handed out to the students by the researcher. The students were requested to complete and drop the questionnaires in a box provided by the researcher. Questions were in English as the medium of teaching in the KZNCN campuses is English.

Data analysis

Data were analysed using descriptive statistics, frequencies and percentages.Data were organised and analysed using the Statistical Package for the Social Sciences (SPSS) version 20.0.

Reliability and validity

The researcher used two focus groups of experts of two in each group with vast IMCI experience to ensure content validity. The questionnaire's items were based on the contents of the IMCI guide used in training of students. An expert group consented to pre-testing the questionnaire and the Cronbach Alpha was 0.7. The statistician, the expert focus group participants and the supervisor agreed that the revised questionnaire measured all the objectives.

Ethical considerations

The Durban University of Technology Ethics Committee cleared the proposal and issued a clearance certificate with reference number REC 59/12. The Department of Health granted permission to conduct the study. Requests were made and granted by the managers of the three participating campuses. Consent from the individual respondents was obtained in writing. The rights of participants were safeguarded through written informed consent and confidentiality and anonymity. Participants were informed that they were free to withdraw from the study at any time. The consent and questionnaires were placed in individual envelopes and returned in a box provided for by the researcher.

Results

Nearly all respondents 98.3% (n=295) were trained for less than 11 days, whereas 1.0% (n=3) was trained for 11 days, which is according to the WHO/UNICEF (2009) training strategy for IMCI and 7.0% (n=2) were trained for more than 11 days. The results indicate 48.0% (n=144) of the respondents did not spend the prescribed minimum of 44 hours in clinical practice during their IMCI training according to the WHO stipulations. Respondents 61.3% (n=184) indicated that the time spent in clinical practice was inadequate (Table 1) and 14.0% (n=42) indicated that although beneficial.

Table 1: Practice time in the clinical area, adequate (n=300)

Length of clinical practice		**Frequency**	**Percentage**
Valid	Strongly disagree	66	22.0
	Disagree	118	39.3
	Neither agree nor disagree	26	8.7
	Agree	73	24.3
	Strongly agree	17	5.7
	Total	300	100.0

Some of the respondents 14.0% (n=42) indicated that there was too much repetition, while 15.0% (n=45) indicated too much classroom reading. The most common variations to training approaches comprised reducing the number of exercises, increasing at-home reading or homework, increasing group work and reducing individual feedback.

Respondents self-rated their skills after completion of their IMCI training out of 10, according to how competent they felt. Few students (0.7%; n=2) felt that their competence levels were below average, mainly due to the few hours spent in the practical setting and gave themselves 2/10 while 0.7% (n=2) rated themselves 3/10 and 2.3% (n=7) rated the 4/10 (Table 2).

Table 2: Percentage of training time on each module (n=300)

Module	Less than adequate	Adequate	More than adequate
1.Introduction	7.3% (n=22)	82.3% (n=247)	10.3% (n=31)
2. Assess and classify	7.3% (n=22)	72.0% (n=216)	20.7% (n=62)
3.Identify treatment	16.7% (n=50)	68.3% (n=205)	15.0% (n=45)
4.Treat	17.0% (n=51)	68.3% (n=205)	14.7% (n=44)
5.Follow – up	18.0% (n=54)	66.3% (n=199)	15.7% (n=47)
6.Counsel the mother	10.7% (n=32)	67.0% (n=201)	22.3% (n=67)
7.Sick Young Infant	16.0% (n=48)	69.7% (n=209)	14.3% (n=43)
8.Clinical practice	33.3% (n=100)	49.0% (n=147)	17.7% (n=53)

Students felt that adequate time had been spent on each module as follows; introduction 82.3% (n=247), assessment and classification72.0% (n=216), identification of treatment 68.3% (n=205), treatment follow–up 66.3% (n=199), counselling of mothers 67.0% (n=201), managing sick young infant 69.7% (n=209) and clinical practice 49.0% (n = 147)

Students responded as follows about the relevance of the IMCI exercises: 87.7% (n=263) disagreed, 5.0% (n=15) neither agreed nor disagreed and 7.3% (n=22) agreed that the exercises were relevant. Consequently, most students (87.7%; n=263) considered the IMCI exercises to be irrelevant as they did not help improve their skills and they were time consuming.

Discussion

The KZNCN campuses used the WHO 11-days training course but the findings revealed that only 10 days were used, according to 98.3% (n=295) of the students who participated in the current study. Other countries have attempted to reduce the number of IMCI training days due to financial and manpower constraints (Horwood, Voce, Vermaak, Rollins & Qazi, 2009). According to the results of the study conducted in 24 countries, the IMCI course was offered in as short as five to eight days (Goga et al., 2009). In order to expand IMCI, shortened courses had to be instituted but could only be effective if proper

clinical training was provided and supervision maintained after the completion of the IMCI training.

Most students (87.0%) (n= 267) indicated that too much information had to be grasped within 10 days (see Table 3). Rowe et al. (2011) conducted a systematic review on the duration of IMCI training. The findings revealed that the majority of the respondents indicated that due to the length of the modules, IMCI should be increased to more than 11 days. These findings are supported by Horwood et al. (2009), whose study revealed that the respondents were of the opinion that the IMCI course was too detailed; therefore more than 11 days were needed to complete the content and acquire the necessary skills. However, this poses a problem as most countries have shortened their training days to last fewer than 11 days, due to the high cost of the course and HCWs' absence from work for extended periods at a time. They recommended standard IMCI training to be more effective than the shortened training. If longer training is impossible, alternative approaches should be considered. For example, the course could be divided into two week-long programmes, giving HCWs time to practise their IMCI skills before moving on to the second week. Interactive computer based learning approaches could also be a useful aid to learning.

Table 3: Adequacy of training period (n=300)

Adequacy of training period		**Frequency**	**Percentage**
Valid	increased	261	87.0
	remain the same	35	11.7
	decreased	4	1.3
	Total	**300**	**100.0**

Follow up is an integral part of IMCI as it assists nurses to make a transition to using IMCI in their working environment, reinforces skills and support, and identifies and solves problems (WHO, 1995). The WHO recommends that students are followed up at the clinics six weeks post IMCI training to ensure that they are practicing what they had been taught, they are using the chart booklet and assist them where necessary by demonstration in those areas where they are lacking. Students, 82.7% (n=248) indicated that they received follow-up in the clinic within six weeks of training to assess implementation of IMCI and to assist with solving problems, while others 9.3% (n=28) received it within a year and after a year of training. A small group 8.0% (n=24.) did not receive any follow up at all after IMCI training. Some of the students were supervised by lecturers, not trained as IMCI facilitators; therefore they were followed up at a much later date by the IMCI facilitators. According to the WHO, supervision should be done at least once every six months and should include observations of case management (WHO, 2007a). Students who participated in the current study reported that follow-up visits were helpful; but usually delayed, leading to a lack of skills.

Table 4: Number of hours spent on clinical practice (n=300)

Hours spent		**Frequency**	**Percentage**
Valid	8	9	3.0
	10	2	.7
	16	56	18.7
	17	1	.3
	24	1	.3
	32	12	4.0
	40	63	21.0
	48	3	1.0
	76	1	.3
	80	63	21.0
	120	7	2.3
	126	1	.3
	136	5	1.7
	152	1	.3
	160	55	18.3
	172	1	.3
	210	1	.3
	240	18	6.0
	Total	**300**	**100.0**

The WHO requires that 80 hours of clinical time be spent during training, with 30% allocated for clinical practice with a minimum of 20 sick children managed by each trainee (WHO, 2007a). Findings of this study revealed that a few respondents 48% (n=144) spent less than the prescribed minimum of 44 hours in the clinical area (Table 4). A study conducted in Sudan indicated that the challenges posed to clinical practice included the logistics in terms of space, large number of students per group and limited numbers of clinical facilitators (WHO, 2007b). They recommend the enhancement of human resources for teaching. Skilled junior medical doctors and skilled nurses could assist with the IMCI training programmes. Sustained programmes should be offered for IMCI trainers to keep up with attrition rate of IMCI trainers.

For continuity, clinical activities should follow immediately after the relevant session in order to correlate theory and practice, thereby allowing for immediate application of the classroom work and to reinforce the students' understanding, skills and competence (Riptoningrum, 2003). A Zambian study to assess knowledge of nurses in IMCI revealed that 66% of the respondents had average skills, 22% had above average and 12% had below average knowledge on IMCI. The findings also revealed that although the respondents had an above average

knowledge about IMCI, the implementation of the IMCI approach was poor (Banda, Alice & Njovu, 2012).

Limitations of the study

The major limitation of the study is that data collection took place only through self-completion questionnaires. Only student nurses (300 and 20 lecturers) completed questionnaires. Consequently, students' perceptions are reflected in the results, but not those of registered nurses working in clinics where the IMCI strategy should be implemented. The students' perceptions were not analysed according to their specific year of study. Such information might have indicated the opportune time to offer the IMCI programme to R425 students during their four year programme. The information from the 20 lecturers was not separated from those of the students during the data analysis. Knowing how lecturers' and students' perceptions about the IMCI course might have differed, could add a new dimension to the knowledge obtained during this study. The views of managers and policy makers were not obtained. Such views might have explained some of the challenges encountered in extending the IMCI programme. Individual in-depth interviews conducted with students, registered nurses working in the IMCI fields, lecturers and nurse managers might have yielded insight into the lived experiences of student nurses and of various categories of registered nurses.

Recommendations

There is a need to increase the training days because in South Africa, the HIV component was included in the IMCI training programme which was appropriate for the local epidemiology but the number of training days remained 11. Training material also needs to be revised to ensure that crucial information is retained. Areas that are repeated should be deleted and the number of compulsory exercises should also be decreased within the classroom time and only added for students to complete voluntarily while they work in the relevant clinical areas. Attention should be given to improving students' skills rather than focussing mainly on theory. This could be accomplished by spending more time in the clinical areas and by expecting students to complete additional exercises after completion of the IMCI courses when they are assigned to relevant clinical areas. Regular monitoring and evaluation are essential for regular tracking of the expansion of IMCI services. Follow-up evaluations should be done regularly on a monthly basis to assess how the IMCI approach is being implemented in specific clinics and to evaluate the student's competency after they have completed the IMCI training. Every group of students who completed the IMCI training course should complete evaluation forms about their learning experiences so that required improvements could be identified and implemented. Persons who are regarded as excellent implementers of the IMCI strategy should

be identified in the services and encouraged to attend the IMCI trainers' programme so that competent clinical IMCI practitioners can become competent IMCI trainers.

Conclusion

It has been generally agreed that IMCI is essential to the reduction of morbidity and mortality rates of children younger than five years of age and quality training is essential for achieving this goal. Although the students reported a number of factors that impacted negatively on this process, they were of the opinion that there was a lot of information to cover during the 11-day programme. It should be considered that these respondents were not registered nurses who have had experience in treating these conditions, so it would take student nurses longer to grasp the information than registered nurses. An HIV module was added and the infant module which began at 2 weeks of age was extended to include the first week of life of the infant. Both modules are done over 8 hours, but the number of learning days for the IMCI course remained unchanged. The number of student nurses registered per year in the KZNCN campuses was adequate, but factors like shortages of human and material resources hampered the IMCI training process. Lack of training modules, lack of facilitators, and lack of training in the clinical areas and the shortage of chart booklets impacted negatively on the IMCI training courses and could have adversely affected the care rendered to children under five in the clinics. Unless the identified shortcomings are addressed, the mortality and morbidity rates of children under five might not decrease in the KwaZulu-Natal Province of South Africa.

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