Assessment of learning needs and the development of an educational programme for registered nurses in advanced midwifery and neonatology

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Abstract

A key step in the development of any educational programme is learning needs assessment. This is however often neglected. The purpose of this research was to identify learning needs of potential students in order to develop a relevant educational programme for registered nurses in advanced midwifery and neonatology. A survey design was used, and the population of the study was the registered nurses in the Free State. Two thousand questionnaires were mailed to respondents, selected by means of simple random sampling. Advanced educational programmes emphasize the teaching of advanced knowledge and skills and accept that the students entering these programmes already have specific knowledge and skills included in the curricula for basic programmes. This is contrary to the findings of this study. The results underline the importance of learning needs assessment in the development of relevant educational programmes.

Opsomming

'n Belangrike stap in die ontwikkeling van enige opvoedkundige program is die bepaling van leerbehoeftes. Dit word egter dikwels afgeskeep. Die doel van die studie was om die leerbehoeftes van potensiële studente te bepaal om sodoende 'n toepaslike opvoedkundige program vir geregistreerde verpleegkundiges in gevorderde verloskunde en neonatologie te ontwikkel. 'n Opname ontwerp is gebruik, en die populasie van die studie was die geregistreerde verpleegkundiges in die Vrystaat. Twee duisend vraelyste is aan geregistreerde verpleegkundiges in die Vrystaat, wat op 'n eenvoudige ewekansige wyse geselekteer is, gestuur. Gevorderde opvoedkundige programme beklemtoon die onderrig van gevorderde kennis en vaardighede en aanvaar dat die studente wat vir hierdie programme inskryf, reeds oor spesifieke, basiese kennis en vaardighede beskik. Dit is in teenstelling met die bevindinge van die studie. Die resultate beklemtoon die belangrikheid van 'n leerbehoefte bepaling in die ontwikkeling van relevante opvoedkundige programme.

Introduction and problem statement

In the development of educational programmes, much attention is paid to the method of delivery. Just as important, but relatively neglected is the question of learning needs assessment. Without any form of learning needs assessment, education becomes teacher-oriented and directed. Learning needs assessment is important to obtain information to determine the nature, extent and priority of educational needs to develop courses (Matiru, Mwangi & Schlette, 1995:43). It involves identifying the gaps between current knowledge and skills and desired practice. Remedying these deficiencies is the aim of an educational programme. Only if these gaps are recognized is it possible to be confident that the aims and design of the educational programme are appropriate (Laidlaw, Harden and Morris 1995:80).

Murray (1982:18) supports these statements and adds that the teacher's primary function is to diagnose learning needs and problems and together with the student plan strategies that will result in success for the learner. When one is learning what one wants to learn, and can use any resources available and any method that one chooses, learning and growing are life.

Academic staff commonly overestimate skills, prior knowledge and competencies of students. They assume that students have the prerequisites that courses require. This gap between what is expected and what actually exists is significant and is sometimes the cause of failure of students. In this regard Diamond (1989:47) refers to other studies and states that insensitivity to students' backgrounds, interests and needs is a primary reason that many students feel dissatisfied with or leave their institutions.

However, needs assessment is not the responsibility only of the teachers. As many universities move towards open and self-learning programmes it becomes increasingly important for students to undertake needs assessments themselves.

Matiru *et al.* (1995:43) refer to an educational need as a discrepancy between an existing set of circumstances and some

TABLE 1: Categories of data covered in the questionnaire

QUESTIONNAIRE			
Checklist A	**Question**	**Checklist B**	**Question**
Profile data		**Self-perceived competency data**	
• Sociographic	1-2	• General Nursing Care	1,2
• Educational	3-7	• Antenatal Nursing Care	3
• Vocational	8-15	• Intrapartum Nursing Care	4,5
• Opinion on services rendered	16,17	• Postnatal Nursing Care	6,7
• Professional development	18-23, 28	• Neonatal Nursing Care	8,9
• Need for an advanced diploma in midwifery and neonatology	24-27		

desired set of circumstances. These discrepancies can be described in terms of knowledge, attitude, performance or setting.

Aim of the study

The aim of the research was to determine the learning needs of potential students in order to develop a relevant educational programme for registered nurses in advanced midwifery and neonatology.

Research methodology and sampling

The aim of the research was descriptive and developmental.

The target population was identified as all the registered nurses in the geographical area of the Free State. With the help of a professional organisation the total population of registered nurses and midwives in the Free State was established at 5 996.

Simple random sampling was done by means of a computer programme. A sample size of 2000 (40%) was used. This large sample was considered as a relevant approximation of the target population and the possibility of achieving statistical significance was greater. (Burns & Grove, 1997:308).

Although strategies to increase the response rate, such as enclosing a stamped, addressed envelope and mailing a reminder were implemented, the response rate was 26,2%

Research technique

A questionnaire similar to the one mentioned by Diamond (1989:59) was developed to obtain the data on the learning needs of registered nurses regarding midwifery and perinatology. Questionnaires are extremely effective tools for collecting discipline - specific information (Diamond, 1989:59). The questionnaire was thus considered appropriate as a data collection technique. It was cost-effective in the sense of money and time and the data which were collected, did not require in-depth interviewing. Questions were presented in a consistent manner, and there was less opportunity for bias than by interviews (Burns & Grove, 1997:358).

The questionnaire was divided in to two parts (Checklist A and Checklist B). Table 1 indicates the topics covered in the questionnaire. In checklist A the possible responses were provided, but an open category was left, where appropriate, for answers other than those provided. Three open questions were included in this part of the questionnaire.

In Checklist B respondents were requested to rate their clinical competency as perceived on a five point Likert-type scale (Table 1).

The data was collected over a four month period, and a total of 523 questionnaires were returned; a response rate of 26,2%. Nine questionnaires (0,45%) were returned as undelivered, thus 514 (25,7%) questionnaires were analyzed.

Validity and reliability

The following steps were implemented to measure up to the demands of validity:

- The scope of practice of the midwife was studied, and the essential content dimensions (student profile and competency) to be covered by the questionnaire were identified. Items were formulated according to the dimensions, and a decision was made on how many items were to be included under each dimension in order to collect the information required. (Skills, for example assisted deliveries, not included in undergraduate courses but expected from nurses working in specific health care centres were included.)
- For the sake of clarity the questionnaire was translated into English and Afrikaans. A linguist evaluated the questionnaires in both languages.
- Open and closed ended questions were used to obtain a variety of data.
- The questionnaires were submitted to six domain experts to be judged. They evaluated whether the items were representative of the dimensions identified, the sequence of the items and the face validity of the instrument. Several items were modified in accordance with suggestions from the experts.
- A pilot test of the questionnaires was performed. Ten registered nurses with midwifery registrations and expertise were used for the test. Respondents of the pilot study were asked to judge the questionnaire for ambiguity, clarity and the time required to complete the questionnaire. The phraseology and/

TABLE 2: Self-perceived competency: General

NURSING KNOWLEDGE AND SKILLS	Poor		Reasonable		Good		Very Good		Excellent	
	f	%	f	%	f	%	f	%	f	%
Urinary catheterisation	20	3.9	56	10.9	159	30.9	148	28.8	131	25.5
Vulva swabbing	21	4.1	55	10.7	177	34.4	137	26.7	124	24.1
Commencing an intravenous line	57	11.1	67	13.0	149	29	128	24.9	113	22.0
Setting up an infusion pump (IVAC)	123	23.9	87	16.9	107	20.8	96	18.7	101	19.6
Adult resuscitation	73	14.2	131	25.5	169	32.9	90	17.5	51	9.9
Administering blood transfusions	51	9.9	62	12.1	167	32.5	122	23.7	112	21.8
Preparing a patient for obstetric diagnostic procedures	93	18.1	92	17.9	149	29.0	106	20.6	74	14.4
Performing endotracheal intubation	290	56.4	104	20.2	68	13.2	36	7	16	3.1
Administering intravenous infusions	37	7.2	32	6.2	145	28.2	158	30.7	142	27.6
Administering oxygen (in different percentage e.g. 40%)	22	4.3	58	11.3	141	27.4	139	27.0	154	30.0
Wound care	12	2.3	37	7.2	186	36.2	174	33.9	105	20.4
Obtaining blood samples	14	2.7	29	5.6	122	23.7	172	33.5	177	34.4
Taking a history										
Physical assessment:	12	2.3	25	4.9	147	28.6	184	35.8	146	28.4
• assessing hydration status	36	7.0	71	13.8	177	34.4	145	28.2	85	16.5
• general	24	4.7	54	10.5	207	40.3	137	26.7	92	17.9
• speculum examination	140	27.2	127	24.7	141	27.4	71	13.8	35	6.8
• vaginal examination	95	18.5	116	22.6	157	30.5	87	16.9	59	11.5
Identifying physical needs	20	3.9	79	15.4	226	44.0	135	26.3	54	10.5
Identifying psychological needs	31	6.0	91	17.7	231	44.9	119	23.2	42	8.2
Identifying educational needs	33	6.4	90	17.5	210	40.9	134	26.1	47	9.1
Formulating a nursing diagnosis	37	7.2	100	19.5	209	40.7	126	24.6	41	8.0
Establishing a therapeutic relationship with:										
• patients	19	3.7	55	10.7	189	36.8	167	35	84	16.3
• family	19	3.7	70	13.6	193	37.5	160	31.1	72	14.0
• nursing staff	18	3.5	55	10.7	197	38.3	170	33.1	74	14.4
Co-ordinating health care regimes provided for the patient by other categories of health personnel	112	21.8	101	19.6	180	35.0	97	18.9	24	4.7
Formulating a community diagnosis	75	14.6	146	28.4	175	34.0	99	19.3	19	3.7
Prioritizing health risks	61	11.9	114	22.2	201	39.1	107	20.8	31	6.0
Interpreting vital statistics of populations:										
• growth rate	138	26.8	166	32.3	136	26.5	55	10.7	19	3.7
• birth rate	128	24.9	158	30.7	145	28.2	61	11.9	22	4.3
• maternal and child mortality (death rates)	129	25.1	153	29.8	141	27.4	68	13.2	23	4.5
• fertility rate	151	29.4	167	32.5	134	26.1	48	9.3	14	2.7
Planning preventive health programmes	78	15.2	150	29.2	162	31.5	81	15.8	43	8.4
Training community health workers	118	20.3	124	24.1	147	28.6	91	17.7	34	6.6
Conducting research	189	36.8	150	29.2	122	23.7	43	8.4	10	1.9
Writing a research report	208	40.5	166	32.3	99	19.3	31	6.0	10	1.9
Interpreting research findings	182	35.4	169	32.9	120	23.3	33	6.4	10	1.9
Educating the community	58	11.3	110	21.4	185	36.0	101	19.6	60	11.7

or construction of a few questions were modified after the pilot study.

- Because of the sensitive nature of the questionnaire - respondents were asked to evaluate their own knowledge and skills - anonymity was ensured.

The reliability of the questionnaire was ensured by asking five respondents of the pilot study to complete a questionnaire two weeks after completion of the first one. The researcher checked both questionnaires of the five respondents for variation on specific questions and items which were unanswered. In this way ambiguous and unclear questions could be identified and modified. The responses to both questionnaires were nearly identical and the minimum number of questions were left unanswered. It was accepted that reliability was proven.

Data-analysis

Descriptive and inferential statistics were used in the data-analysis. The Statistical Analysis System was used for the analysis. The chi-square non-parametric statistical and Fisher's exact tests were used to determine correlation.

Results

Profile data

• Sociographic background

The age distribution demonstrates that the age group 40-49 was the largest group of respondents. The second largest group was 30-39. This implies a potentially older student population. There were significantly more female (96%) than male (4%) respondents.

• Educational background

Eighty-nine percent of the respondents were in possession of a Standard 10 certificate. A diploma in nursing was the highest level of education for 77,3% of the respondents. Only 3,9% of the respondents had a higher qualification than a baccalaureate degree. This implies the existence of a large potential post-basic nursing student population in the Free State.

An analysis of the professional registrations in nursing indicates that 99,2% of the respondents had a professional qualification in general nursing, 94,2% had a midwifery qualification, 38,7% had a professional qualification in psychiatric nursing and 53,1% had a professional qualification in community nursing. Only 1,2% of the respondents had a professional qualification in advanced midwifery and neonatology. A high percentage of the respondents (93,6%) had the two qualifications, general nursing and midwifery. Most of the respondents (80,6%) completed their basic training more than 10 years ago.

• Vocational background

The majority of the respondents (51,5%) were working in hospitals and 27,9% worked in community settings. The analysis indicated that 42,9% of the respondents had worked in their current position for 0-5 years, while 30,1% had been employed in the specific capacity between 11 and 35 years. Cumulatively 73,6% of the respondents have a productive live of 11 years or more before retirement.
It was indicated that 71,2% of the respondents had practised midwifery during their professional career, while 28,8% respondents never had. The majority of the respondents had not practised midwifery for the past five years, 31,9% were practising midwifery at the time of the study, while 19,1% had done 50 for the past 1-4 years.

• Opinion on services rendered

The majority of the respondents were of the opinion that the newborn and mother in all stages of labour receive optimum care. Cumulatively 21,1% of the respondents did not think or were unsure if optimum patient care was delivered to the newborn. Twenty-three percent of the respondents had the same opinion about antenatal care, while 20,9% and 22,7% indicated these opinions on intrapartum and postpartum care respectively.

• Professional development

The analysis of the educational opportunities the respondents would be interested in attending indicated that 60,1% of the respondents identified courses as the most likely followed by seminars (58,8%), in service training (57%) and workshops (47,3%). An interest in an advanced diploma in midwifery and neonatology exists as 36,3% of the respondents stated their interest. It is important to develop an educational programme appropriate for its users. Most of the respondents (43,3%) perceived the need for a distance learning programme, with self-directed learning packages and contact sessions. A full time residential course was preferred by 32,5% of the respondents.

Self perceived knowledge data

• South African Nursing Council regulations

It is alarming that although 94,3% of the respondents indicated that they were currently practising as nurses, less than a quarter of the respondents scored their knowledge of the regulations of the South African Nursing Council as very good or excellent. Only 20,8% of the respondents evaluated their knowledge on the scope of practice (R.260 of 1991) as very good or excellent, while 21,4% evaluated their knowledge on the regulation regarding acts and omissions (R.2490 of 1990) on the same level. A hundred and fourteen (22,2%) and 22,6% of the respondents respectively indicated that their knowledge of medications which midwives may prescribe (R.2418 of 1984) and conditions under which midwives may carry on their profession (R.2488 of 1990) was very good or excellent.

• Cultural, traditional and customary beliefs and practices of patients

The respondents were also requested to score their knowledge on cultural, traditional and customary beliefs and practices of patients. Until recently these aspects were not emphasized in the curricula. It is therefore not surprising that only a small percentage (13,6%, 14,2% and 14,6%) of the respondents' knowledge in these categories was very good or excellent.

TABLE 3: Self-perceived competency: antenatal related nursing care

ANTENATAL NURSING CARE	Poor		Reasonable		Good		Very Good		Excellent	
	f	%	f	%	f	%	f	%	f	%
Planning a diet to meet specific health care needs in pregnancy	85	16.5	158	30.7	164	31.9	70	13.6	37	7.2
Assessing foetal well-being and uterine activity: • interpret and analyse cardiotocograph results/findings	282	54.9	120	23.3	60	11.7	36	7.0	16	3.1
• do a non-stress test	329	64.0	98	19.1	52	10.1	22	4.3	13	2.5
• do an oxytocin stress test	335	65.2	97	18.9	49	9.5	20	3.9	13	2.5
Assisting with an amniocentesis	266	51.8	109	21.2	90	17.5	30	5.8	19	3.7
Interpreting the results of examinations/ investigations	191	37.2	140	27.2	110	21.4	52	10.1	21	4.1
Recognising dysrhythmias (ECG)	174	33.9	158	30.7	105	20.4	57	11.1	20	3.9
Making neurological observations	95	18.5	131	25.5	158	30.7	95	18.5	35	6.8
Identifying anaphylaxis	71	13.8	169	32.9	177	34.4	69	13.4	28	5.4
Abdominal palpation	57	11.1	101	19.6	182	35.4	112	21.8	62	12.1
Pelvic assessment	187	36.4	134	26.1	113	22.0	51	9.9	29	5.6
The pregnant woman with:										
• a heart disease	71	13.8	169	32.9	177	34.4	69	13.4	28	5.4
• diabetes mellitus	58	11.3	162	31.5	176	34.2	87	16.9	31	6.0
• anaemia	57	11.1	144	28.0	193	37.5	91	17.7	29	5.6
• hypertension	46	8.9	130	25.3	196	38.1	105	20.4	37	7.2
• placenta praevia	84	16.3	150	29.2	181	35.2	71	13.8	28	5.4
• trauma due to an accident	105	20.4	150	29.2	176	34.2	63	12.3	20	3.9
• a sexually transmitted infection	68	13.2	121	23.5	192	37.4	94	18.3	39	7.6
The battered pregnant woman	110	21.4	159	30.9	159	30.9	66	12.8	20	3.9
The pregnant woman practising substance abuse	123	23.9	174	33.9	135	26.3	64	12.5	18	3.5

Self-perceived competency data

• Self-perceived competency: General nursing

The self-perceived competency of the respondents related to general nursing is set out in Table 2.

It is a course for concern that only 27,4% of the respondents rated themselves very good or excellent at adult resuscitation - a life saving skill and 10,1% rated themselves very good or excellent at endotracheal intubation.

Only 20,6% and 28,4% of the respondents respectively rated their knowledge and skills at speculum and vaginal examination as very good or excellent. It is interesting to note that while 44,6% of the respondents indicated that they were very good or excellent at doing a general physical assessment, only 36,8% evaluated their skill at identifying physical needs on the same level. A very good or excellent competency in identifying psychological and educational needs was indicated by 31,3% and 35,2% respectively of the respondents.

A hundred and sixty-seven of the respondents (32,6%) indicated that they were very good or excellent at formulating a nursing diagnosis. Only 23,5% rated their competency as being very good or excellent at co-ordinating health care regimes provided for the patient by other categories of health personnel. It is alarming that only 23% and 26,8% of the respondents respectively indicated that they were very good or excellent at formulating a community diagnosis or prioritizing health risks.

The interpretation of vital statistics of the population seems to be a problem. One hundred and thirty-eight of the respondents (26,8%) indicated their competency at interpreting growth rates as being poor with 24,9% and 25,1% of the respondents respectively evaluating their skills at interpreting birth and maternal and child mortality rates on the same level. A hundred and fifty-one of the respondents 29,4% indicated that their skills in interpreting fertility rates were poor.

• Self-perceived competency: Antenatal related nursing care

Respondents were asked to evaluate their competency in nurs-

TABLE 4: Self-perceived competency: Intrapartum related nursing care

INTRAPARTUM NURSING CARE	Poor		Reasonable		Good		Very Good		Excellent	
	f	%	f	%	f	%	f	%	f	%
Monitoring a patient on:										
• Ipradol®	177	34.4	115	22.4	126	24.5	55	10.7	41	80.0
• Magnesium sulphate®	213	41.4	117	22.8	104	20.2	51	9.9	29	5.6
• Syntocinon®	153	29.8	128	24.9	125	24.3	61	11.9	47	9.1
Setting up a cardiotocograph monitor	287	55.8	93	18.1	68	13.2	41	8.0	25	4.9
Analysing and interpreting cardiotocograph findings	306	59.5	90	17.5	67	13.0	28	5.4	23	4.5
Artificial rupturing of membranes	166	32.3	114	22.2	126	24.5	62	12.1	46	8.9
Performing an episiotomy	134	26.1	125	24.3	179	34.8	47	9.1	29	5.6
Doing a vaginal delivery	93	18.1	116	22.6	199	38.7	70	13.6	36	7.0
Detecting threatened uterine rupture	209	40.7	139	27.0	117	22.8	38	7.4	11	2.1
Assisting anaesthetist:										
• during administration of an epidural anaesthetic	235	45.7	106	20.6	93	18.1	57	11.1	23	4.5
Giving epidural topping up	296	57.6	105	20.4	68	13.2	35	6.8	10	1.9
Recognising spinal shock	287	55.8	107	20.8	78	15.2	32	6.2	10	1.9
Treating hypoglycemia	146	28.4	130	25.3	142	27.6	73	14.2	23	4.5
Treating hypotension	122	23.7	137	26.7	143	27.8	84	16.3	28	5.4
Treating uterine hyperactivity	249	48.4	120	23.3	86	16.7	47	9.1	12	2.3
Treating foetal distress	165	32.1	129	25.1	121	23.5	68	13.2	31	6.0
Diagnosing abruptio placentae	191	37.2	125	24.3	110	21.4	64	12.5	24	4.7
Administering entonox	337	65.6	99	19.3	51	9.9	21	4.1	6	1.2
Applying a foetal scalp electrode	382	74.3	69	13.4	38	7.4	13	2.5	12	2.5
Assisted delivery:										
• forceps delivery	342	66.5	80	15.6	61	11.9	18	3.5	13	2.5
• vacuum extraction delivery	338	65.8	76	14.8	65	12.6	22	4.3	13	2.5
• breech delivery	277	53.9	106	20.6	80	15.6	31	6.0	20	3.9
• symphysiotomy	397	77.2	70	14.0	36	7.0	4	0.8	5	1.0
Manual removal of placenta	297	57.8	109	21.2	66	12.8	29	5.6	13	2.5
Examining the placenta	103	20.0	100	19.5	153	29.8	114	22.2	44	8.6
Repairing perineal tears	188	36.6	103	20.0	122	23.7	63	12.3	38	7.4
Scrubbing for caesarean sections	246	47.9	84	16.3	91	17.7	52	10.1	41	8.0
Patient education	128	24.9	148	28.8	152	29.6	56	10.9	30	5.8
• Alternative methods of pain control										
• Alternative positioning during labour	147	28.6	149	2.9	148	28.8	40	7.8	30	5.8
• Bonding	93	18.1	91	17.7	174	33.9	96	18.7	60	11.7
• Breastfeeding	48	9.3	56	10.9	172	33.5	138	26.8	100	19.5

ing actions related to the health care of pregnant women in the antenatal period. These responses are set out in Table 3.

The competency of the respondents on the assessment of foetal well-being is distressing. Two hundred and eighty-two of the respondents (54,9%) indicated that they were poor at interpreting and analyzing the foetal heart pattern. Even more, 64% of the respondents evaluated their competency at doing a non-stress test as poor, while 65,2% indicated that their knowledge and skills of an oxytocin stress test was poor.

Two hundred and sixty-six of the respondents (51,8%) indicated that their knowledge and skills at assisting with an amniocentesis was poor. Competency at interpreting the results of examinations/investigations performed in the antenatal period was perceived by 37,2% of the respondents as

TABLE 5: Self-perceived competency: Postnatal nursing care

POSTNATAL NURSING CARE	Poor		Reasonable		Good		Very Good		Excellent	
	f	%	f	%	f	%	f	%	f	%
Identifying involution of uterus and perineum	149	29.0	99	19.3	147	28.6	79	15.4	40	7.8
Assessing hydration status	55	10.7	71	13.8	183	35.6	124	24.1	81	15.8
Facilitating breastfeeding practices	83	16.1	101	19.6	159	30.9	114	22.2	57	11.1
Operating the breast pump	25	4.9	40	7.8	158	30.7	177	34.4	114	22.2
Teaching general hygiene	33	6.4	52	10.1	170	33.1	170	33.1	89	17.3
Providing comfort measures (emotional and physical)	125	243	95	18.5	113	26.7	113	22.0	44	8.6
Nursing a patient who has had an epidural anaesthetic	27	5.3	77	15.0	174	33.3	174	33.9	65	12.6
Identifying patients at risk of postpartum depression	52	10.1	104	20.2	130	35.8	130	25.3	44	8.6
Identifying and treating postpartum haemorrhage	79	15.4	100	19.5	120	33.7	120	23.3	42	8.2
Identifying and treating infection of the genital tract	82	16.0	99	19.3	113	35.2	113	22.0	39	7.6
Identifying and treating thrombosis	79	15.4	145	28.2	97	33.3	97	18.9	22	4.3

poor.
It is significant that respondents rated their competency (very good and excellent) much higher in nursing actions, such as recognising dysrhythmias (ECG) (15%); making neurological observations (25,3%) and identifying anaphylaxis (18,8%) that are not exclusively related to perinatal health care.

It is encouraging to note that 33,9% respondents rated their competency at abdominal palpation at the very good or excellent level, although only 15,6% of the respondents rated their competency in doing a pelvic assessment as very good or excellent.

One hundred-and-five respondents (20,4%) indicated that their knowledge and skills regarding the antenatal care of a woman with trauma due to an accident were poor. Competency in the antenatal care of battered pregnant women and pregnant women practising substance abuse was rated poor by 21,4% and 23,9% of the respondents respectively. Most of the respondents evaluated their competency as reasonable or good in the antenatal care of women with pathology. Only a few respondents indicated their competency on the antenatal care of women in this category as very good or excellent.

• Self-perceived competency: Intrapartum related nursing care

This item consists of two parts. Respondents were questioned firstly about their knowledge and skills regarding nursing actions related to intrapartum care and secondly on their competency in giving patients information and advice on specific topics. These responses are set out in Table 4.

A small percentage (18,7%, 15,5% and 21%) of the respondents rated their competency on monitoring a patient on specific medication (Ipradol R, Magnesium sulphate R and Syntocinon R) as very good or excellent.

Two hundred and eight-seven of the respondents (55,8%) indicated that their competency in setting up a cardiotocograph monitor was poor, while an even larger percentage 59,5% evaluated their competency in analysing and interpreting cardiotocograph findings as poor. The majority of the respondents indicated that they were not competent at applying foetal scalp electrodes. Three hundred and eighty-two of the respondents (74,3%) evaluated their competency in this skill as poor. A further 40,7% perceived themselves to be poorly competent in detecting threatening uterine rupture. These findings underline the poor competency respondents indicated in assessing foetal well-being and uterine activity in the antepartum period.

It is interesting to note that 19,2% of the respondents rated their competency (very good or excellent) higher in the treatment of foetal distress than in its diagnosis (analysing and interpreting cardiotocograph findings 12,9%). However, competency in the treatment of uterine hyperactivity was perceived by 48,4% of the respondents as poor.

A large number of respondents 45,7% rated their competency in assisting the anaesthetist during the administration of an epidural anaesthetic as poor. What is even more alarming is that 55,8% of the respondents were poorly competent in recognising spinal shock - a life-threating complication of epidural anaesthesia. The administration of Entonox seems also to be a problem. Three hundred and thirty-seven of the respondents (65,6%) evaluated their competency in this skill as poor.

It is not surprising that a very small percentage of the respondents rated their competency in assisted deliveries as very good or excellent, as these are viewed as advanced skills. Six percent and 6,8% of the respondents respectively indicated that they were very good or excellent at forceps and vacuum extraction deliveries, while 9,9% evaluated their competency in breech deliveries on the same level. Only 1,8% of the respondents indicated that they were very good or excellent at performing a symphysiotomy. Very good or excellent competency in another advanced skill, manual removal of the placenta, was also indicated by few respondents, 8,1%.

TABLE 6: Self-perceived competency: Newborn nursing care

NEWBORN NURSING CARE	Poor		Reasonable		Good		Very Good		Excellent	
	f	%	f	%	f	%	f	%	f	%
Physical assessment	6	12.3	108	21.0	203	39.5	100	19.5	40	7.8
Neurological assessment	116	22.6	135	26.3	175	34.0	72	14.0	16	3.1
Identifying congenital abnormalities	77	15.0	129	25.1	189	36.8	90	17.5	29	5.6
Diagnosis of asphyxia	84	16.3	144	28.0	187	36.4	80	15.6	19	3.7
Resuscitation of the newborn	143	27.8	144	28.0	147	28.6	63	12.3	17	3.3
Suctioning (nose, mouth and throat)	59	11.5	96	18.7	199	38.7	100	19.5	60	11.7
Nasogastric:										
• intubation	212	41.4	114	22.3	109	21.3	52	10.2	25	4.9
• feeding	78	15.2	91	17.7	172	33.5	109	21.2	64	12.5
Setting up an intravenous scalp line	249	48.4	105	20.4	83	16.1	48	9.3	29	5.6
Taking blood	233	45.3	111	21.6	83	16.1	54	10.5	33	6.4
Nursing the:										
• sick neonate	153	29.8	132	25.7	148	28.8	53	10.3	28	5.4
• premature neonate	142	27.6	138	26.8	146	28.4	56	10.9	32	6.2
• small for gestational age neonate	156	30.4	129	25.1	151	29.4	51	9.9	27	5.3
• respiratory distressed neonate	180	35.0	129	25.1	131	25.5	48	9.3	26	5.1
• neonate with jaundice	133	25.9	114	22.2	164	31.9	60	11.7	43	8.4
• neonate with hyper/hypoglycaemia	192	37.4	131	25.5	123	23.9	43	8.4	25	4.9
• neonate with hypothermia	161	31.3	125	24.3	143	27.8	50	9.7	35	6.8

A hundred and eighty-eight of the respondents (36,6%) indicated that they were poorly competent at repairing perineal tears. Competency in scrubbing for a caesarean section was perceived by 47,9% of the respondents as poor.

Eighty-six (16,7%) and 13,6% of the respondents respectively rated themselves as being very good or excellent at alternative methods of pain control and positioning during labour. Very good or excellent competency in patient education regarding bonding was indicated by 30,4% of the respondents. It is encouraging that nearly half of the respondents, 46,3%, perceived their competency in patient education on breastfeeding as very good or excellent.

• Self-perceived competency: Postnatal nursing care

This item is divided into two parts. The first question requested respondents to evaluate their competency in nursing skills associated with the postnatal period and the second question requests responses regarding their competency in family planning matters. These responses are set out in Table 5.

The results indicate that generally speaking respondents perceived their competency in nursing skills associated with the postnatal period much higher than nursing skills associated with the intrapartum period. It is interesting that competency in identifying involution of the uterus was the nursing skill that most respondents, 29%, rated poorly. Two hundred-and-five of the respondents (39,9%) indicated their competency in assessing hydration status as very good or excellent. It is interesting that 33,3% of the respondents rated their competency on facilitating breast feeding as very good or excellent, while more that half of them (56,6%) indicated the same level of competency in operating a breast pump. A hundred and twenty-five of the respondents (24,3%) also perceived their competency in providing emotional and physical comfort measures as poor.

Two hundred and thirty-nine of the respondents (46,5%) rated their competency in nursing a patient who had had an epidural anaesthetic on a very good or excellent level, while competency in identifying and treating patients with complications related to childbirth on these levels was much lower. A hundred and seventy-four (33,9%) and 31,5% of the respondents respectively indicated that they were very good or excellent at identifying patients at risk of postpartum depression and identifying and treating postpartum haemorrhage. A hundred and fifty-two (29,6%) and 23,2% of the respondents rated their competency in identifying and treating infection of the genital tract and identifying and treating thrombosis as very good or excellent.

• Self-perceived competency: Family planning care

The respondents were requested to evaluate their competency regarding family planning. They indicated that they were fairly

competent in the items listed under this question except for the insertion or removal of an intra-uterine contraceptive device. Two hundred and ninety-six of the respondents (57%) rated their competency in these skills as poor, while only 11,1% indicated they were very good or excellent at inserting or removing an intrauterine contraceptive device.

• Self-perceived competency: Newborn nursing care

Two questions were asked under this item. Respondents were asked how well they assessed the newborn physically and neurologically, and they were requested to evaluate their competency in nursing actions related to neonatal care. The responses of the respondents are set out in Table 6.

Only 27,2% of the respondents rated their competency in assessing the newborn physically as very good or excellent. Even a smaller percentage 17,1%, indicated that they were very good or excellent at the neurological assessment of the newborn.

It is alarming to note that only 19,3% of the respondents indicated that they were very good or excellent at diagnosing asphyxia, while even fewer, only 15,6% of respondents believed they were very good or excellent at resuscitation of the newborn. Two hundred and forty-nine of the respondents (48,4%) evaluated their competency in setting up an intravenous scalp line as poor. Taking blood from the newborn also seemed to be a problem, as 45,3% of the respondents indicated that their competency in this skill was poor.

Only 15,1% of the respondents indicated that they were very good or excellent at nasogastric intubation of the newborn, while 33,7% rated their competency in nasogastric feeding of the newborn on the same level.

A hundred and three of the respondents (20,1%) indicated that they were very good or excellent at nursing the neonate with jaundice, while fewer than 18% believed they were very good or excellent at nursing the neonate with problems. One hundred and eighty of the respondents (35%) evaluated their competency in nursing the respiratory distressed neonate as poor. Competency in nursing the neonate with hyper- or hypoglycaemia was rated by 37,4% of the respondents as poor.

Discussion

Some of the respondents made comments at the end of the questionnaire. They remarked that they had lost their competency in a number of midwifery related skills, because they had not updated these after completion of their basic midwifery training. They felt that continuing education programmes in midwifery are necessary, as they feel particularly concerned about their competency in this field after completion of the questionnaire. Continuing education programmes in other fields of nursing were also suggested.

It is striking that respondents (57,6%) who indicated that they were currently providing midwifery services or had provided midwifery services as a registered nurse the past one to two years, rated their overall competency much higher than the other respondents. The chi-square and Fisher's exact test used to determine whether a significant difference exists, were equal or lower than 0,05 in most of the questions in Checklist B.

No statistically significant difference in competency was noted between respondents who indicated that they were currently providing midwifery services or had provided midwifery services as a registered nurse the past one to two years and respondents who indicated that they had not provided midwifery services as a registered nurse for the past three of more years, in nursing care such as setting up an infusion pump, adult resuscitation, administering oxygen, wound care, identifying psychological needs, conducting research, writing a research report, interpreting research findings, training community health workers, recognising spinal shock and taking blood from a neonate. All of these skills except for taking blood from a neonate are considered general nursing skills.

The information obtained through the questionnaire underlines the importance of needs assessment in the development of an educational programme. Advanced midwifery educational programmes emphasize the teaching of advanced midwifery knowledge and skills and accept that the students entering these programmes already have specific knowledge and skills included in the curricula for basic courses.

This is contrary to the findings of this study. Competency in knowledge and skills associated with basic courses, for example adult resuscitation, South African Nursing Council regulations, assessing foetal well-being, and identifying involution of the uterus and perineum to name a few, were alarmingly low. On the other hand, competency in knowledge and skills such as operating a breast pump and nursing a patient who has had an epidural anaesthetic were rated much higher than expected.

These findings could be due to the fact that 81,6% of the respondents completed their basic training more that 10 years ago, that 71% of them are not furthering their education and that primary health care has not been strongly emphasized until recently. The competencies which were rated higher than expected, as previously mentioned, may be due to the fact that 55,5% of the respondents are hospital based and these skills are usually associated with nursing care practised in hospitals.

The data indicates that respondents do not have specific knowldge and skills needed for entering an advanced educational programme.

Recommendations and conclusion

If at the outset the educational needs of students or those of the society from which they come are not understood, they might be wrongly addressed (Matiru *et al.,* 1995:40). The summary of training needs should therefore establish the main areas and priorities for training (Bandaranayake & Irvine, 1985:11).

By doing this, the curriculum planner will ensure that the needs and interests of the learners are being met, thus creating an appropriate educational programme. It is just as important when preparing lectures or seminars as when design-

ing an entire programme, and will provide essential guidelindes for determining content, or the educational strategies to be adopted in an educational programme (Laidlaw *et al.,* 1995:87).

It is therefore part of the first step in the development of an education programme and can also be used to identify relevant problems, such as when students lack specific knowledge and skills included in the curricula for basic programmes, and to focus on areas of maximum benefit to individual students, lecturers, the community and in the long run, the university as a whole (Matiru *et al.,* 1995:40).

It is considered a critical part of a systematic approach to developing educational projects and ensures relevancy which is arguably the most important criterion of effective education. This is particularly important when time for educational activities is at a premium and when these activities have to be cost effective.

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