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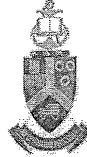
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APPENDIX A [i] – Ethical clearance

100
1908-2008



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Fakulteit Geesteswetenskappe
Navorsingsvoorstel en Etiekkomitee

29 Julie 2008

Beste professor Louw

Projek: Speech-language therapists in provincial hospitals: the compilation of a preliminary clinical tool for the Neonatal Intensive Care Unit
Navorser: E Strasheim
Leier: Prof. B Louw
Departement: Kommunikasiepatologie
Verwysingsnommer: 21013374

Baie dankie vir u respons op die Komitee se skrywe van 27 Augustus 2007.

Die aansoek is op 'n *ad hoc* basis deur die Komitee goedgekeur op 28 Julie 2008. Die goedkeuring word verleen onderhewig aan die voorwaarde dat die kandidaat wel die navorsing volgens die beginsels en binne die parameters soos in die aansoek en navorsingsvoorstel deur haar uiteengesit, sal uitvoer.

Die Komitee wil u graag versoek om bogenoemde goedkeuring aan me Strasheim oor te dra.

Ons wens u sukses met die projek toe.

Vriendelike groete

Prof Elsabé Taljard
Ondervoorsitter: Navorsingsvoorstel- en Etiekkomitee
Fakulteit Geesteswetenskappe
UNIVERSITEIT VAN PRETORIA
Elsabe.taljard@up.ac.za

Universiteit van Pretoria
Pretoria, 0002
Suid Afrika

Telefoon : 012 420 2360
Faksimile : 012 420 4501

gwdekaan@up.ac.za
www.up.ac.za

APPENDIX A [ii] – Permission from provincial departments of health



Damva ciquantileyo!

Eastern Cape Department of Health

Enquiries: Zonwabele P. Merile
Date: 12th February 2008
e-mail address: zonwabele.merile@impilo.ecprov.gov.za

Tel No: 040 609 3408
Fax No: 040 609 3784

Dear Ms Esedra Strasheim

Re: Speech Language Therapists in provincial hospitals: The compilation of a preliminary clinical tool for Neonatal Intensive Care Unit

The Department of Health would like to inform you that your application for conducting a research on the abovementioned topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol and can only deviate from it after having a written approval from the Department of Health in writing.
2. You are advised to ensure observe and respect the rights and culture of your research participants and maintain confidentiality and shall remove or not collect any information which can be used to link the participants. You will not impose or force individuals or possible research participants to participate in your study. Research participants have a right to withdraw anytime they want to.
3. The Department of Health expects you to provide a progress on your study every 3 months (from date you received this letter) in writing.
4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Epidemiological Research & Surveillance Management. You may be invited to the department to come and present your research findings with your implementable recommendations.

Your compliance in this regard will be highly appreciated.


DEPUTY DIRECTOR: EPIDEMIOLOGICAL RESEARCH & SURVEILLANCE MANAGEMENT



HEALTH
KwaZulu-Natal

HEALTH SERVICE LETTER

#3215 P.002

Health Research & Knowledge Management sub-component

10 – 103 Natalia Building, 330 Langalibalele Street

Private Bag x9051

Pietermaritzburg

3200

Tel.: 033 – 395 3070,

Fax.: 033 – 394 3782

Email.: Scelo.dlamini@kznhealth.gov.za

www.kznhealth.gov.za

Reference : HRKM075/07

Enquiries : Mr. S.S. Dlamini

Telephone : 033 – 395 3070

17 September 2007

Dear Esedra Strasheim

Subject: Early Communication Intervention project

1. The research proposal entitled **Speech-language therapists in provincial hospitals: the compilation of a preliminary clinical tool for the Neonatal Intensive Care Unit** was reviewed by the KwaZulu-Natal Department of Health. The proposal is hereby **approved** for the trial to be conducted in the KwaZulu-Natal health facilities that provide Early Communication Interventions.
2. You are requested to undertake the following:
 - a. Make the necessary arrangement with the identified facility before commencing with your research project.
 - b. Provide an interim progress report and final report (electronic and hard copies) when your research is complete.
3. Your final report must be posted to **HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, PRIVATE BAG X9051, PIETERMARITZBURG, 3200** and e-mail an electronic copy to scelo.dlamini@kznhealth.gov.za.

For any additional information please contact Mr. S.S. Dlamini on 033-395 3070.

Yours Sincerely

Dr. S.S.S. Buthelezi

Chairperson: Provincial Health Research Committee



MPUMALANGA PROVINCIAL GOVERNMENT

Building No 3
No. 7 Government Boulevard
Riverside Park Extension 2
Nelspruit
1200
South Africa



Private Bag X 11213
Nelspruit
1200
(013) 766-3082
(013) 766-3467

Department of Health and Social Services *Planning and Information*

Litko Letamphilo
Nemisebenti Yanhlalakahle Yesive

Umnnyango Wezamaphilo no
WezomPhakathi

Departement van Gesondheid
en Maatskaplike Dienste

Enquiries: Molefe Machaba (013) 766 3008/3235

Ms Esedra Strashelm

PO BOX 2252

Montana Park

0169

10 April 2008

APPLICATION FOR RESEARCH ETHICS APPROVAL: SPEECH LANGUAGE PATHOLOGISTS IN PROVINCIAL HOSPITALS: COMPILATION OF A PRELIMINARY CLINICAL TOOL FOR THE NICU.

The Provincial Research and Ethics Committee have approved your research proposal in the current format. No issues of ethical consideration were identified.

Kindly ensure that you provide us with the report once your research has been completed.

Kind regards,

Mr Molefe Machaba: Research and Epidemiology

14/04/2008

Date

Pp: Mpumalanga PHREC

Acting Chairperson: Mr M. Machaba.



OFFICE OF THE
CHIEF EXECUTIVE OFFICER



Enquiries: Natasha April
Tel: (053) 802 2124
Fax: (053) 831 4587
E-mail: napril@kbhsp.ncape.gov.za

FAX COVER SHEET

To: Esedra Strasheim	Fax: (012) 348 4153
From: Natasha April	Date: 13 June 2007
RE: Permission to do Research Project	Pages: 4 including cover page

URGENT	REVIEW	COMMENT	REPLY
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With reference to the attached letter, your request has been approved for Speech-Language Therapists and Audiologists in the Province to act as respondents in a Research Project.

Mr Farouk Shaikhmag is the Clinical Support Services Manager at Kimberley Hospital and the Northern Cape and he should be contacted on the following contact details for further assistance in this regard.

Tel: (053) 802 2253
Fax: (053) 802 2432

Kind regards



HEALTH

Department:
Health
NORTH WEST PROVINCE

2nd Floor Tirelo Building
Dr Albert Luthuli Drive
Mafikeng, 2745
Private Bag X2068
MMABATHO, 2735

Office of the DDG - Health Services

Tel: (018) 387 5855
Fax: (018) 387 5769
Fax –email: 086 635 5190
stsotsots@nwp.gov.za

21 May 2008

Esedra Strasheim
Researcher
University of Pretoria
MAFIKENG
2735

Fax no. 086 613 0625

Dear Esedra

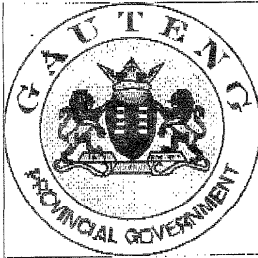
**PERMISSION TO REQUEST SPEECH-LANGUAGE THERAPISTS AND
AUDIOLOGISTS IN THE PROVINCE TO ACT AS RESPONDENTS IN A RESEARCH
PROJECT - PROVINCIAL HOSPITALS: COMPILATION OF A PRELIMINARY TOOL
FOR THE NEONATAL INTENSIVE CARE UNIT**

This letter serves to confirm that the Department grants permission to conduct the above-mentioned study.

This permission is granted with the understanding that the findings of the study are timeously communicated to the Department.

Thank you.

DR AKL ROBINSON
DDG - HEALTH SERVICES



DEPARTMENT OF HEALTH

DIRECTORATE: HEALTH INFORMATION MANAGEMENT

Enquiries: Dr ML Likibi
Tel: (011) 299 2300
0795148431
Fax: (011) 355 3086

04/09/2007

Attention: Esedra Strasheim
Researcher

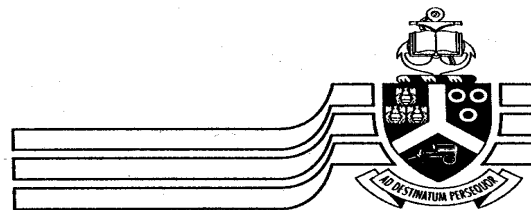
**Approval for the study: Speech language therapists in Provincial Hospitals:
the compilation of a preliminary clinical tool for the neonatal intensive
care unit**

Receipt of the Ethical Clearance Certificate from the University of Pretoria for the above-mentioned study is hereby acknowledged. Therefore, permission is granted for the collection of data for the study in Gauteng Province.

Best wishes,

Dr Likibi,
Medical Specialist Research and Epidemiology

APPENDIX B – Letter to departments of health



University of Pretoria

**Department of Communication Pathology
Speech, Voice and Hearing Clinic**

Tel : +27 12 420 2355
Fax : +27 12 420 3517
Email : brenda.louw@up.ac.za

14 May 2007

Dear Sir/Madam,

**PERMISSION TO REQUEST SPEECH-LANGUAGE THERAPISTS AND
AUDIOLOGISTS IN THE PROVINCE TO ACT AS RESPONDENTS IN A RESEARCH
PROJECT**

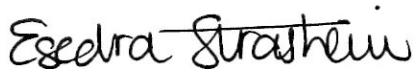
As part of a Masters degree in Communication Pathology at the University of Pretoria, I am conducting a research project involving speech-language therapists and audiologists working in provincial hospitals. The research project aims to compile an Early Communication Intervention instrument/tool for speech-language therapists and audiologists to use in the Neonatal Intensive Care Unit (NICU) and Neonatal High Care Unit (NHCU) of provincial hospitals.

The role of the speech-language therapist in provincial hospitals in South Africa is not widely described and there is believed to be a need for culturally appropriate and user-friendly clinical instruments as well as materials for training of other professions working together with the speech-language therapist in this context. The information in this survey will determine whether such a need exists and if so, an attempt will be made to compile/develop an instrument/tool for clinical use in the NICU and NHCU. The role of the speech-language therapist in this specific context will also be described in order to determine what therapists are currently using and what is working for them. These professionals' opinions are important and will have a direct influence on whether an instrument/tool will be compiled, what the content would be and in what manner it will be presented.

In order to conduct this study I will require the participation of speech-language therapists and audiologists who are currently providing Early Communication Intervention in provincial hospitals. They will be requested to complete a questionnaire. A copy of the questionnaire will be made available to you should you so require. **Personal information of the respondents as well as the identity of their institution will be kept confidential.** The data will be stored for a period of 15 years in accordance with international guidelines. The results of the study may be used for publication resulting from the Master's Thesis.

I would appreciate your permission to approach the speech-language therapists and audiologists working in provincial hospitals in your province to act as respondents for the above research project. I look forward to hearing from you as soon as possible due to time constraints involved. You may contact me at the facsimile number and e-mail address below.

Sincerely

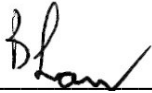


Esedra Strasheim

Researcher

Email: esedra111@hotmail.com

Facsimile: 086 613 0625

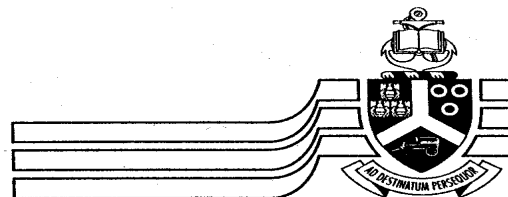


Prof B. Louw

Research Supervisor

Head: Department of Communication Pathology

APPENDIX C – Cover letter to participants



University of Pretoria

**Department of Communication Pathology
Speech, Voice and Hearing Clinic**

Tel : +27 12 420 2355

Fax : +27 12 420 3517

Email : brenda.louw@up.ac.za

20 October 2007

Dear Speech-language therapist

The compilation of a preliminary instrument/tool for speech-language therapists in Neonatal Care Units of public hospitals

You are requested to participate in a survey as part of a Master's Degree in Communication Pathology at the Department of Communication Pathology, University of Pretoria that aims to compile a clinical Early Communication Intervention instrument/tool for speech-language therapists to use in the Neonatal Intensive Care Unit (NICU) and Neonatal High Care Unit (NHCU) and/or the Kangaroo Mother Care Unit of provincial hospitals.

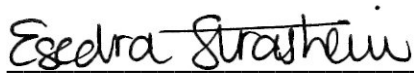
The role of the speech-language therapist in the NICU and NHCU in provincial hospitals in South Africa is not widely described and there is believed to be a need for culturally appropriate and user-friendly assessment and treatment instruments as well as materials for training of other professions working together with the speech-language therapist in this context. The information in this questionnaire will determine whether such a need exists and if so, an attempt will be made to compile/develop an instrument/tool for clinical use in the NICU, NHCU and KMC unit. The role of the speech-language therapist in this specific context will also be described in order to determine what therapists are currently using and what is working for them. Your opinion as a professional is very important and will have a direct influence on whether an instrument/tool will be compiled, what the content would be and in what manner it will be presented.

By completing the questionnaire you are providing informed consent to take part in the study. You will be assigned a number and your identity, the identity of your institution as well as your answers will be handled

confidentially. If at any stage you feel that you do not longer want to participate, you are free to withdraw. The data will be stored for a period of 15 years in accordance with international guidelines. The results of the study may be used for publication resulting from the Master's Thesis.

Please complete the survey and send it back via e-mail or facsimile to the contact details below. If you have any questions regarding the study, you are welcome to contact the researcher at 082 461 72 48.

Thank you for your willingness to participate in this research project and the time you spent despite a busy schedule.

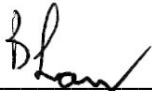


Esedra Strasheim

Researcher

Email: esedra111@hotmail.com

Facsimile: 086 613 0625



Prof B. Louw

Research Supervisor

Head: Department of Communication Pathology

APPENDIX D – Questionnaire

Perceptions of Speech-language therapists providing ECI in Neonatal Care Units in public hospitals

*Esedra Strasheim
Department of Communication Pathology
University of Pretoria*

<p>RESPONDENT NUMBER: _____</p> <p style="text-align: center;">SECTION A</p> <hr/> <p>A1. What is your professional qualification?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Speech-language Therapist</td><td style="width: 50px;"></td></tr> <tr><td>Speech-language Therapist and Audiologist</td><td></td></tr> <tr><td>Audiologist</td><td></td></tr> </table> <p>A2. What are you currently practicing as?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Speech-language Therapist</td><td style="width: 50px;"></td></tr> <tr><td>Speech-language Therapist and Audiologist</td><td></td></tr> <tr><td>Audiologist</td><td></td></tr> </table> <p>A3. What is your highest qualification obtained?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Bachelors degree</td><td style="width: 50px;"></td></tr> <tr><td>Masters degree</td><td></td></tr> <tr><td>Doctorate</td><td></td></tr> </table> <p>A4. Where did you obtain this qualification?</p> <p>_____</p> <p>A5. In which year did you obtain this qualification?</p> <p>_____</p> <p>A6. In which province are you currently employed?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Eastern Cape</td><td style="width: 50px;"></td></tr> <tr><td>Free State</td><td></td></tr> <tr><td>Gauteng</td><td></td></tr> <tr><td>Kwazulu Natal</td><td></td></tr> <tr><td>Limpopo</td><td></td></tr> <tr><td>Mpumalanga</td><td></td></tr> <tr><td>Northern Cape</td><td></td></tr> <tr><td>Northwest</td><td></td></tr> <tr><td>Western Cape</td><td></td></tr> </table> <p>A7. What are your current work contexts? <i>(Please indicate all applicable contexts)</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="width: 50px;">YES</th> <th style="width: 50px;">NO</th> </tr> </thead> <tbody> <tr><td>Community Health Centres/Outreach Clinics</td><td></td><td></td></tr> <tr><td>District/Regional Hospital</td><td></td><td></td></tr> <tr><td>Tertiary/Academic hospital</td><td></td><td></td></tr> <tr><td>OTHER <i>(Please specify)</i></td><td></td><td></td></tr> </tbody> </table> <p>A8. How many years of experience do you have in the public hospital context?</p> <p>_____</p>	Speech-language Therapist		Speech-language Therapist and Audiologist		Audiologist		Speech-language Therapist		Speech-language Therapist and Audiologist		Audiologist		Bachelors degree		Masters degree		Doctorate		Eastern Cape		Free State		Gauteng		Kwazulu Natal		Limpopo		Mpumalanga		Northern Cape		Northwest		Western Cape			YES	NO	Community Health Centres/Outreach Clinics			District/Regional Hospital			Tertiary/Academic hospital			OTHER <i>(Please specify)</i>			<p>For office use:</p> <p>V1 <input style="width: 50px;" type="text"/></p> <p>V2 <input style="width: 50px;" type="text"/></p> <p>V3 <input style="width: 50px;" type="text"/></p> <p>V4 <input style="width: 50px;" type="text"/></p> <p>V5 <input style="width: 50px;" type="text"/></p> <p>V6 <input style="width: 50px;" type="text"/></p> <p>V7 <input style="width: 50px;" type="text"/></p> <p>V8 <input style="width: 30px;" type="text"/> <input style="width: 30px;" type="text"/></p> <p>V9 <input style="width: 30px;" type="text"/> <input style="width: 30px;" type="text"/></p> <p>V10 <input style="width: 30px;" type="text"/> <input style="width: 30px;" type="text"/></p> <p>V11 <input style="width: 30px;" type="text"/> <input style="width: 30px;" type="text"/></p> <p>V12 <input style="width: 50px;" type="text"/></p>
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OTHER <i>(Please specify)</i>																																																				



A9. How many employees are in your department? (Please fill in the appropriate number):

Permanent speech-language therapists	
Permanent speech-language therapists & audiologists (dual qualified)	
Permanent audiologists	
Community service therapists (for speech-language therapy and/or audiology)	
Trained interpreters and/or assistants	

V13	
V14	
V15	
V16	
V17	

SECTION B

B1. How often do you personally provide Early Communication Intervention (ECI) to infants and young children within your caseload?

Most of the time	Sometimes	Rarely	Unsure
------------------	-----------	--------	--------

V18	
-----	--

B2. Does the hospital where you are employed have the following? (Please mark all applicable options):

	YES	NO
Neonatal Intensive Care Unit		
Neonatal High Care Unit/Ward		
Kangaroo Mother Care Unit/Ward		
Paediatric Medical Ward		
Paediatric Out Patient Department		

V19		
V20		
V21		
V22		
V23		

B3. What is your department's current system with regard to work allocation and responsibilities?

a) We have permanently assigned wards and clinics.	
b) We rotate between wards and clinics within the department.	
c) We/I have no specific system.	
d) Other - please elaborate.	

V24	
-----	--

B4. Do you personally provide ECI in any of the following? (Please mark all applicable options):

	YES	NO
Neonatal Intensive Care Unit (NICU)		
Neonatal High Care Unit (NHCU)		
Kangaroo Mother Care Unit (KMC)		

V25		
V26		
V27		

B5. Please indicate what percentage of time you estimate you spend in the following wards in a week:

NICU	
NHCU	
KMC	

V28	
V29	
V30	

B6. Do you enjoy your work in the NICU/NHCU/KMC?

Very much	A little bit	Not at all
-----------	--------------	------------

V31	
-----	--

B7. What do you enjoy about working in this context? (Please describe)

V32	
V33	
V34	



B8. What *don't you enjoy* about working in this context?

V35	
V36	
V37	

B9. Do you feel competent working in this context?

Most of the time	Sometimes	Rarely	Never
------------------	-----------	--------	-------

V38	
-----	--

B10. What do you attribute your answer in question 9 to?

	YES	NO
Undergraduate training		
Post graduate studies		
Years of experience in this context		
Regular in-service training sessions		
Advanced training courses in the field		
OTHER (Please specify)		

V39		
V40		
V41		
V42		
V43		
V44		
V45		

B11. When working in the following contexts, do you perform any of the following? (*Please mark all the applicable options*)

	NICU	NHCU	KMC
Assessment of feeding regarding sucking and swallowing.			
Utilizing video-fluoroscopic studies for assessment of swallowing disorders.			
Assessment of communication development.			
Assessment of mother-child-communication-interaction.			
Intervention for feeding problems in the form of direct treatment with child (e.g. oral-facial stimulation for promotion of sucking).			
Intervention for feeding problems and prevention of communication delays in the form of parent guidance.			
Application of Developmentally Appropriate Care (Light and noise reduction, positioning and handling of infant).			
Encouragement/promotion of full-time or intermittent Kangaroo Mother Care.			
Consultation with other professions in a multi- or transdisciplinary team.			
Attendance of ward rounds with other professions.			
Discharge planning and planning of follow-up treatment/management programmes after infant is discharged.			
In-service training and guidance of staff/team members.			
Informing parents, family members and caregivers of child's condition, progress and future expectations.			
Counselling and support of parents, family members and caregivers.			
Hearing screening			
Other (please add anything which was not mentioned):			

V46			
V47			
V48			
V49			
V50			
V51			
V52			
V53			
V54			
V55			
V56			
V57			
V58			
V59			
V60			
V61			

B12. Do you feel that you are providing a good service in this context? What do you attribute this to? (*Please describe*)

V62	
V63	
V64	



SECTION C

C1. If you could change *anything* about your work in this context, what would you like to change?

	YES/NO	Comments (Optional)
Number and type of referrals from other professionals		
Screening methods and/or equipment/materials		
Assessment methods and/or equipment/materials		
Treatment methods and/or equipment/materials		
Counselling methods		
Team members (more/fewer team members, different specialization, assistants/interpreters)		
Time management		
Resources (literature, communication with experts)		
In-service training in your hospital or province		
Continued Professional Development (CPD)		
OTHER (Please elaborate)		

V65		
V66		
V67		
V68		
V69		
V70		
V71		
V72		
V73		
V74		
V75		

C2. What are your perceptions and opinions regarding culturally relevant instruments, materials and/or tools for use in your work context? *(Please describe)*

V76		
V77		
V78		

C3. What are your perceptions and opinions regarding user-friendly instruments, materials and/or tools for use in your work context? *(Please describe)*

V79		
V80		
V81		

SECTION D

D1. Are there any assessment instruments or assessment materials in the following assessment areas available to you for use in the NICU/NHCU/KMC?

	YES, and I use it	YES, but I don't use it	NO, but I would like to have it	NO, and I don't think it's necessary	UNSURE
Neonate's communication development.					
Feeding.					
Mother-child interaction.					
NICU/NHCU environment.					
Other (Please add anything which was not mentioned)					

V82		
V83		
V84		
V85		
V86		



D2. Are there any materials and tools for parent guidance on the following topics available to you for use in the NICU/NHCU/KMC?

	YES, and I use it	YES, but I don't use it	NO, but I would like to have it	NO, and I don't think it's necessary	UNSURE
Normal communication development and the neonate's current capabilities.					
NICU/NHCU environment and the staff members.					
Paediatric Dysphagia and Feeding therapy.					
Over-stimulation, identification of infant's stress behaviours.					
Developmentally Appropriate Care (Positioning, handling, light- and noise management).					
Kangaroo Mother Care.					
Communication interaction with the infant.					
Developmental milestones and follow-up services after discharge from hospital.					
Other (Please add anything which was not mentioned)					

V87	
V88	
V89	
V90	
V91	
V92	
V93	
V94	
V95	
V96	
V97	
V98	
V99	

D3. Are there any materials and tools for training of staff members on the following topics available to you for use in the NICU/NHCU/KMC?

	YES, and I use it	YES, but I don't use it	NO, but I would like to have it	NO, and I don't think it's necessary	UNSURE
Developmentally Appropriate Care (positioning, handling, light- and noise management).					
Kangaroo Mother Care and ECI.					
Role of the Speech-language therapist in neonatal care wards.					
Other (Please add anything which was not mentioned)					

V100	
V101	
V102	
V103	

D4. What are your suggestions or needs regarding tools for this working context?

V104	
V105	
V106	

D5. Please provide any additional comments regarding your work or your needs in this context:

V107	
V108	
V109	

*Thank you kindly for your time.
Please return to: 0866130625*

APPENDIX F – List of variables

Variable number	Variable description
V37	Enjoyment of work
V38	Competence in work
Reasons for competence:	
V39	Undergraduate training
V40	Post graduate training
V41	Years of experience in this context
V42	Regular in-service training
V43	Advanced training courses in the field
Roles in the NICU, NHCU and KMC ward:	
V46	Assessment of feeding
V47	Assessment of feeding using video-fluoroscopy
V48	Assessment of communication development
V49	Assessment of mother-child-communication-interaction
V50	Intervention for feeding problems using direct treatment with infant (e.g. oral-facial stimulation for promotion of sucking)
V51	Intervention for feeding problems and prevention of communication delays in the form of parent guidance
V52	Application of developmental care
V53	Encouragement/promotion of full-time or intermittent
V54	Consultation with other professions
V55	Attendance of ward rounds with other professions
V56	Discharge planning and planning of follow-up treatment/management programmes after infant is discharged
V57	In-service training and guidance of staff/team members
V58	Informing parents, family members and caregivers of child's condition, progress and future expectations
V59	Counselling and support of parents, family members and caregivers
V60	Hearing screening
V65	Number and type of referrals
Possible future improvements:	
V66	Screening methods and/or equipment/materials
V67	Assessment methods and/or equipment/materials
V68	Treatment methods and/or equipment/materials
V69	Counselling methods
V70	Team members (more/fewer team members, different specialization, assistants/Interpreters)
V71	Time management
V72	Resources (Literature, communication with experts)
V73	In-service training in your hospital or province
V74	Continued Professional Development
Needs in terms of assessment instruments/materials:	
V82	Neonate's communication development
V83	Feeding
V84	Mother-child interaction
V85	NICU/NHCU environment
Needs in terms of tools/materials for parent guidance:	

V87	Normal communication development and neonate's current capabilities
V88	NICU/NHCU environment and staff members
V89	Paediatric dysphagia and feeding therapy
V90	Over-stimulation, identification of infant's stress behaviours
V91	Developmental Care
V92	Kangaroo Mother Care
V93	Communication Interaction with the infant
V94	Developmental Milestones and follow-up services after discharge from hospital
Needs in terms of tools/materials for staff/team training:	
V100	Developmental Care
V101	Kangaroo mother care and ECI
V102	Role of the Speech-language therapist in neonatal nurseries
Roles in the NICU, NHCU and KMC ward:	
VV46	Assessment of feeding - One hit across any context (NICU, NHCU or KMC)
VV47	Assessment of feeding using video-fluoroscopy - One hit across any context (NICU, NHCU or KMC)
VV48	Assessment of communication development - One hit across any context (NICU, NHCU or KMC)
VV49	Assessment of mother-child-communication-interaction - One hit across any context (NICU, NHCU or KMC)
VV50	Intervention for feeding problems using direct treatment with infant (e.g. oral-facial stimulation for promotion of sucking) - One hit across any context (NICU, NHCU or KMC)
VV51	Intervention for feeding problems and prevention of communication delays in the form of parent guidance - One hit across any context (NICU, NHCU or KMC)
VV52	Application of developmental care - One hit across any context (NICU, NHCU or KMC)
VV53	Encouragement/promotion of full-time or intermittent KMC - One hit across any context (NICU, NHCU or KMC)
VV54	Consultation with other professions - One hit across any context (NICU, NHCU or KMC)
VV55	Attendance of ward rounds with other professions -One hit across any context (NICU, NHCU or KMC)
VV56	Discharge planning and planning of follow-up treatment/management programmes after infant is discharged - One hit across any context (NICU, NHCU or KMC)
VV57	In-service training and guidance of staff/team members - One hit across any context (NICU, NHCU or KMC)
VV58	Informing parents, family members and caregivers of child's condition, progress and future expectations - One hit across any context (NICU, NHCU or KMC)
VV59	Counselling and support of parents, family members and caregivers - One hit across any context (NICU, NHCU or KMC)
VV60	Hearing screening - One hit across any context (NICU, NHCU or KMC)



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A close-up photograph of a newborn baby being held by a parent. The baby is looking up and to the right, with its mouth slightly open. The parent's face is partially visible on the right side of the frame, leaning towards the baby. The background is a solid orange color.

Neonatal Communication Intervention Programme for Parents

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2009

Neonatal communication intervention programme for parents

Contents

1. Guidelines to the presenter
2. Aims and outcomes of programme
3. Introduction and warm-up
 - Warm-up activity
 - What is a preterm baby?
 - Why does my preterm baby need special care?
 - How can prematurity affect listening and talking?
 - What is developmental care?
 - Why is developmental care important?
4. Understanding my baby's behaviour
 - Can my preterm baby hear me and see me? (hearing, sight and touch systems that form the building blocks for communication development)
 - What are my preterm baby's stress signals?
 - When does my preterm baby show stress signals? (light, noise, handling)
 - What is self-regulatory behaviour?
5. What should I do to help my baby develop?
 - What can I do when my preterm baby shows stress signals? (calming techniques, positioning, environmental adaptations)
 - What is kangaroo mother care?
 - How do I communicate with my preterm baby?
 - Feeding my preterm baby
6. Conclusion and reflection
 - Why is it important that my preterm baby is followed up regularly?
 - What should I do when I am concerned about my preterm baby?
 - Time for reflection and questions
7. References

1. Guidelines to the presenter

- This programme is intended for use by speech-language therapists with parents and caregivers whose infants are hospitalised in the NICU, neonatal high care ward or KMC ward at provincial hospitals in South Africa.
- You, as a speech-language therapist, are requested to present the programme as part of your treatment in the NICU, neonatal high care ward or KMC ward at your hospital with a small group of parents/caregivers (four to five) whose infants are in the neonatal nursery.
- You may select the venue for the programme to be presented.
- The programme provided to you contains the following:
 - ✓ One hard copy of the complete programme to guide you when presenting the information to the parents.
 - ✓ One powerpoint™ presentation of the programme on a CD to use when presenting the programme.
 - ✓ One set of powerpoint™ slides printed on transparencies.
 - ✓ Handouts to be provided to the parents in either English or isiZulu.
- You may use either the powerpoint™ presentation on the CD or the transparencies if you are not equipped with a lap-top computer and data projector.
- The services of an interpreter may be useful if you have access to such services.
- It would be useful to find out about the parents' levels of literacy before starting with the programme.
- You are requested to use the handouts regardless of the parents' literacy levels.
- The handouts encourage the parents to participate actively. It is designed in such a way that icons and photos may guide parents who are not literate, but if they are unsure how to complete the task, they should be assisted.
- Certain aspects of the programme need to be demonstrated. It may be useful to have a doll and a towel ready for demonstration.
- Please provide the parents with contact details of the speech-language therapist and audiologist should they require follow-up services at your hospital.

2. Aims and outcomes of the programme

Aim

The aim of the tool is to provide speech-language therapists in local public hospitals with a tool to educate and guide parents/caregivers of infants in the neonatal nursery (the NICU, neonatal high care ward or KMC ward) on developmental care and early communication interaction and appropriate stimulation.

Outcomes

After completion of this programme, the parent or caregiver:

- should know what prematurity is, why preterm infants are treated differently from typical infants and that prematurity affects communication development
- should know what developmental care is and that it primes the infant for communication interaction
- should have knowledge about the infant's capabilities (auditory system, tactile system, and visual system) and how these modalities are affected by prematurity
- should have knowledge about the infant's behaviour (stress signals and self-regulatory behaviour)
- should be able to identify stressors in the infant's environment (noise, light and handling) that can lead to distress of the infant
- should be able to provide calming techniques (positioning, swaddling, KMC and containment) when the infant is in distress
- should understand the benefit of kangaroo mother care as a method of providing developmental care
- should be able to provide responsive communication stimulation at the appropriate times
- should have knowledge about the relationship between feeding and communication development
- should have insight into the importance of follow-up services for the preterm infant's development and more specifically communication development
- should know who to contact when in doubt about the infant's general development and, more specifically, communication development and hearing.

3. Introduction and warm-up

Warm-up activity

- Parents and professionals introduce themselves to the rest of the group.
- Allow each parent to share with the others what the name of their baby is and when their baby was born. Ask mothers to comment on their experience in the neonatal nursery today or during the last week/month. The professional should also share a personal experience about the neonatal nursery or related topic to establish rapport with the parents.
- Explain to the group that the presentation aims to guide them in communication stimulation and developmental care of their infants.

What is a preterm baby?

A preterm baby is a baby who was born too soon, more than one month before the due date. A preterm baby's body and brain are still immature and not yet ready to cope with the stimulation from the NICU.

Why does my preterm baby need special care?

A baby who was born too soon needs special help to grow and learn. Some preterm babies need special help from a ventilator machine to breathe, while some babies need help with feeding, because they are not ready to suck from the breast.

Preterm babies become stressed or over-stimulated easily by too much noise or light, or too much movement, handling or touching. If babies become over-stimulated or stressed, it influences how they grow and learn. A preterm baby must have the correct medical care in the hospital and must be monitored regularly as they grow up.

How can prematurity affect listening and talking?

Anything that interferes with a baby's normal interaction with their environment (their mother, father and family) could affect their communication ability (listening and talking). Preterm babies are hospitalised and cannot have normal interaction with their mother and father, which can affect their learning.

Preterm babies may have more health problems such as chest infections or middle ear infections, which could lead to them learning more slowly than other children. Preterm babies receive medicine when they are in the hospital, which can affect their ears (hearing loss). If babies do not have normal hearing, they will have difficulty to learn how to understand words and to talk.

Some babies need oxygen for a long time, which can affect their eyes (retinopathy of prematurity). If babies cannot see, it can affect how they learn to crawl or walk and use their hands.

Many preterm babies' brains are not ready and have difficulty to make sense of the sensory information they get from the hospital staff during medical procedures or from their parents i.e. touch (tactile), movement (vestibular) and deep touch (proprioception). This may affect how they tolerate movement or touch during play. It can also influence how they tolerate light touch and deep touch later on when they start to eat hard, textured food. Therefore some preterm babies may have feeding problems when they are older, which may also lead to a communication problem if it is not treated when a baby is young.

What is developmental care?

Developmental care is a specific way of caring for the baby that helps the mother and father as well as the nurses to change the environment of the hospital room so that the baby will not become stressed or over-stimulated. Developmental care also helps the mother, father and nurses to understand what babies are trying to say to them when they are stressed.

Why is developmental care important?

The hospital environment causes preterm babies to become stressed and makes them cry. Babies are also separated from their mother. This interferes with the baby's sleeping. Babies grow and learn best when they are sleeping.

Developmental care helps preterm babies to grow and develop the normal skills that are necessary in order to learn how to move, such as sitting and crawling, to play with their hands, to listen to people and understand them, to talk and to make friends.

In short: developmental care tries to copy the conditions in the womb to reduce stress and help the baby to grow and learn. Developmental care limits the noise and light and handling that prevent babies to learn from the environment and their parents. Therefore developmental care is important for the baby to learn to talk and to listen (communication development)!

4. Understanding my baby's behaviour

Can my preterm baby hear me and see me?

(Assist the parents to mark whether their baby can hear or see in the handout on page 3)

The senses: We learn from the world through our senses, namely hearing (ears), seeing (eyes), taste (tongue), smell (nose) and touch (tactile). We also have two senses that we cannot see: balance and movement (vestibular) and deep touch that provides us with information on where our bodies are (proprioception). Your babies' sensory systems grow while they are still in the womb. When they are awake, your babies can hear you when you talk to them. Preterm babies can also see and use their smell. Even though your babies were born too soon, they can feel your hands when you touch or hold them and smell you when you are close.

Monitoring development: The time in the hospital (NICU) can affect your baby's senses. Preterm babies need special care while they are in the hospital to learn how to listen, see, touch, smell, taste and move so that they can learn in a normal way when they are grown-up. A baby's hearing and seeing may be affected because of the medicine or oxygen given to save their life in hospital. If your babies have an ear or eye problem, it will affect their listening and talking. Therefore we have to monitor preterm babies closely as they grow and develop.

What are my preterm baby's distress signals?

A preterm baby is not ready to cope with the outside world like a full-term baby. Therefore preterm babies show certain signals to tell their parents that they are stressed or unhappy. Every preterm baby shows different signals to show that they are stressed.

Babies can show any of the following signals when they are stressed:

- Changes in heart rate, blood pressure, breathing, oxygen saturation or skin colour.
- Hiccupping, gagging/vomiting, sighing, yawning, sneezing, straining.
- Tongue thrusting, frowning, making fists, sitting on air, finger splaying, grimacing or putting lips together, turning away or turning head, frantic movements.
- Cannot stop crying, fussy, facial twitches.
- Low-level alertness, easily over-stimulated, uncoordinated eye movements, looking away or closing eyes, wide open eyes with panicky or worried look.

(Assist the parents to mark the stress behaviours they have seen with their own baby on pages 4 and 5 of the handout).

When does my preterm baby show stress signals?

Preterm babies show stress signals when there is too much noise, light, touching or movement. Their immature body cannot cope with all the stimulation at once. As

babies grow, they will gradually learn to deal with all the stimulation at once. The following aspects may cause your baby to show stress signals:

Noise: noise in the hospital can affect your baby's ears and should be limited! The following may cause your baby to stress:

- too much and too loud talking or singing
- sudden loud sounds close to them
- telephones
- radio or television

Light: the constant light in the hospital may also affect your baby's sleeping. The following may cause your baby to stress:

- bright lights of the hospital
- lying in the direct sunlight next to a window during the day

Touch or movement: your baby receives many painful procedures in the hospital because it is necessary to help your baby become healthy and stable. These procedures are stressful for your baby. The following may cause your baby to stress:

- moved too quickly
- turned over quickly
- rocking or bouncing
- light touching or stroking

(It may be helpful to demonstrate the above-mentioned stressors using the doll. Assist the parents to mark off the reasons for over-stimulation by indicating an x or ✓ on page 6 of the handout).

What is self-regulatory behaviour?

These are signals babies show to calm them or to recover from stress. All preterm babies calm themselves in their own way. These are some examples of the calming behaviours babies use:

- hand to mouth movement
- hand to face movement
- sucking
- grasping
- holding of their own hands
- finger grasping
- flexion position (curled up position bringing arms and legs close to the body)

Remember that stress is not good for your baby and can cause learning and developmental problems later on. That is why it is important to watch your babies to see why they are showing stress signals. You can help your baby to calm down by encouraging any self-regulating behaviour and changing the source of the stress (e.g. noise, light and handling). It will be helpful if you do KMC when your baby is stressed.

(Demonstrate the above-mentioned self-regulatory behaviour. Refer to page 7 in the handout for examples of self-regulating behaviour).

5. What should I do to help my baby develop?

What can I do when my preterm baby shows stress signals?

When your babies show stress signals, it means that they are not ready for the stimulation that you or the hospital are giving them and you should immediately change or stop what you are doing.

(Refer to page 8 of the handout for examples of what parents may do when their babies show stress).

Noise: when you have identified a problem with noise, ask the nurse or a therapist to help you to eliminate it. You can do the following to limit the noise in the room where your baby is sleeping:

- close the incubator's doors softly so that there is no noise
- close the rubbish bins softly
- don't place any bottles or cups on top of the incubators when the baby is inside
- don't tap your hand or your fingers on the incubators
- talk or sing **softly** to your baby and stop when you see that they are not ready for it
- answer your cell phone immediately if it rings and talk softly or move outside the room
- call a nurse immediately if an alarm goes off by your baby's incubator

Light: if you are worried about too much light in your baby's incubator or crib, ask a nurse or a therapist to help you:

- you can cover your baby's incubator with a blanket or a towel to shield them from the bright light. Remember to ask the nurse before you change anything
- hold your babies against your body covering them with a blanket in the KMC position

(Demonstrate the above-mentioned to the parents using the towel)

Touching or moving: stop stroking or moving the baby as soon as you see any stress signals or crying.

- if your babies are very ill or unstable, do not touch them too much. This will help your baby to become stable and grow faster
- do not tickle, bounce or pat your baby yet. Watch them carefully and use gentle but firm touch and slow movements when touching your baby
- when turning or picking up your baby, use slow, gentle but firm movements, that do not startle or scare them

(Demonstrate the above-mentioned to the parents using the doll)

Calming techniques: ask the nurses or therapists to help you **position** your baby in the incubator or crib when your baby is stable enough to handle:

- you can position your baby in flexion with arms and legs toward the midline close to the body (on his/her side or on his/her back)

- use a rolled towel or blanket to create a nest for your baby. The nest should be snug and high enough for the baby to kick against
 - if your baby is stable enough, ask the nurses or therapists to help you **swaddle** your baby in a blanket. Wrap babies tightly in a blanket so that their arms are toward the middle (possibly close to their mouth) and close to their body (in flexion). This position will help calm your baby so that you can talk to him/her and make eye contact
 - use positive touch techniques such as **containment holding/still touch** by placing your hands firmly on their bodies to help calm them. You may also cup their heads in your one hand
 - ask the nurses to assist you with kangaroo mother care
- (Demonstrate the above-mentioned to the parents using the doll and the towel)*

What is kangaroo mother care (KMC)?

(Refer to page 9 in the handout for examples of KMC)

Kangaroo position: the baby is dressed in a cap and a nappy. The baby is then positioned in a curled up, upright (flexion) position on their mother's bare chest between the breasts with the baby's head under the mother's chin. This position is similar to when the baby was in the womb. The mother and baby are wrapped with a blanket or a special wrap to keep the baby in place.

(Demonstrate the above-mentioned to the parents using a doll)

Kangaroo mother care is a safe and cost-effective way of giving developmental care for your preterm baby. It gives the baby all the protection and stimulation that they need to learn and grow. KMC is ideal for frequent breast feeding. KMC can also be used when your baby shows stress behaviours as you are reducing the sound, light and touch the baby gets and imitating the feeling the baby had when they were inside the womb.

Benefits:

Kangaroo mother care (KMC) is good for mother and baby:

- KMC helps to regulate the baby's body temperature, increases quiet sleep times, increases weight gain, increases breast feeding, and provides more opportunities for talking and listening to mother's voice, eye contact and talking to the mother.
- KMC helps the mother to bond with her baby and it is good for the development of communication interaction, listening and talking to the baby.

How do I talk to my preterm baby?

Babies will show you when they are ready to "talk" to you.

At first, preterm babies younger than seven months (32 weeks) are in the **inturned state**. This means the baby will sleep most of the time and could be stressed easily, especially if the baby is still unstable. The baby's eyes will mostly be closed. Deep sleep helps the baby grow in this time. Your baby knows your voice and will respond when they are ready.

(Refer to page 10 in the handout. Assist the parents to determine the state of their baby to determine the type of stimulation).

What should I do?

- Handling should be done slowly.
- If your babies are unstable, ask to hold them close to your body, but avoid moving or rocking the baby.
- Provide one type of stimulation: either touching your baby or talking to your baby.
- Avoid too much sound and talking: you can hold your baby and sing or talk softly to your baby, but stop when you see stress signals.
- Do not give your baby too much to look at, at once: you do not need to make eye contact at this stage because your baby may not be ready yet. Avoid using toys or bright objects.
- Give gentle, firm touch when your baby is ready and stop when your baby becomes stressed.
- Hold your finger for your baby to hold.

(Demonstrate the above-mentioned to the parents using a doll)

The **coming-out** state is when your baby is between seven and eight months (32 and 35 weeks) and is starting to interact with you. Your baby is starting to seek social interaction and will want to “listen” to you and will be able to respond.

(Refer to page 11 in the handout. Assist the parents to determine the state of their baby in order to determine the type of stimulation).

What should I do?

- Babies open their eyes more frequently, but cannot necessarily make eye contact with you. If your babies are awake and quiet, sit close to the incubator so that they can focus on your face.
- Hold out your finger for your baby to hold.
- Start with KMC.
- You may provide stimulation using mostly your voice by singing or talking softly while your baby is placed in the KMC position or through the open porthole of the incubator.

In the **reciprocal** state (usually from eight months or 36 weeks), babies will be able to actively “talk” to you. Babies will open their eyes and will stay quiet and alert for longer periods of time.

(Refer to page 12 in the handout. Assist the parents to determine the state of their baby to determine the type of stimulation).

What should I do?

- Position babies so that they are able to focus on your face and make eye contact. Give enough time for your baby to focus on your face and to respond.
- Watch your baby’s face and imitate facial expressions such as sticking out your tongue or opening your mouth. You may notice that the baby will look at you for longer periods.
- Talk softly to your baby while maintaining eye contact. You can sing any song or talk to your baby about anything. They already know your voice and will find it soothing to listen to you!

- Talk to your babies when you are changing their nappies or when you bathe them. Describe what you are doing. This is good training for babies for when they are older and understand what you are saying.

(Demonstrate the above-mentioned to the parents possibly using a doll. Refer to page 13 in the handout to provide the parents with examples of communication stimulation).

- Talk to your baby while you are feeding, unless the baby stops sucking. Rather stop talking if it is distracting your baby from feeding and try again later when your baby is a little older.
- Change your talking if you see your baby showing any stress. Place your babies in the KMC position until they are ready for face-to-face interaction again.

Feeding my preterm baby

Feeding and communication: your preterm babies will show signs of stress if they are not yet ready to feed orally. It is important to watch your baby's reactions. Feeding is an excellent opportunity for communication interaction (talking to your baby) if your baby is stable and mature enough. During feeding the baby is positioned face to face with the mother, which encourages eye contact. When your baby is ready, feeding on the breast will be recommended to you. Breastfeeding is beneficial for bonding between the baby and mother, which will improve the baby's social interaction, listening skills and speech.

Sucking reflex: the baby is usually born with a sucking reflex, but preterm babies may not yet be able to coordinate the sucking, swallowing and breathing. Therefore the baby may be placed on tube feeding through the nose or the mouth. You will feed your baby by providing the milk through the tube and therefore your baby will not yet need to suck to get milk. If the baby's sucking reflex is not stimulated, it may be lost and will result in feeding problems. Non-nutritive sucking (sucking without taking milk into the mouth) teaches the sucking reflex and helps the baby to coordinate the sucking, swallowing and breathing to be able to drink from the breast or the cup.

(Refer to page 14 in the handout for ideas on feeding)

What should I do?

- If your babies are stable, you may put them to your breast after you have expressed the breast milk. This is a good way of providing non-nutritive sucking while giving them the milk through the tube.
- Allow your baby to suck on your clean finger.
- KMC with non-nutritive sucking on mother's finger will improve the baby's oral (mouth) experiences so that feeding will be a positive experience.
- Put a drop of breast milk on a cotton swab and place it in the incubator for the baby to smell.
- Put a drop of breast milk on your finger when baby sucks on your finger.

Oral feeding: oral feedings should only be started when the baby is stable and mature enough. The nurses will assist you in this process. If there are concerns regarding your baby's feeding, ask to see a speech-language therapist.

What should I do?

- Remember to change the environment: take away bright light and loud noise to help your baby stay calm.
- Sit comfortably.
- Position your baby in a stable position on your lap.
- Allow your baby to set the pace and allow time to rest and breathe.
- Do not try to feed your baby when the baby is fussy, crying or in deep sleep.
- Avoid talking as this could distract your baby. If your babies are stable and quietly sucking, you may talk to them, but stop if you are distracting them.

6. Conclusion and reflection

Why is it important that my preterm baby is followed up regularly?

(Refer to page 15 in the handout for ideas on follow-up)

Preterm babies are at risk for learning and growing problems. A preterm baby needs to be monitored by a doctor and a team of therapists to identify and treat problems early. We must make sure that your baby is learning to listen and learning to talk well in order for your baby to do well in school one day. An assessment of your baby's development should be conducted at four, eight and twelve months corrected age to make sure your baby reaches his/her milestones (starts walking and talking at the right time). If a learning problem is identified, it can be treated early in your baby's life so that they will be ready for school eventually. It will also be wise to have your babies' eyes and ears tested after they are discharged from the hospital. Remember to subtract the weeks that your babies were born early from their age to 'correct' for prematurity e.g. if your babies were born at seven months pregnancy (eight weeks too soon) and they are three months old, their corrected age is actually:
3 months (12 weeks) minus 8 weeks (prematurity)
= 4 weeks (1 month) old corrected age

What should I do when I am concerned about my preterm baby?

If you are concerned about your baby in any way, it is important to visit your nearest clinic or hospital immediately to see any of the team members who works with babies and young children such as the speech-language therapist and audiologist.

Time for reflection and questions

The professional should enquire whether any of the parents have any questions about their babies.

- Ask the parents which aspects of the discussion they found interesting, in order to encourage personal reflection.
- Ask the parents whether they know that their babies can hear and see and if they have started talking or singing to their babies.
- Ask whether they have tried KMC and how they experience it. Provide all parents with contact details of the department.

7. Glossary

Auditory system: The fetus can respond to sound as early as 16 weeks gestation, which is before the hearing system is fully developed. The hearing system is fully developed by 23 weeks gestation (Lubbe, 2008:14).

Coming-out state: The developmental state of an infant between the ages of 32 and 35 weeks gestation, who requires constant medical care but is not critically ill anymore (Lubbe, 2008:64).

Containment: Body containment increases the infant's feelings of security and self-control and decreases stress. Infants who are contained tend to be calmer and gain weight more rapidly (Lubbe, 2008:92).

Corrected age: Chronological age - (40 minus gestational age at birth). The corrected age is used to calculate catch-up growth. An infant's age should be corrected for prematurity until at least two years of age (Lubbe, 2008:274; Rossetti, 2001:112).

Developmental care: Within the developmental care approach, infants are viewed to be active participants in their own care and are focused on interventions that protect the premature or sick infant's immature central nervous system (Als, 1997:57; Klaus & Fanaroff, 2001:224). Developmentally supportive care leads to increased weight gain, shorter stays in hospital, shorter time on ventilators (Bozzette & Kenner, 2004:79), improved medical as well as behavioural outcomes, improved brain and motor development (Als, 1997:62).

Developmental delay: Defined in two ways: (1) a significant lag in attaining developmental milestones or skills attributable to known or unknown factors; (2) lifelong deficits or anomalies that require ongoing provision of training to achieve adaptive behaviours and can require ongoing use of equipment or supportive assistance in personal care. It is essential that the professional understand the manner in which the term developmental delay is being used. Families and some professionals use the term to include a functional delay in acquisition of developmental milestones, whereas others use it to define lifelong disabilities (Billeaud & Broussard, 2003:288).

Flexion position: The womb provides the fetus with boundaries and supported the unborn infant to remain in a curled-up fetal position. The flexed fetal position has many benefits: it decreases the stress caused by extended limbs, encourages self-regulating, normal growth, posture, development and movement control, leads to physiological stability and promotes sleep and rest (Lubbe, 2008:89).

Full-term: The description of the level of maturation of an infant born between 37 and 41 weeks' gestation (Billeaud & Broussard, 2003:289).

Gestation/gestational age: The age of an infant at delivery as calculated from the day of conception to the date of delivery (Billeaud & Broussard, 2003:289).

Infant: For the purpose of this programme, any infant hospitalised in the NICU, neonatal high care or KMC ward is referred to as infant or baby.

Inturned state: The developmental state of an infant before 32 weeks gestation. The infant will require constant medical support such as breathing with the help of a ventilator and will be physiologically unstable (heart rate, breathing, blood pressure) (Lubbe, 2008:60).

Kangaroo mother care (KMC): KMC is a form of tactile-kinesthetic stimulation. The infant is dressed in a nappy and cap and placed skin-to-skin on the mother's chest. KMC has numerous benefits including improved saturation, increased weight gain and improved mother-child interaction (Lubbe, 2008:102; Rossetti, 2001:274).

Low birth weight: Defined as birth weight between 1500 - 2500 grams, while very low birth weight refers to < 1500 grams and extreme low birth weight is < 1000 grams (Billeaud & Broussard, 2003:291; Lubbe, 2008:26).

Neonatal intensive care unit (NICU): A specialised hospital nursery facility designed for infants with critical care needs (Billeaud & Broussard, 2003:292).

Neonate: Newborn infant through the age 28 days (Billeaud & Broussard, 2003:292).

Non-nutritive sucking: Repetitive actions of sucking and swallowing, followed by breathing and is not used for feeding such as sucking on a thumb or finger (Lubbe, 2008:136).

Nutritive sucking: Nutritive sucking or feeding is the step that follows non-nutritive sucking meaning that the infant is ready to feed orally by sucking (Lubbe, 2008:142).

Oxygen saturation: The level of oxygen in the infant's blood. Normal blood saturation for premature infants are approximately 88 - 92% when the infant receives oxygen and above 96% when he/she is breathing on his/her own (Lubbe, 2008:38).

Premature/preterm: For the purpose of this study, the terms premature and preterm are used interchangeably. Prematurity is the delivery of an infant before the thirty-seventh week of gestation. Extreme prematurity, before 28 weeks gestation, places the infant at risk for developmental problems, including language disorders (Billeaud & Broussard, 2003:293; Lubbe, 2008:26).

Proprioception system: The infant perceives motion or positioning of the limbs of the body through muscle and joint sensations such as stretching or contracting. It develops in conjunction with the vestibular system (Lubbe, 2008:8).

Reciprocity state: The final stage of interaction from 36 weeks and onwards when the infant is ready to actively interact with his/her environment. The infant will respond in predictable ways and recover from agitation using self-regulating behaviour (Lubbe, 2008:64).

Retinopathy of prematurity (ROP): A condition caused by excessive or prolonged use of supplementary oxygen in premature babies during the perinatal period, which

adversely affects the infant's retina; associated with reduced visual acuity (Billeaud & Broussard, 2003:294).

Self-regulatory behaviour: Signs that an infant uses to self-calm such as putting hands to mouth (Lubbe, 2008:77).

Stress signal: Signals an infant uses to communicate that he/she is not ready for handling, activity or interaction such as sneezing, hiccupping or making fists (Lubbe, 2008:79).

Swaddling: Wrapping the infant tightly in a blanket with arms and legs bent up and hands close to his/her mouth (Lubbe, 2008:132).

Tactile (touch) system: The infant's skin is fragile and may be overactive in premature infants as it serves to protect against injury (Lubbe, 2008:98).

Vestibular system: Through this system the infant receives information regarding its bodily positioning in space, which is the ability to balance itself through gravitation and is therefore sensitive to movement and change in position (Lubbe, 2008:8).

Visual system: The infant's vision is the last system to mature. The infant responds to light from 24 to 26 weeks gestation. By 32 weeks the circuits for simple eye movements are functioning (Lubbe, 2008:16).

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Neonatal Communication Intervention Programme for Parents



Presented by
Speech-language therapy
and Audiology

Compiled by: E. Strasheim
M.Comm.Path.
University of Pretoria (2009)

1. Introduction

- What is a premature baby?
- Why does my premature baby need special care?
- How can prematurity affect my baby's talking and listening?
- What is developmental care?
- Why is developmental care important?



2. Understanding my baby's behaviour

Can my premature baby hear me and see me?



2. Understanding my baby's behaviour



What are my premature baby's stress signals?

- *Changes: heart rate, blood pressure, breathing, oxygen saturation, skin colour.*
- *hiccup, gag/vomit, sigh, yawn, sneeze, strain, tongue thrust, frown, sit on air, finger/toe splays, arching back, grimace, frantic movement, fussy/crying, low alertness.*



2. Understanding my baby's behaviour

■ When does my premature baby show stress signals?

Stress from:

↑ *noise*, ↑ *light*, ↑ *movement*, ↑ *touch*

■ What are self-regulatory behaviours?

- ✓ *hand to mouth*
- ✓ *hand to face*
- ✓ *sucking*
- ✓ *hand holding*
- ✓ *finger grasping*
- ✓ *flexion position*



3. What should I do to help my baby develop?



What can I do when my baby is stressed or cries?

- ✓ ↓ *noise*, ↓ *light*, ↓ *touch*, ↓ *movement*
- ✓ *Position*
- ✓ *Swaddle*
- ✓ *Containment hold*
- ✓ *KMC*



3. What should I do to help my baby develop? (cont)



What is kangaroo mother care?

- ✓ Copies feeling baby had in womb
- ✓ Benefits
- ✓ Can be used when baby cries and shows stress



3. What should I do to help my baby develop? (cont)



How do I talk to my baby?

Inturned state

- ✓ holding, ✓ one stimulation (talk or touch),
- ✓ finger grasp, ✓ firm touch ✓ slow handling

Coming-out state

- ✓ finger grasp, ✓ KMC, ✓ eye contact through incubator, ✓ sing, ✓ talk

Reciprocal state

- ✓ KMC ✓ talk, ✓ describe, ✓ sing,
- ✓ eye contact, ✓ facial expression

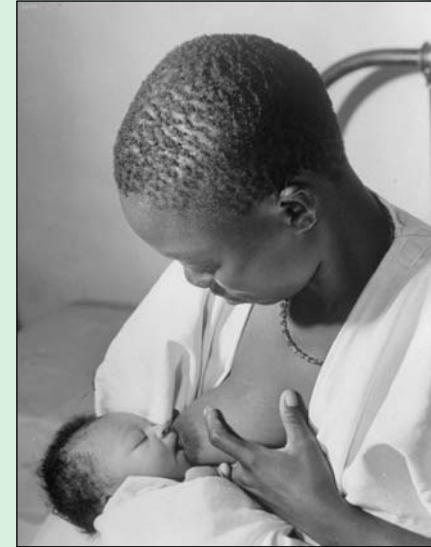


3. What should I do to help my baby develop? (cont)



Feeding my baby

- ✓ *NNS (clean finger, breast) while tube-fed*
- ✓ *KMC frequently*
- ✓ *Transition to oral feeds with assistance: calm environment, stable position, baby awake, talk to baby.*



4. Conclusion

Why is it important that my baby is followed-up regularly?

- ✓ *Risk for developmental delay, learning problem*
- ✓ *Follow-up every 4 months*

What should I do when I am concerned about my baby?

- ✓ *Clinic, hospital*
- ✓ *Speech-language therapist & audiologist*

Questions



My baby's talking book



My Baby's name:

Date of birth:

My name:

Compiled by Esedra Strasheim (M.Comm.Path - University of Pretoria, 2009)

Introduction

What is a preterm baby?

A preterm baby is a baby who was born too soon (before 8 months of pregnancy or more than one month before the due date).



Why does my preterm baby need special care?

- A baby who was born too soon needs special help to grow and develop.
- Preterm babies become stressed or over-stimulated easily by too much noise, or light or too much movement, handling or touching, which can affect their development and learning.

How can prematurity affect communication development?

- A preterm baby is hospitalised and cannot have normal interaction with his mother and father, which can affect his learning.
- Baby may have problems with hearing, seeing and touch, which affects learning to listen and talk.

What is developmental care?

- Mother and father as well as the nurses changes the environment of the hospital room so that the baby will not become stressed.
- Helps mother, father and nurses to understand what the baby is trying to say.






Why is developmental care important?

Developmental care attempts to copy the conditions in the womb to reduce stress to babies and help them grow and learn.

Understanding my baby's behaviour

😊 Can my preterm baby hear me and see me?

		X / ✓
Hear		
See		
Feel (light touch, movement, deep touch)		

☹️ What are my preterm baby's stress signals?

If you see babies showing any of these signals, it means that they are stressed or over-stimulated and needs a time-out.

		X / ✓
☹️ Changes in heart rate, breathing, colour		
☹️ Hiccup		
☹️ Gag/vomit		
☹️ Sigh		
☹️ Arching back		
☹️ Sneeze		
☹️ Tongue thrust		
☹️ Frown		
☹️ Sit on air		
☹️ Yawn		
☹️ Strain		
☹️ Finger/toe splays		

☹ Showing stop



☹ Frantic movement



☹ Fussy/crying



☹ Low alertness



☹ Fatigue



☹ When does my baby show stress signals?

X / ✓

Loud noise or talking



Soft talking



Bright light



Dim light







Movement



Touch or handling








😊 What are self-regulatory behaviours?
Babies do these movements to help them not to stress.

😊 Hand holding/hand to mouth movement	
😊 Hand to face movement	
😊 Sucking	
😊 Grasping your finger	
😊 Flexion position	

What should I do to help my baby learn?

What can I do when my baby shows stress signals and cries?

😊 ↓ noise, 😊 ↓ light, 😊 ↓ touch, 😊 ↓ movement	
😊 Position	
😊 Swaddle	
😊 Containment	
😊 KMC	

😊 What is kangaroo mother care (KMC)?



- ✓ KMC copies the feeling the baby had in the womb.
- ✓ KMC can be used when baby shows stress or cries and is good for bonding and feeding.

😊 How do I communicate with my preterm baby?

Baby needs special interaction at every stage of learning:

Inturned state (before 7 months)



- ✓ Hold baby in your arms if unstable.
- ✓ Give one stimulation at a time (talk or touch).
- ✓ Hold your finger for baby to grasp.
- ✓ Give firm gentle touch.
- ✓ Handle and move baby slowly.
- ✓ Give babies 'time-out' baby when they show stress.



Coming-out state (between 7 and 8 months)



- ✓ Hold your finger for baby to grasp.
- ✓ Do KMC frequently.
- ✓ Make eye contact with baby through incubator.
- ✓ Sing to baby.
- ✓ Talk to baby.
- ✓ Give babies 'time-out' when they show stress.



Reciprocal state (from 8 months)



- ✓ Do KMC frequently.
- ✓ Talk to baby.
- ✓ Describe what you are doing.
- ✓ Sing to baby.
- ✓ Position baby face to face.
- ✓ Make eye contact with baby.
- ✓ Imitate baby's facial expressions e.g. stick out tongue.



☺ Things I can say to babies when they are ready



You are a good baby.
You are growing so fast.
Mommy loves you.
You have a beautiful face.
You have cute toes.
You will be a big boy/girl.
You opened your eyes.
You are sucking your thumb.
You look happy today.
You look sleepy now.
You have two ears.
You are sucking your thumb.
I like the way you smile.



☺ Feeding my preterm baby

Your baby may need tube feeding at first and will then move to cup or breast feeding.



- ✓ Non nutritive sucking is important (use a clean finger for baby to suck on, or give expressed breast to suckle on) while baby is tube-fed to stimulate the sucking reflex.

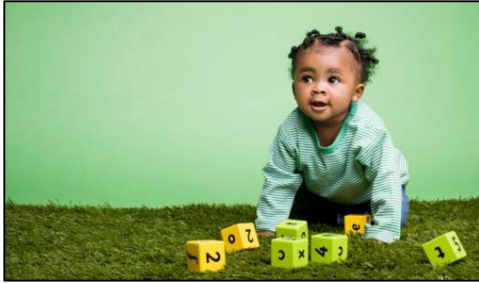


- ✓ Do KMC frequently to promote positive oral (mouth) experiences.
- ✓ Move to oral feeds with help from the nurses or the speech-language therapist (the environment must be calm, baby in good position, baby awake, talk to baby while feeding to stimulate talking and interaction).

Conclusion

Why is it important that my preterm baby is followed-up regularly?

- ✓ All preterm babies have a risk for problems with learning, hearing, talking or seeing.
- ✓ Follow-up every 4 months at hospital/clinic to make sure that baby is learning.



What should I do when I am concerned about my preterm baby?

- ✓ Visit your local clinic or hospital
- ✓ Ask to see the Speech-language therapist or Audiologist



Incwadi yokukhuluma yomntanami



Igama lomntanami:

Usuku lokuzalwa:

Igama lami:

Ihlanganiswe i-Esedra Strasheim
(M.Comm.Path - University of Pretoria, 2009)

Onjani umntwana ozalwe singakafiki isikhathi?
Umntwana ozalwe singakafiki isikhathi ngumntwana osheshe wazalwa (umama engakabi nezinyanga ezingu-8 ekhulelwe noma ozalwe kusasele inyanga nangaphezulu kufike isikhathi sakhe).



Kungani umntanami ozalwe singakafiki isikhathi edinga ukunakekelwa okukhethekile?

- Umntwana osheshe wazalwa udinga usizo olukhethekile ukuze akhule futhi athuthuke.
- Abantwana abazalwe singakafiki isikhathi bayacindezeleka noma bashukumiseke ngokweqile kalula uma kunomsindo omkhulu, ukhanya noma ukunyakaza kakhulu, ukuphathwa noma ukuthintwa, okungase kuphazamise ukukhula kwabo nokufunda.

Ukuzalwa singakafiki isikhathi kungakuthinta kanjani ukukhula okuphathelene nokuxhumana?

- Umntwana ozalwe singakafiki isikhathi ulaliswa esibhedlela futhi ngeke axhumane ngendlela evamile nonina noyise, okungase kuthikameze ukufunda kwakhe.
- Umntwana angase abe nenkinga yokuzwa, ukubona nokuthinta, okuthikameza ukufunda ukulalela nokukhuluma.

Kuyini ukunakekelwa kokukhuliswa (developmental care)?

- Umama nobaba kanye namanesi bashintsha indawo yegumbi lasesibhedlela ukuze umntwana angacindezeleki.
- Kusiza umama, ubaba kanye namanesi ukuba baqonde lokho umntwana azama ukukusho.



Kungani kubalulekile ukunakekelwa kokukhuliswa? Ukunakekelwa kokukhuliswa kuzama ukukopisha izimo zasesibeledweni ukuze kuncishiswe ukucindezeleka kubantwana futhi basizwe bakhule futhi bafunde.

Ukuqonda ukuziphatha komntanami




😊 Umntanami ozalwe singakafiki isikhathi angangizwa yini futhi angibone?

	X	✓
Ukuzwa ezindlebeni 		
Ukubona 		
Ukuzwa okwenzekayo (ukuthintwa kancane, umnyakazo, ukuthintwa okujulile) 		

3

☹️ Yiziphi izimpawu zokucindezeleka zomntanami ozalwa singakafiki isikhathi?

Uma ubona abantwana bekhombisa noma yiziphi kulezi zimpawu, kusho ukuthi bacindezekile noma bashukumiseke ngokweqile futhi badinga isikhathi sokuphumula.

	X	✓
☹️ Ukushintsha kokushaya kwenhliziyo, kokuphefumula, kombala		
☹️ Ingwici		
☹️ Ukuhilwa/ukuphalaza		
☹️ Ukububula		
☹️ Umhlane obuhlungu		
☹️ Ukunyukubala		
☹️ Ukuthimula		
☹️ Ukukhipha ulimi		
☹️ Ukubipha		
☹️ Ukuhlala emoyeni		
☹️ Ukuzamula 		
☹️ Ukuzelula 		
☹️ Ukuqhansa iminwe /nezinzwane 		

4

☹ Ukubonisa uphawu oluthi yima



☹ Ukujilajileka



☹ Ukutetema/ ukukhala



☹ Ukungaphaphami kahle



☹ Ukukhathala



☹ Umntanami uzibonisa nini izimpawu zokucindezeleka?

X ✓

Umsindo omkhulu noma ukukhuluma



Ukukhulumela phansi



Isibani esigqamile



Isibani esilufifi



Ukunyakaziswa



Ukuthintwa noma ukuphathwa



😊 Yini ayenzayo yokuzisiza?
Abantwana benza lokhu ukuze bazisize bangacindezeleki.

😊 Ukubamba isandla/ukuf aka isandla emlonyeni	
😊 Ukubeka isandla ebusweni	
😊 Ukuncela	
😊 Ukubamba umunwe wakho	
😊 Ukugoba	

Yini okufanele ngiyenze ukuze ngisize umntanami afunde?

Yini engingayenza lapho umntanami ekhombisa izimpawu zokucindezeleka futhi ekhala?

😊 ↓ umsindo, 😊 ↓ ukukhanya, 😊 ↓ ukuthinta, 😊 ↓ ukumnyakazisa	
😊 Simo sokulala	
😊 Ukumsonga	
😊 Indlela yokubamba	
😊 I-KMC	

☺ Okunjani ukunakekela kukamama okunjengokwe-kangaroo (KMC)?



- ✓ I-KMC ilingisa indlela ayezizwa ngayo umntwana lapho esesibelethweni.
- ✓ I-KMC ingasetshenziswa lapho umntwana ebonisa ukucindezeleka noma ekhala.
- ✓ I-KMC ikahle ukuze umama nomntwana bakhe isibopho sothando futhi amncelise.

☺ Ngixhumana kanjani nomntanami ozalwe singakafiki isikhathi?

Umntwana udinga ukuxhumana okukhethekile esinyathelweni ngasinye sokufunda:

Isimo sokubuyela phakathi (inturned state) (ngaphambi kwezinyanga ezingu-7)



- ✓ Mgone umntwana uma engahlaliseki.
- ✓ Yenza okukodwa okuzomshukumisa ngesikhathi (khuluma noma uthinte).
- ✓ Khipha umunwe wakho ukuze umntanakho awubambe.
- ✓ Mthinte kahle ngodwa uqinise.
- ✓ Phatha umntwana futhi umsuse kancane.
- ✓ Nikeza abantwana 'isikhathi sokuphumula' lapho bekhombisa ukucindezeleka.





Isimo sokuphuma (coming-out state) (phakathi kwezinyanga ezingu-7 nezingu-8)



- ✓ Khipha umunwe wakho ukuze umntwana awubambe.
- ✓ Yenza i-KMC njalo.
- ✓ Mbuke emehlweni umntanakho esemshinini.
- ✓ Mculele umntwana.
- ✓ Khuluma nomntwana.
- ✓ Nikeza abantwana 'isikhathi sokuphumula' lapho bekhombisa ukucindezeleka.



ISIMO sokusabela (reciprocal state) (kusuka ezinyangeni ezingu-8)



- ✓ Yenza i-KMC njalo.
- ✓ Khuluma nomntwana.
- ✓ Mchazele ukuthi wenzani.
- ✓ Mculele umntwana.
- ✓ Bhekisa ubuso bakhe kobakho.
- ✓ Mbheke emehlweni umntwana.
- ✓ Lingisa lokho akwenzayo ebusweni isib. khipha ulimi.





☺ Izinto engingazisho kubantwana lapho sebekulungele



- Ungumntwana omuhle.
- Ukhula masisha.
- Umama uyakuthanda.
- Unobuso obuhle.
- Unezinzwane ezinhle.
- Uzoba umfana/intombazane ekhulile.
- Uvule amehlo.
- Uncela isithupha sakho.
- Ubukeka ujabule namhlanje.
- Ubukeka wozela manje.
- Unezindlebe ezimbili.
- Uncela isithupha sakho.
- Ngiyayithanda indlela omomotheka ngayo.



☺ Ukuncelisa umntanami ozalwa singakafiki isikhathi

Umntanakho angase adinge ukunceliswa ngeshubhu ekuqaleni abe esedlulela ekunceleni ngenkomishi noma ekunceleni ibele.



- ✓ Ukuncela into engadliwa kubalulekile (sebenzisa umunwe ohlanzekile ukuze umntwana awuncele, noma umkhiphele ibele ulibambe ukuze ancele) ngesikhathi umntwana esancela ngeshubhu ukuze ushukumise izinzwa zokuncela.

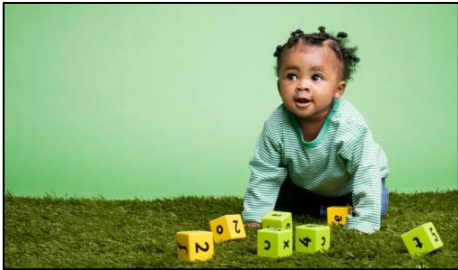


- ✓ Yenza i-KMC kaningi ukuze uthuthukise ukukhuluma naye okuhle.
- ✓ Dlulela ekumfunzeni ngosizo lwamanesi noma umelaphi obhekelela ukukhuluma nolimi (indawo kumelwe ibe ezolile, umntwana abe sesimweni esikahle, umntwana abe ophapheme, khuluma nomntwana ngesikhathi umncelisa ukuze ushukumise ukukhuluma nokuxhumana).

Isiphetho

Kungani kubalulekile ukuthi umntanami ozalwe singakafiki isikhathi alandelelwe njalo?

- ✓ Bonke abantwana abazalwe singakafiki isikhathi basengozini yezinkinga zokufunda, ukuzwa, ukukhuluma noma ukubona.
- ✓ Landelela njalo emva kwezinyanga ezine uye esibhedlela /emtholampilo ukuze uqiniseke ukuthi umntwana uyafunda.



Yini okufanele ngiyenze uma ngikhathazeka ngomntanami ozalwe singakafiki isikhathi?

- ✓ Vakashela emtholampilo noma esibhedlela sangakini.
- ✓ Cela ukubona uMelaphi wokukhuluma nolimi noma i-Audiologist.



APPENDIX H – Cover letter and pilot study questionnaire (Phase 2)

Dear Speech-language therapist

You are requested to participate in the pilot study of a neonatal communication intervention tool for parents/caregivers as part of a Master's Degree in Communication Pathology at the University of Pretoria.

You are requested to present the attached programme during your treatment in the NICU, Neonatal high care ward or KMC ward at your hospital with a small group of parents/caregivers whose infants are in the neonatal nursery. Please provide feedback and comments to me thereafter by completing the attached questionnaire and sending it back via e-mail or facsimile.

Your identity, the identity of your institution as well as your answers will be handled confidentially. If at any stage you feel that you do not longer want to participate, you are free to withdraw. If you have any questions regarding this study, you are welcome to contact the researcher at 082 461 72 48.

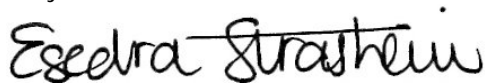
Attached is the following:

- 1 x The Neonatal Communication Intervention programme for parents (complete programme for your use).
- 1 x The Neonatal Communication Intervention programme for parents (PowerPoint presentation on CD).
- 1 x The Neonatal Communication Intervention programme for parents (printed on transparencies).
- 4 x handouts (English and IsiZulu) hardcopy as well as on the CD.
- 3 x questionnaires.

Instructions:

- You are requested to present the programme during your treatment in the NICU, Neonatal high care ward or KMC ward at your hospital with a small group (approximately four) of parents/caregivers whose infants are in the neonatal nursery.
- You may select the venue for the programme to be presented.
- You may use the PowerPoint presentation on the CD or the transparencies if you are not equipped with a lap-top computer.
- You are also requested to use the handouts regardless of the parents' literacy levels. Please make more copies of either handout if necessary.
- Please provide feedback and comments to me thereafter by completing the questionnaire and sending it back via e-mail or facsimile.

Thank you for your willingness to participate in this project and the time you spent despite a busy schedule.



Esedra Strasheim
082 461 72 48
Email: esedra1@gmail.com
Facsimile: 086 613 0625



Pilot study questionnaire
Development of a neonatal communication intervention tool

Esedra Strasheim
Department of Communication Pathology
University of Pretoria

Please complete the following questionnaire regarding the tool/materials that was provided to you for use in the NICU, Neonatal High Care (NHCU) and KMC ward of your hospital.

Please answer each question. Tick the appropriate option or answer the question where applicable. Please fax or email this questionnaire back to the researcher at 086 6130 625 (f) or esedra1@gmail.com.

Participant number:
Highest qualification:
Years of working experience:

Section A: Format of the tool

1. Please rate the format and presentation of the tool with an x in the appropriate block:

	<i>Good</i>	<i>Adequate</i>	<i>Unsure</i>	<i>Inadequate</i>	<i>Poor</i>
<i>PowerPoint presentation</i>					
<i>Handouts</i>					
<i>Transparencies</i>					
<i>Complete programme for your use</i>					

2. Do you feel that the tool's format was useful in assisting you in service provision in the NICU/NHCU/KMC?

<i>Definitely</i>	<i>Probably</i>	<i>Unsure</i>	<i>Probably not</i>	<i>Definitely not</i>
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3. What would you like to change regarding the format of the tool? Please provide any comments or suggestions:

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Section B: Content of the tool

4. Please rate the content included in the tool by selecting one option:

<i>Good</i>	<i>Adequate</i>	<i>Unsure</i>	<i>Inadequate</i>	<i>Poor</i>
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5. Do you feel that the tool's content was useful in assisting you in service provision in the NICU/NHCU/KMC?

<i>Definitely</i>	<i>Probably</i>	<i>Unsure</i>	<i>Probably not</i>	<i>Definitely not</i>
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6. Please rate the language and terminology used in the tool:

<i>Good</i>	<i>Adequate</i>	<i>Unsure</i>	<i>Inadequate</i>	<i>Poor</i>
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Please provide any comments or suggestions:

7. Indicate whether you feel the following themes should be included in the tool:

<i>Theme</i>	<i>Definitely</i>	<i>Probably</i>	<i>Unsure</i>	<i>Probably not</i>	<i>Definitely not</i>
Prematurity and low birth weight					
Infant's capabilities (tactile system, auditory system, visual system)					
Developmental care (general awareness)					
Stress behaviours					
Noise in the nursery					
Light in the nursery					
Handling in the nursery					
Adaptations in the nursery to reduce stimuli (noise & light reduction, clustered care)					
Self-regulating behaviour					
Kangaroo mother care					
Positioning					
Calming techniques (e.g. swaddling, nesting)					
Communication stimulation					
Feeding					
Follow-up services (general awareness)					

8. What would you like to change regarding the content of the tool? Please provide any comments or suggestions:

Section C: Possible future enhancements to the tool

9. What enhancements you would prefer before using the tool again? Please provide any comments or suggestions:

Thank you for using the tool and completing this questionnaire 😊