

**TRAINING FOR INTERPERSONAL COMMUNICATION SKILLS RELEVANT TO
NEUROLOGICAL PRACTICE IN SOUTH AFRICA**

by

ANANDAN A. MOODLEY

**DISSERTATION SUBMITTED IN FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE**

**MAGISTER IN HEALTH PROFESSIONS EDUCATION
(M.HPE)
in the**

**DIVISION OF HEALTH SCIENCES EDUCATION
FACULTY OF HEALTH SCIENCES
UNIVERSITY OF THE FREE STATE
BLOEMFONTEIN**

1 September 2020

SUPERVISOR: DR J. BEZUIDENHOUT

CO-SUPERVISOR: DR A. VAN ASWEGEN

DECLARATION

I, Anandan Angamuthu Moodley, declare that the Master's research thesis and interrelated, publishable manuscripts that I herewith submit for the Magister in Health Professions Education at the University of the Free State are my independent work and that I have not previously submitted it for a qualification at another institution of higher education. Where help was sought, it has been acknowledged.

I, Anandan Angamuthu Moodley, hereby declare that I am aware that copyright of this Master's thesis is vested in the University of the Free State.

I, Anandan Angamuthu Moodley, hereby declare that all royalties as regards to intellectual property that was developed during the course of and/or in connection with the study at the University of the Free State will accrue to the University.



Anandan A Moodley (candidate)

3 September 2020

Date

Johan Bezuidenhout (Supervisor)

Date

Anton van Aswegen (Co-supervisor)

Date

ACKNOWLEDGEMENTS

I am most grateful to

- My supervisor, Dr Johan Bezuidenhout, Head: Division Health Sciences Education, Faculty of Health Sciences, University of the Free State;
- My co-supervisor, Dr Anton van Aswegen, Department of Neurosurgery, Faculty of Health Sciences, University of the Free State, for guidance in the performance of this study;
- The neurology registrars and specialist neurologists for participation in this study despite their busy schedules;
- Prof. Gina Joubert and Mr Cornel van Rooyen for biostatistics support; and
- Ms Elmarie Robberts, for her meticulous attention to detail whilst formatting and editing the dissertation.
- Ms Hettie Human, for the language editing and proofreading of this dissertation.
- The president of NASA, Dr Patty Francis for assistance in recruitment using the WhatsApp messenger group.

TABLE OF CONTENTS

CHAPTER 1: ORIENTATION TO THE STUDY	1
1.1 INTRODUCTION	1
1.2 BACKGROUND TO THE RESEARCH PROBLEM	3
1.3 PROBLEM STATEMENT	6
1.4 RESEARCH QUESTION.....	7
1.5 AIMS AND OBJECTIVES OF THE STUDY	7
1.5.1 Aim of the study.....	7
1.5.2 Objectives of the study	7
1.6 METHODOLOGY.....	8
1.6.1 Research design	8
1.6.2 Sample selection	9
1.6.2.1 <i>Target population</i>	9
1.6.2.2 <i>Sample size</i>	10
1.6.2.3 <i>Pilot study</i>	10
1.6.2.4 <i>Data collection</i>	10
1.6.2.5 <i>Data analysis</i>	10
1.6.2.6 <i>The EvaSys survey management system</i>	11
1.7 ETHICAL CONSIDERATIONS	11
1.7.1 Ethics approval.....	11
1.7.2 Informed consent	11
1.7.3 Privacy policy	11
1.8 VALUE OF THE STUDY.....	12
1.9 RELIABILITY AND VALIDITY	12
1.10 SCHEMATIC OVERVIEW OF THE STUDY	13
1.11 TIME SCHEDULE.....	13
1.12 BUDGET	13
1.13 PROPOSED LAYOUT OF THE DISSERTATION.....	14

CHAPTER 2: ARTICLE 1	15
CHAPTER 3: ARTICLE 2	33
CHAPTER 4: KEY ELEMENTS FROM THE RESEARCH	56
CHAPTER 5: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY	59
5.1 INTRODUCTION	59
5.2 OVERVIEW OF THE STUDY	60
5.2.1 Research question 1	61
5.2.2 Research question 2	61
5.2.3 Research question 3	62
5.3 CONCLUSION	62
5.4 LIMITATIONS OF THE STUDY	63
5.5 CONTRIBUTION OF THE RESEARCH	64
5.6 CONCLUDING REMARK.....	64

LIST OF APPENDICES

APPENDIX A:	ETHICS APPROVAL LETTER
APPENDIX B:	QUESTIONNAIRE
APPENDIX C:	NASA APPROVAL LETTER
APPENDIX D:	PARTICIPATION INFORMATION LETTER
APPENDIX E:	INFORMED CONSENT LETTER
APPENDIX F:	UFS GATEKEEPING CLEARANCE
APPENDIX G:	BIostatISTICS APPROVAL LETTER
APPENDIX H:	AUTHOR GUIDELINES FROM SOUTH AFRICAN JOURNAL OF HEALTH PROFESSIONS EDUCATION
APPENDIX I:	TURN-IT-IN REPORT

LIST OF TABLES

CHAPTER 1

Table 1.1: Estimated Time Schedule..... **ERROR! BOOKMARK NOT DEFINED.**
Table 1.2: Estimated Budget..... **ERROR! BOOKMARK NOT DEFINED.**

CHAPTER 3

Table 1: Demographic data, current location, training units and language proficiency of participants 39
Table 2: Opinions relating to interpersonal communication training 43
Table 3: Opinions relating to communication training during registrar training 44
.....

LIST OF FIGURES

CHAPTER 1

Figure 1.1: Schematic overview of the study..... **ERROR! BOOKMARK NOT DEFINED.**

CHAPTER 2

Figure 1:	The linear model of Shannon-Weaver	17
Figure 2:	Berlos's model of communication where communication is a two-way process.....	17
Figure 3:	Barlund's model of communication. Roles may be reversed in regular cycles	18
Figure 4:	The CanMeds framework of physician competency	19
Figure 5:	The AfriMeds framework as adapted from the CanMeds framework	21

CHAPTER 3

Figure 1:	Language skills with patients and other health care professionals	40
Figure 2:	Prior or current training in interpersonal communication	41
Figure 3:	Year during which undergraduate interpersonal communication skills were taught	41
Figure 4:	Type of training received at undergraduate level	42
Figure 5:	Category of training received at undergraduate level	42
Figure 6:	Formal testing of doctor-patient communication at undergraduate level	43
Figure 7:	Format of communication testing received at undergraduate level	43
Figure 8:	Experience in communication during registrar training	44
Figure 9:	Response from 114 participants who felt that communication training should be offered during neurology registrar training	45
Figure 10:	Response from 39 participants who felt that communication should be formally tested in the FC Neurol exam	46
Figure 11:	Registrars' self-perceived competency in dealing with neurological communication issues in neurology	47
Figure 12:	Neurology specialists' self-perceived competency in dealing with communication issues in neurology	48

LIST OF ABBREVIATIONS

AfriMEDS	African Medical Education Directions for Specialists
CanMEDS	Canadian Medical Education Directives for Specialists
CMSA	Colleges of Medicine of South Africa
CNSA	College of Neurology of South Africa
FC Neurol (SA)	Fellowship of the College of Neurology of South Africa
HPCSA	Health Professions Council of South Africa
HSREC	Health sciences research ethics committee of the UFS
MMed	Masters in Medicine
NASA	Neurological Association of South Africa
NQF	National qualifications framework
OSCE	Objectively structured clinical exam
OSPE	Objectively structured practical exam
PACES	Practical assessment of clinical and examination skills
SAQA	South African Qualifications Authority
UFS	University of the Free State

LIST OF DEFINITIONS AND TERMINOLOGY USED IN THIS STUDY

AfriMEDS: The African education framework that describes the competencies physicians require to meet the needs of the people they serve. This framework was adapted from the CanMEDS framework (HPCSA 2014).

Assessment: "The process used to identify, gather and interpret information against the required competencies in a qualification or part-qualification in order to make a judgement about a learner's achievement" (SAQA 2014:13).

CanMEDS: The Canadian education framework that describes the abilities physicians require to effectively meet the health care needs of the people they serve (CanMeds 2015).

Curriculum: "A statement of the training structure and expected methods of learning and teaching that underpin a qualification or part-qualification to facilitate a more general understanding of its implementation in an education system" (SAQA 2014:19).

Interpersonal communication: "The ability of the provider to elicit and understand patient concerns, to explain healthcare issues, and to engage in shared decision-making if desired by the patient" (Haggerty *et al.*, 2007:340).

Interpersonal communication in medicine: The ability of the healthcare worker to elicit, understand and share healthcare issues as they relate to patients, patients' families, other healthcare professionals and the legal profession.

Health Sciences Research Ethics Committee: Ethics Committee of the Faculty of Health Sciences of the University of the Free State (UFS, 2014a).

EvaSys online system: An internet-based survey management system that can be used to evaluate academic programmes quickly and effectively (UFS, 2014b).

Exit-level outcomes: "The knowledge, skills and attitudes that a learner should have obtained or mastered on completion of a qualification and against which the learner is assessed for competence outcomes" (SAQA 2014:24).

SUMMARY

The postgraduate neurology curriculum has not yet adopted the AfriMEDS framework for physician competency in South Africa. The AfriMEDS framework expands on holistic training for doctors and has been accepted as a guiding framework for undergraduate training by most medical training units in South Africa. The doctor as a communicator is one of seven attributes listed in this framework. Good interpersonal communication between the neurologist, the patient and the caregiver is the cornerstone of an effective therapeutic relationship. Failure in this social construct is likely to result in the breakdown of this relationship, and patients could see litigation as the only way to resolve problems that may arise. Motivation to include training in interpersonal communication in the postgraduate neurology curriculum requires robust support from alumni.

In this questionnaire-based study, qualified neurology specialists were recruited to gauge their opinions on the communication training they had received at undergraduate and postgraduate levels, and to determine how effectively it prepared them for neurology practice. Neurology registrars in training were also recruited to elicit their opinions on the same topic, as they were more *au fait* with current demands of neurology training in terms of the workload and research requirements.

Both groups reported strongly that undergraduate and postgraduate training in communication was inadequate. Currently, undergraduate training in communication was regarded as not relevant to the unique demands relating to communication experienced in neurological practice, and postgraduate training in communication was experiential, and not formalised. Both groups expressed strong opinions about the need for special skills training in breaking bad news, disclosing medical errors, dealing with life-and-death issues and communicating with the legal profession, both in writing and verbally. Registrars posited that training should take place at an early stage of their training, to avoid imposing on their fellowship preparation and the completion of the compulsory MMed dissertation. Specialists, on the other hand, were more supportive of communication training throughout the training period, and indicated that it was as important as clinical skills acquisition and research experience. Both groups expressed that assessment of communication skills was necessary, though in the form of an objectively structured clinical or practical exam, by summative assessment or by certification at a structured workshop, so that post-qualified specialists could participate.

The overarching opinions of both groups support the need for training in interpersonal communication. The College of Neurology needs to take cognisance of this call and introduce an interpersonal communication component in the final exam, as is the policy of the Canadian, American, British and Australian exit neurology examinations. Assessment drives learning, and expecting registrars to learn by observation alone in a field that is physically and psychosocially demanding on hapless patients, is reprehensible.

ABSTRACT

Training in proper communication between doctor and patient is not a requirement for the training of neurologists in South Africa. This is not the case in neurology training in countries such as Canada, the United Kingdom and Australia, where communication is taught and tested in the final neurology examination. The aim of this study was to assess how qualified neurologists and neurology doctors in training (registrars) view their ability to communicate with patients, and how they view such communication as an item in the neurology-training syllabus. The researcher conducted a survey to investigate the opinions of neurology doctors by using a questionnaire completed either via the internet or on printed forms. The target groups were neurology registrars and qualified neurologists working in private practice, public and academic hospitals. The results of this study will be made available to the seven neurology-training units in South Africa, as well as the College of Neurology, which is the neurology examining body of the College of Medicine of South Africa. The study found that neurology registrars and qualified neurologists are not adequately skilled in communication and, therefore, the study will motivate for the introduction of proper training and testing of communication in the objectively structured clinical examination of the final neurology exam. After all, if students are not tested in doctor-patient communication, it is unlikely that they will possess the required skills in doctor-patient communication.

TRAINING OF INTERPERSONAL COMMUNICATION SKILLS RELEVANT TO NEUROLOGICAL PRACTICE IN SOUTH AFRICA

CHAPTER 1:

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

In this research project, an in-depth study was done to evaluate the self-perceived knowledge, expertise and degree of comfort exhibited by neurology registrars and consultants in handling difficult interpersonal communication relating to neurology. Their perceptions of the importance of interpersonal communication, as a core competency required in neurology training, was also assessed. The main objective of the study was to identify gaps in the training of neurology registrars in relation to interpersonal communication, and to make recommendations to the College of Neurology of South Africa (CNSA) to address these shortfalls.

The CNSA is the examining body that oversees the core curriculum of neurology training, and which manages the exit neurology exam for practice as a neurologist in South Africa. Members of CNSA formulate the curriculum and blueprint for the exam. Members of the CNSA meet annually to evaluate the training programme: Part 1 of the exam, which comprises basic neuroscience, and Part 2 of the exam, which assesses neurology clinical practice. Success in both exams, together with a dissertation for the Master's in Medicine degree, permits candidates to practice as neurologists in South Africa. The committee consists of members of the senate and heads of departments of all seven neurology-training units in the country (CMSA 2018).

Interpersonal communication is currently not a core competency requirement for neurology training in South Africa (CMSA 2018). This lack is in stark contrast to neurology training in the United Kingdom, United States of America, Canada and Australia. Training in communication and assessment at the exit exams are compulsory in their training curricula (Manyuk 2016). CanMEDs is a Canadian education framework that describes the abilities physicians require to meet the health care needs of the people they serve effectively (CanMEDs 2015). The CanMEDs assessment entails having the doctor assume various roles in patient care viz., medical expert, communicator, collaborator, health advocate, leader,

scholar and professional. The Royal College of Physicians of Canada and the accreditation committee for graduate medical education identified communication as a core competency for practicing physicians. Consequently, training and assessment in communication skills is routinely conducted by all neurology training institutions in Canada.

In South Africa, the focus of neurology training is on basic science education and the acquisition of the essential clinical acumen needed to practice as an independent neurologist. Licensure by the overseeing health board, the Health Professions Council of South Africa (HPCSA), is awarded if core clinical competencies are demonstrated and there is proof of a small research component, which comprises 25% of the fellowship. Competency in communication and professionalism is not a requirement, nor is it formally assessed in the exit exam (CMSA 2018).

At the October 2018 CNSA meeting in Cape Town, a great deal of reluctance was expressed about adding a communication component to the neurology practical exam; the council believed that interpersonal communication is a “soft skill” that is in the realm of psychiatry, and not neurology. Despite much debate, no consensus was reached and communication remains a non-essential component of training and assessment for neurology in South Africa.

This study canvassed the opinions of the greater community of neurology, that is, neurology registrars and qualified neurologists, on the topic of interpersonal communication, with the goal of informing CNSA of the importance and relevance of communication for holistic neurology practice. A questionnaire was administered to neurology registrars at the seven neurology training units in South Africa, neurologists from the public sector who are involved in neurology training, and neurologists working in the private sector – the latter are inclined to be confronted by a more demanding patient population. The perceptions and experiences of the study participants will be summarised and presented to committee members of the CNSA.

Interpersonal communication refers to a doctor-patient conversation that pertains to various aspects of the encounter, such as acquisition of the patient history, feedback to the patient about results and the diagnosis, counselling about treatment, complications and prognosis, and dealing with difficult and problematic issues in medicine (Chichirez & Purcăarea 2018). Difficult issues in neurology include breaking bad news, discussing do-not-resuscitate orders, dealing with difficult patients or families, obtaining informed

consent, discussions with families of critically ill patients, disclosing medical errors and so on (Watling & Brown 2007). Core competency requirements in neurology training are specified by the CNSA, the examining body of the Fellowship of the College of Neurology (FC Neurol) exit examinations. Licensure to practice as a neurologist in South Africa is governed by the HPCSA, which ensures that all requirements for licensure have been met prior to issuing a certificate for independent practice as a neurologist (HPCSA 2018).

The research questions that were addressed are the following:

- i. Do neurology registrars undergo sufficient training in interpersonal skills and professionalism at undergraduate and postgraduate levels?
- ii. Do neurology registrars perceive the acquisition of good communication skills as essential for their training, and are they willing to attend workshops during the training period to learn these skills, should there be a shortfall?
- iii. Do consultants have communication skills deficits in their current practice of neurology and do they see the need to address these shortfalls?
- iv. What percentage of neurology registrars and consultants feel competent and comfortable about addressing difficult communication issues in neurology?

The research design which was implemented used a cross-sectional survey that employed a structured questionnaire that was mainly quantitative. Cross-sectional surveys are observational studies that are done at a given point in time to collect data from a sample of a population, of which the members share certain traits that are being investigated by the researcher. The results obtained from this study's questionnaire were used to establish the adequacy or need for communication skills training for neurology registrars during their four years of residency and, thereby, the study makes recommendations for changes to the curriculum.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

Communication is defined in various ways, and the main tenets are common: information is exchanged between individuals or groups, interaction takes place between two parties, i.e., a dialogue, expression of views and active listening, and verbal and non-verbal means of information transfer are implemented. It is a natural process, which may be intentional or unintentional. Most importantly, communication is a learned skill or a series of learned skills that, to be effective, must be accurate and efficient and must demonstrate support

and meaning. Effective communication is the basis of mutual understanding and trust. Poor communication causes a great deal of misunderstanding and prevents work productivity (Elamin 2015).

Communication in medicine is the cornerstone of an effective therapeutic relationship between the doctor and patient (Tanveer, Shaheer & Hafeez 2018). With good communication, a detailed history can be obtained from the patient, through which a reasonable diagnosis can be made. Good communication also permits the transfer of information in a professional manner on aspects relating to diagnosis, investigation, planned therapy and prognosis. Communication relies entirely on the professional interpersonal skills of the physician, and helps to ensure an effective therapeutic relationship (PRACTO 2015).

The importance of good and effective communication in medicine cannot be overemphasised. The significance of this skill in medicine has been identified by many undergraduate programmes, and communication skills form part of the core curriculum of training units in countries such as in Canada, the United Kingdom, and most of the rest of Europe (CanMeds, 2015; MRCP UK 2019). While communication is inherent in the training of doctors, it is often considered a "soft skill", relegated to informal teaching and only included in elective modules. While effective communication promotes good therapeutic relationships between doctors and patients, it also serves to prevent distress in the long term, by preventing misunderstandings and possible litigation actions (Levinson, Roter, Mullooly, Dull & Frankel 1997).

Communication in neurology comes with its own challenges (Arciniegas et al 2010). The field of neurology includes many disorders of chronicity, disability and premature mortality. Concepts relating to pathophysiology, investigations, diagnosis and prognosis can be difficult to explain in simple language, as much of the essence of the disease can be lost in oversimplification. There is great demand for neurologists to be masterful communicators, and also to display humility, empathy and professionalism. Diseases, such as multiple sclerosis and motor neuron disease, can be particularly difficult to explain to young patients, who are destined to be wheelchair-bound in a short time, or reliant on a ventilator prior to a catastrophic end. Neurologists are frequently required to break bad news and doing so can be immensely difficult and uncomfortable for a poorly trained neurologist; receiving bad news is equally difficult for the hapless patient. Communication with patients, colleagues, nursing staff, allied health care workers and families requires a variety of verbal and written communication skills, which must be mastered by neurologists during their

training. Acquiring effective communication skills during training should, therefore, be a priority and, realistically, a core competency requirement during training.

The current neurology curriculum as specified on the CNSA website focuses on the basic neurosciences and clinical syllabus required for training as a neurologist who wishes to practice independently in South Africa (CMSA 2018). The information is explicitly deficient regarding the acquisition of the communication skills and professionalism that is expected in the profession. In addition to the medical requirement of expertise in clinical neurology, there is provision for a research component in neurology towards the MMed degree, which is a requirement of the HPCSA for licensure to practice. The Part 1 FC Neurol exam tests knowledge of the basic sciences of neuroanatomy, neurophysiology, neuropharmacology, neurochemistry, genetics and statistics. The Part 2 FC Neurol exam tests all aspects of theoretical clinical neurology, clinical examination and management of the patient, and serves as the exit exam. The Part 2 examination includes a written, objectively structured clinical exam (OSCE) that tests neuroradiology, electroencephalography and nerve conduction studies. Revisions to the clinical assessment are anticipated for the 2020/2021 exam, which will include an objectively structured practical exam (OSPE), tested at six stations; the OSPE will replace the two short clinical cases currently in the final clinical exam (personal communication). However, the long clinical case, testing history taking, and management will still be included. Should the need for communication testing be realised, the OSPE is well positioned to test communication skills at one of the stations.

However, acceptance of interpersonal communication in neurology as a core competency requirement and as a subject of testing in the exam requires that it is accepted by the CNSA executive, whose members currently do not perceive this skill to be relevant (personal communication).

Communication skills, as a core competency requirement, has long been accepted by the Royal Colleges of Medicine of Canada, Royal Colleges of Medicine of the United Kingdom and the College of Medicine of Australia and New Zealand, both at undergraduate and postgraduate levels. In Canada, interpersonal communication is emphasised strongly in training, thereby empowering neurologists in their daily practice. Even though difficult and uncomfortable situations do arise in daily practice, neurologists are generally able to manage these situations professionally and competently.

The practical assessment of clinical and examination skills (PACES) exam of the Royal

College of Medicine of the United Kingdom is a postgraduate exam in clinical medicine that assesses practical skills. Included in this exam are two stations that assess communication. The one station assesses information gathering (history-taking) and the other, information-giving. Communication skills are included in the postgraduate curriculum and are tested in the relevant postgraduate examinations. Feedback from candidates involved in training workshops prior to assessment in the PACES exam is positive (Dacre, Richardson, Noble, Stephens & Parker 2004).

The Royal Australasian College of Medicine places similar emphasis on communication in postgraduate education. There are two curricula for postgraduate training of specialists: the advanced training curriculum in a specific specialty, and the professional qualities curriculum that is relevant to all specialties and which focuses on communication and professionalism. Both are core competency requirements for the neurology exit exams in Australia and New Zealand (RACP 2017).

Over the last 15 years, communication skills training has been done at the undergraduate level and at the postgraduate level by various postgraduate medical bodies. Training takes the form of didactic lectures, videos and workshops. The most effective training programmes are those that involve roleplaying and feedback, which are techniques that have been reported as the most favourable (Kurzweil *et al.* 2018). In fact, the more closely communication training mimics the assessment process, the more beneficial it is (Dacre *et al.* 2004; Watling & Brown 2007). No doubt, assessment is a great motivator. The introduction of assessment of interpersonal communication skills at postgraduate level has ensured better training and preparation of candidates entering the final exit exams in Canada, the United Kingdom and USA (Middlemas, Haftel, Ross & Lypson 2013).

In South Africa, the anticipated new OSPE in neurology could allow for the testing of communication. One of the stations in the OSPE can be allocated to communication, as is the case in the Canadian Neurology Fellowship exam and Membership of the Royal College of Physician exam in the United Kingdom. However, for this to become a reality in the South African context, a strong motivation is required to include communication skills in formal testing in the neurology exit exam. Hopefully, this study will make a meaningful contribution towards this motivation.

1.3 PROBLEM STATEMENT

The question that needed to be addressed is whether or not the training of neurology registrars by South African institutions is adequate to prepare them for various day-to-day doctor-patient interactions that require effective interpersonal communication. The current postgraduate neurology curriculum does not provide any formal training or assessment in communication, and relies solely on undergraduate teaching of this competency.

However, effective communication is essential in neurology, as difficult and uncomfortable situations relating to information-giving, counselling, management decisions and end-of-life care are frequently encountered in the practice of neurology. The current standard of communication relies entirely on experiential learning, and lacks supervision. Litigation in neurology is increasing and often arises from poor communication (Jayalakshmi & Vooturi 2016).

1.4 RESEARCH QUESTION

This study enquired about the self-perceived competence of neurology registrars and qualified neurologists for dealing with tough issues relating to communication in neurology practice. The questionnaire that was administered to participants gained information on the following questions:

- i. Is there a need for the current curriculum to be changed, so that it includes communication as a core competency requirement?
- ii. Should interpersonal communication be assessed in the exit neurology exam?
- iii. If deficiencies are identified, are neurology registrars and qualified neurologists willing to undergo training in communication to address deficiencies?

1.5 AIMS AND OBJECTIVES OF THE STUDY

1.5.1 Aim of the study

The aim of the study was to assess the self-perceived competence of neurology registrars and graduates in interpersonal communication and to elicit their perceptions on the importance of interpersonal communication as a core competency requirement in the training of neurologists.

1.5.2 Objectives of the study

The study had the following objectives:

- i. To gain a deeper understanding of literature regarding interpersonal communication skills development in the training of neurologists;
- ii. To establish the self-perceived competence of neurology registrars and consultants in their own interpersonal communication skills when dealing with communication issues in neurology;
- iii. To assess the perception of neurology registrars and consultants on the significance of interpersonal communication as a core competency in the practice of neurology; and make comparisons between how registrars and consultants view this significant, where relevant;
- iv. To estimate the willingness of neurology doctors to participate in communication training at various levels of training and post-training; and
- v. By using the results from achieving the above objectives, to make recommendations to the CNSA on relevant curriculum changes.

1.6 METHODOLOGY

1.6.1 Research design

This was a quantitative descriptive cross-sectional study. The study used a self-administered questionnaire through which quantitative and minimal qualitative data was obtained. Demographic data of the participants, their current occupations and status – whether they were at registrar or consultant level – were documented. Single-word choices, such as yes, no and unsure were presented as responses for most questions. None of the questions were open-ended, instead, a Likert-scale was employed to elicit information on the level of confidence of participants about handling difficult situations in patient care involving communication in neurology. The structured questionnaire was administered using EvaSys software and completed online by the participants. However, where necessary, a printed questionnaire was used at local meetings and congresses, where groups of neurologists were approached to participate in the study.

Final statistical analysis for the study was performed by the Biostatistics Department of the University of the Free State (UFS), using data from the printed questionnaires and the data obtained from the EvaSys system.

Ethics approval for the study was obtained from the UFS Health Sciences Research Ethics

Committee (HSREC). Consent to conduct the study was obtained from the vice rector of teaching and learning at the UFS.

Permission to use contact details of neurologists and registrars on the Neurological Association of South Africa (NASA) database was obtained from the current president of NASA. Approval to approach participants at the March 2020 congress was sought from the president of NASA.

1.6.2 Sample selection

1.6.2.1 *Target population*

There are currently seven neurology training institutions in South Africa, and participants currently enrolled at the institutions, and who trained at these institutions in the past were recruited to participate in the study. Departments of neurology at the following institutions were approached:

- University of the Free State;
- University of KwaZulu-Natal;
- University of the Witwatersrand;
- University of Pretoria;
- Sefako Makgatho Health Sciences University;
- Stellenbosch University; and
- University of Cape Town.

The annual NASA Congress and annual registrar weekend organised by NASA presented ideal opportunities to recruit neurology registrars and consultants to participate in the study. The aims and objectives of the study were explained at the congress and registrar weekend and participants were recruited to participate voluntarily. Registrars at all levels of training, and qualified neurologists from the public and private sectors were approached to participate in the study.

Qualified neurologists not attending the congress were approached to participate in the study using the EvaSys system, under the authority and supervision of NASA. As this study pertains specifically to South African-trained neurologists, results of this study will be made available to the CNSA and submitted to the *South African Journal of Education* or the *African*

Journal of Health Profession Education for publication.

1.6.2.2 Sample size

There are currently about 45 registrars and 160 qualified neurologists in the country. All registrars were approached to participate in the study. All qualified neurologists were approached to participate and all neurologists who responded were recruited.

1.6.2.3 Pilot study

A pilot study was done first, to ensure that the study ran smoothly. The pilot study assessed the time required to complete the questionnaire, its clarity and accuracy. Two registrars and two qualified neurosurgeons from the UFS were recruited for the pilot study. The EvaSys system was used for the pilot study, and problems were addressed as they arose. Data from the pilot study was not included in the final data, as the pilot involved neurosurgeons.

1.6.2.4 Data collection

Data was collected both from printed questionnaires and from the EvaSys electronic survey management system. The questionnaires were self-administered in both a printed format and via the EvaSys system. All the registrars and neurology consultants attending the annual neurology congress in Cape Town in March 2020 were approached to participate in the study. Printed questionnaires were used for this purpose. For registrars and consultants who were not present at the congress, email addresses were obtained from NASA and they were recruited via the EvaSys system. A link to the EvaSys online system was also sent via the NASA Whatsapp group chat by the president of NASA. To avoid duplication, a list of attendees at the congress was obtained from the congress organisers, with the approval of NASA. This list was cross-checked with the list of registered registrars and consultants from NASA, and those not appearing on the congress attendance list were contacted via the EvaSys system.

1.6.2.5 Data analysis

The biostatistics department of the UFS did data analysis using data obtained from printed questionnaires and from the EvaSys electronic survey management system. Results were summarised as frequencies and percentages (categorical variables) and means, standard deviations or percentiles (numerical variables); 95% confidence intervals were calculated

for main outcomes.

1.6.2.6 *The EvaSys survey management system*

EvaSys is a web-based survey program currently offered by the UFS for use in online surveys. The EvaSys office provides facilities for access to EvaSys software to create and distribute online surveys. The email method of submitting surveys was employed for this study. The structured questionnaire that was compiled was submitted to the EvaSys office, together with evidence of approval for the study from the postgraduate office and the Ethics Committee. An online survey was created and distributed to participants on the email list provided to the office. Prospective participants received only two automatic reminders. Thereafter, no response implied that they were not willing to participate. Completed questionnaires were made available to the biostatistics department on an Excel spreadsheet within two months of completing the recruitment.

1.7 ETHICAL CONSIDERATIONS

1.7.1 Ethics approval

Ethics approval for the study was obtained from the UFS HSREC.

1.7.2 Informed consent

Informed consent was obtained from all participants. Participation was entirely voluntary and participants could refuse to participate without facing any consequences. Informed consent was requested in English only, as participants consisted of registrars and qualified neurologists who are proficient in English. Consent and assurance of confidentiality were included in the EvaSys online survey and printed questionnaires and were completed by participants prior to completing the survey. The consent forms are stored separately from the questionnaires in both the printed format and EvaSys system, to ensure confidentiality.

1.7.3 Privacy policy

A number coding system was used to ensure confidentiality during statistical analysis. As stated above, consent forms are stored separately from the questionnaire, which is entirely anonymous. The principal investigator undertook to store the participant identity list safely.

1.8 VALUE OF THE STUDY

This study will serve to achieve the following:

- Create awareness amongst neurology registrars, qualified neurologists and the CNSA about the importance of interpersonal communication in the practice of neurology;
- Assess the self-perceived level of communication skills amongst neurology doctors;
- Motivate for interpersonal communication to be included in the neurology curriculum for training and assessment in the Part 2 final College exam; and
- Make recommendations for interpersonal communication workshops for neurology doctors who are in training, and those who are qualified.

1.9 RELIABILITY AND VALIDITY

The reliability of the questionnaire will be evidenced by reproducibility of the results. The process of compiling the questionnaire to ensure that it is applicable to registrars and to qualified neurologists and is devoid of ambiguity and bias, was the responsibility of the principal investigator. This questionnaire was converted to a survey on the EvaSys system to make it suitable for access via email. There were checks in the entire process, to ensure clarity and accuracy of questions and responses. A sample population of 40 registrars and 60 qualified neurologists was considered sufficient, based on previous studies, whose numbers seldom exceeded 20 participants. Regardless, the power of the study and sample size was discussed with the biostatistics department. A pilot study was conducted to assure the accuracy of questions and content. The neurosurgery department at the UFS was approached for the pilot study, to avoid losing neurology participants who could participate in the study.

The validity of the study was indicated by the research method. As this was a questionnaire-based survey, mostly quantitative data was obtained and analysed. The pilot study served to address any shortcomings of the study prior to implementing the main study.

1.10 SCHEMATIC OVERVIEW OF THE STUDY

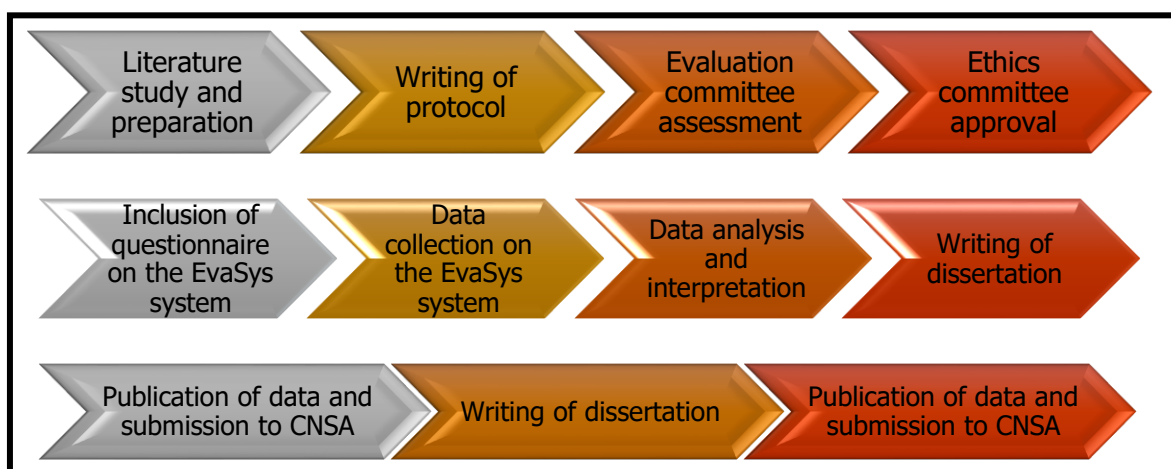


Figure 1.1: Schematic overview of the study

1.11 TIME SCHEDULE

Table 1.1: Estimated time schedule

Research proposal	Dec 2019
HSREC application	Jan 2020
Survey process	Jan 2020 to April 2020
Analysis of data	May 2020
Dissertation write-up	July 2020
Submission for marking	Oct 2020

1.12 BUDGET

Table 1.2: Estimated budget

LITERATURE SURVEY	R3 000.00
Literature requests	R2 500.00
Printing costs	R500.00
COMPLETION OF QUESTIONNAIRE	R2 100.00
Evasys survey	R1 100.00
Printing 100 information documents and consent forms	R1 000.00
COMPILATION OF QUESTIONNAIRE ON EVASYS	R1 600.00
EDITING OF PROTOCOL	R3 160.00
Editing of maximum 50 pages @ R50/page	R2 500.00
References @ R15/reference	R660.00
ATTENDANCE OF HPE SEMINARS/BOOT CAMPS	R6 000.00
FINAL REPORT	R23 500.00
Editing of maximum 200 pages @ R50/page	R10 000.00
References and in-text citations @ R15/reference	R1 500.00
Graphical work	R2 000.00
Final printing and binding	R10 000.00
CONFERENCE PRESENTATION	R15 000.00
TOTAL ESTIMATED COST	R54 360.00

Funds for the study was obtained from the neurology departmental research funds and from bursary applications.

1.13 PROPOSED LAYOUT OF THE DISSERTATION

Chapter 1: Orientation to the study: This chapter explained the problem statement, aims, objectives, methodology and measurement tool employed for this study.

As this dissertation is presented in a publication format, Chapters 2 and 3 will present the data obtained from the literature review and from the analysed questionnaires respectively.

Chapter 2: Article 1: This paper will be presented in a review format and will explore the literature on the topic of communication in neurology. Given that neurology presents as a unique challenge in medicine, and often involves patients with disabling and incurable diseases, effective and appropriate communication skills are paramount for the handling of such difficult situations. Curricula adopted by international institutions will be compared to South African training programmes. Gaps in training of communication skills will be highlighted and the importance of addressing such gaps will be discussed. Duplication of some of the literature review from Chapter 1 is inevitable in Chapter 2.

Chapter 3: Article 2: The results obtained from the self-administered questionnaires will be presented in this chapter. Opinions about the current training and proposed workshops as expressed by the participants will be presented in graphical format. In addition to eliciting the views of participants about their training in neurology as it pertains to interpersonal communication, comparisons will be made between registrars in training and qualified neurologists in relation to their views on the topic. The experience of practicing neurologists and reluctance on the part of registrars to undergo additional training during their already intensive work and training schedules will be considered in the interpretation of data. Recommendations will be made to the examining body, the CNSA, based on the findings of the data that was analysed. The goal is to publish the work in a journal with readership that includes neurologists and neurology educators in South Africa.

Chapter 4: Key elements from the research

Chapter 5: Conclusions, limitations and recommendations of the study

CHAPTER 2:

ARTICLE 1

TRAINING IN INTERPERSONAL COMMUNICATION IN NEUROLOGY IN SOUTH AFRICA: A SYSTEMATIC REVIEW

Moodley AA¹, Van Aswegen A², Bezuidenhout J³

¹Department of Neurology, Faculty of Health Sciences, University of the Free State, South Africa.

²Department of Neurosurgery, Faculty of Health Sciences, University of the Free State, South Africa.

³Division Health Sciences Education, Faculty of Health Sciences, University of the Free State, South Africa.

Corresponding author

Moodley AA, Department of Neurology, Faculty of Health Sciences, University of the Free State

MoodleyAA@ufs.ac.za

Keywords: Interpersonal communication, AfriMEDS, CanMEDS, Breaking bad news, Disclosing medical errors, Objectively structured clinical exam, Objectively structured practical exam, Neurological Association of South Africa, College of Medicine of South Africa, College of Neurology of South Africa

Conflict of interest: None declared

Methodology: The data sources used for this study include PUBMED, MEDLINE and GOOGLE SCHOLAR.

Search strategy: The keywords and terms used were "Interpersonal communication", "Communication in neurology", "Neurology training", "Neurology curriculum", "Doctor-patient communication", "Doctor-patient communication in South Africa"

All articles that were relevant to the above search strategy were included. This included studies conducted in South Africa and abroad. English and foreign language articles were included. No time limits were set for article retrieval.

Abstract

Interpersonal communication in neurology, between the doctor and a patient, the patient's family, other health practitioners and with the legal fraternity, presents unique challenges that are not covered in undergraduate communication skills training. During the registrar programme of four years, registrars learn interpersonal skills informally, mostly by observing senior colleagues. Very seldom are they actually directly observed by their supervisors and given feedback on their performances. Neither is interpersonal communication assessed in the exit neurology exam, at the end of the four years of training. This omission in assessment is the reason why training in communication is neglected by the various training units in the country. The AfriMeds framework of competency in health care has been adopted by the Health Professions Council of South Africa (HPCSA) for undergraduate training in South Africa, and has involved a drive to provide compulsory communication skills training at undergraduate level. However, as neurology-related communication issues are challenging, adopting this policy for postgraduate training will allow for more structured communication teaching, training and, perhaps, assessment in the exit college exams. This systematic review discusses communication as an activity and the challenges faced by neurologists in relation to communication during practice. Strategies to address this shortcoming that neurology practice faces, both locally and abroad, are discussed.

Introduction and background

Communication

Communication is defined in various ways, but the main tenets are common: it involves information being exchanged between individuals or groups, interaction that takes place between two parties, i.e., a dialogue, the expression of views and active listening, and implementing verbal and non-verbal means of information transfer. It is a natural process, which may be intentional or unintentional. Most importantly, communication is a learned skill or a series of learned skills that, to be effective, must be accurate and efficient and must demonstrate support and meaning, and be informative and honest. Effective communication is the basis of mutual understanding and trust. Poor communication causes misunderstanding and prevents work productivity (Elamin 2015).

Communication theory is defined as the study of the scientific process of transferring information from the sender to the receiver. This process involves more than language – factors relating to the sender, the medium, the message and the receiver play a role, and factors could be verbal and non-verbal. Cultural factors and noise that interrupt this process also impact on the communication of information. Various models have been devised to explain this process and make sense of successes and failures in the communication process. The Shannon-Weaver and Lasswell models are simple linear models of communication from the sender to an encoder, then on to a channel, a decoder and finally the receiver (Novak 2019; Shannon and Weaver 1949). The channel is susceptible to noise, which may obscure the message. However, these models lack complexity, in that communication in these models is regarded as a one-way process (Figure 1).

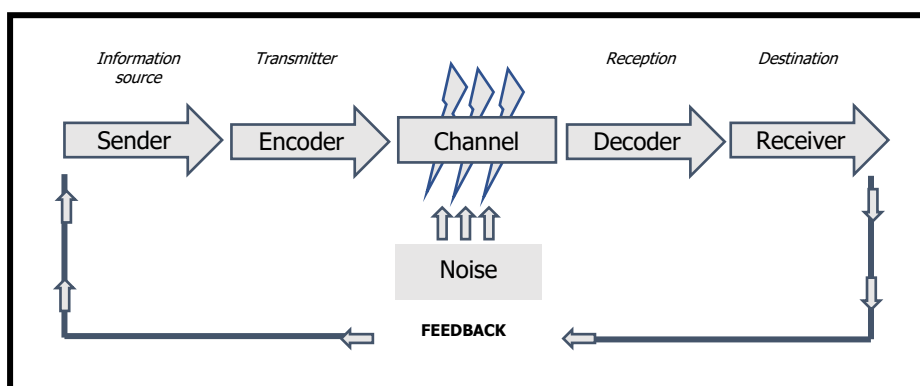


Figure 1. The linear model of Shannon-Weaver (Novak MC, April 2019)

However, communication should be a two-way process, and the receiver can be the sender if feedback is required when there is an interruption of the message. The models of communication of Berlos (Figure 2) and Barlund (Figure 3) take into consideration the two-way process and more closely reflect on the processes involved in doctor-patient and doctor-health professional communication.

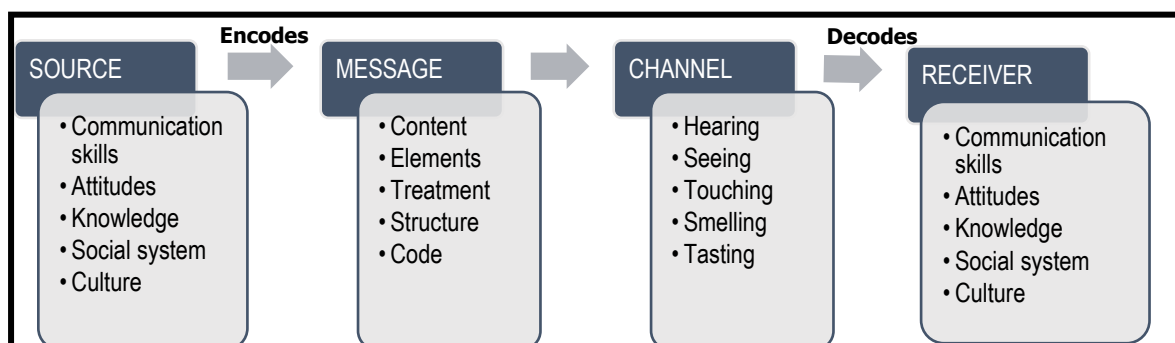


Figure 2. Berlos's model of communication where communication is a two-way process (Novak MC, April 2018)

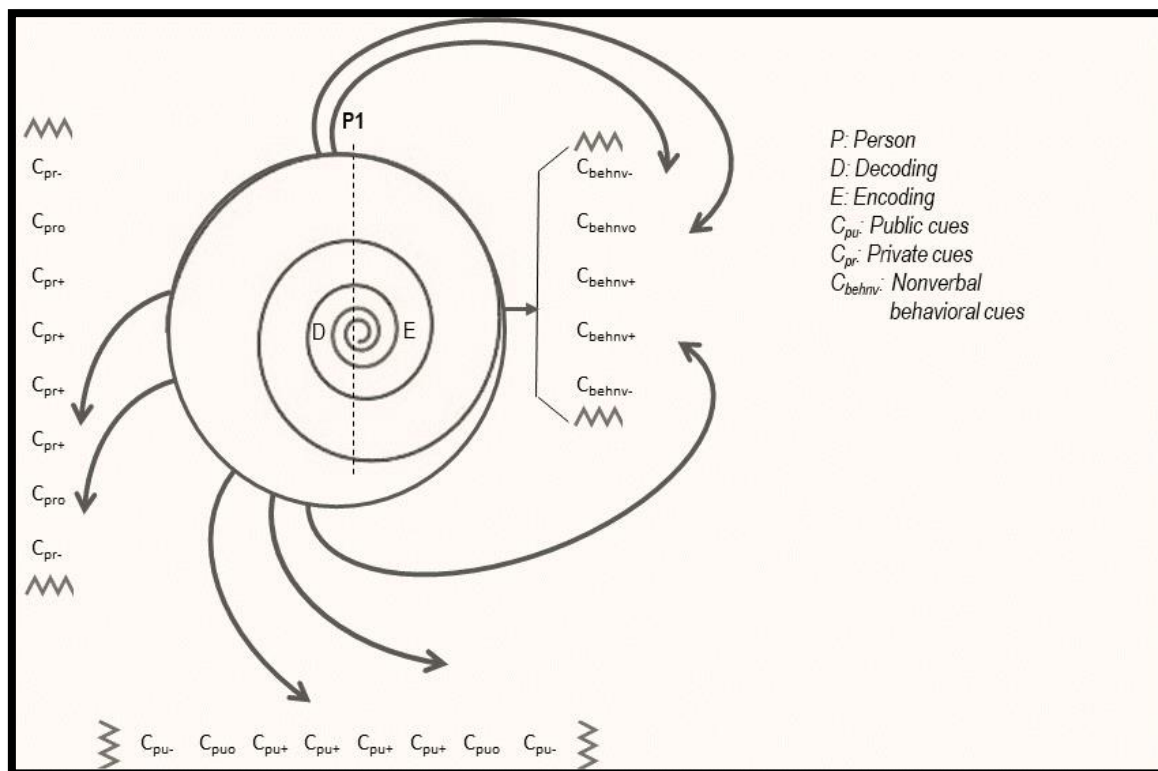


Figure 3. Barlund's model of communication, in which roles may be reversed in regular cycles (Novak MC, April 2019)

Roles may be reversed and, especially in Barlund's model, this occurs in regular cycles of giving and receiving information. The Schramm model, in turn, includes an important aspect of this process, that of interpreting, rather than merely receiving the message. Messages may be received, but are not necessarily interpreted or understood. This is a common flaw in the doctor-patient communication process where, traditionally, a paternalistic position is assumed, with doctors predominantly being the information-givers, without checking on the interpretation of the message sent, or having a shared discussion on the message received and the future goals of treatment.

Communication in medicine

Communication in medicine is the cornerstone of an effective therapeutic relationship between the doctor and patient (Tanveer, Shaheer and Hafeez 2018:306). Communication in health care is distinctive in that it is emotional and personal. Patients are seen at a very vulnerable point in their lives, when unreserved trust is placed in the treating doctor. Communication between the two parties is meaningful for building trust and developing a professional and therapeutic relationship (Chichirez and Purcăarea 2018). Good communication enables obtaining a detailed history from the patient, through which a

reasonable diagnosis can be made. Good communication also permits the transfer of information in a professional manner on aspects relating to diagnosis, investigation, planned therapy and prognosis. Communication relies on the professional and interpersonal skills of the physician to ensure an effective therapeutic relationship (PRACTO, 2015). The beliefs and attitudes of doctors have evolved since the 1950s (Koul 2017, 95–96) when it was considered inhumane to share bad news with patients, based on the flawed thinking that this bad news would negatively impact the therapeutic outcome. Patients were discouraged from voicing their concerns and expectations of treatment. Consequently, doctors were seen as distant and lacking in empathy. More recently, this paternalistic attitude has given way to individualism, more in developed countries than the overburdened developing countries, where time spent on counselling is apparently better spent on seeing more moribund patients. Current models of shared decision-making and a more patient-centred approach has improved communication and lead to better treatment outcomes.

The importance of good and effective communication in medicine cannot be overemphasised. The significance of this skill in medicine has been identified by many undergraduate programmes, and the skills form part of the core curriculum of training units in countries such as in Canada, the United Kingdom, and most of Europe (CanMeds 2015; Haggerty et al. 2007; MRCP UK 2019). The CanMEDS framework for physician training considers the health care worker to be a medical expert with all the clinical skills and medical knowledge required to practice. In addition, the health care worker requires specific skills training to be a communicator, collaborator, manager, health advocate, scholar and professional if the holistic practice of medicine is to be possible. The CanMEDS framework has been universally accepted and has been adapted by various institutions worldwide as a working document (see Figure 4).

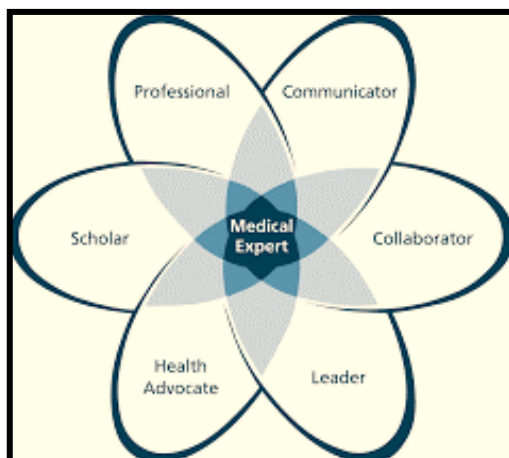


Figure 4. The CanMEDS framework of physician competency
Source: CanMEDS (2015)

In South Africa, the importance of communication is inherent in the training of doctors, though it is often considered a “soft skill”, relegated to informal teaching and only included in non-compulsory modules. While effective communication promotes a good therapeutic relationship between the doctor and patient, it also serves to prevent distress in the long term, by preventing misunderstanding and possible litigation actions (Levinson *et al.* 1997, 553).

In the 1990s, the Association of American Colleges (1999) made it compulsory for all medical schools to teach and assess the quality of communication for their students formally. This policy has been extrapolated to many institutions around the world, and had been adopted by most medical schools and undergraduate curricula in Europe by the early 2000s (Ferreira-Padilla *et al.* 2015, 311–313). Training in interpersonal communication has also undergone restructuring in South Africa since the 1990s. Initially, communication skills training was the domain of community health, but lately it has been included in the family medicine curriculum and is delivered during the preclinical years of training. The format of training varies at different medical colleges, though it generally consists of lectures and role playing.

AfriMEDS (African Medical Education Directions for Specialists)

In February 2014, the undergraduate education and training subcommittee of the Medical and Dental Professions Board of the HPCSA accepted the AfriMEDS framework, which outlines the core competencies required of undergraduate students in medicine and allied health sciences. By embracing communication as a core competency requirement, the HPCSA made communication training compulsory at all education institutions that offer medical training in South Africa. The AfriMEDS framework (Figure 5) was adapted from the CanMEDS physician competency framework (Figure 4), and it also allows for holistic training of the health care practitioner. It recognises interpersonal communication at multiple levels as an essential component of medical training for doctors.

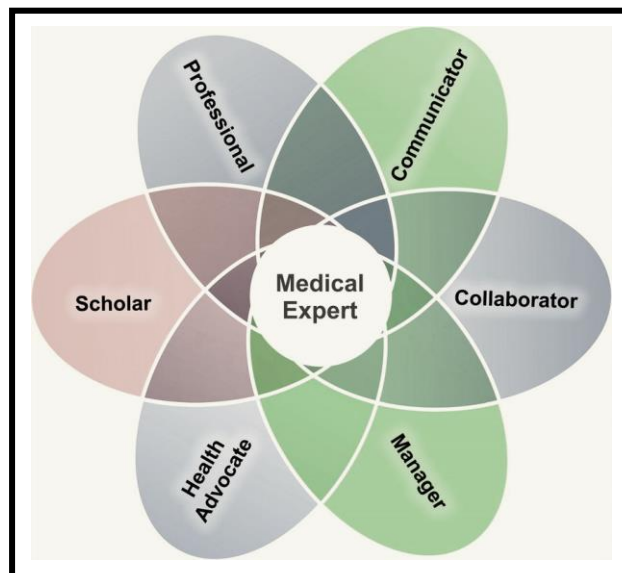


Figure 5. The AfriMEDS framework, adapted from the CanMEDS framework
Source: HPCSA (2014)

The roles defined by the AfriMEDS framework include the following:

- The health care practitioner: In this role, the health care professional has to integrate all the graduate attributes, including profession-specific knowledge, clinical skills and professional attitudes.
- Communicator: The health care professional is expected to facilitate doctor-patient, doctor-carer and other exchanges before, during and after therapeutic interventions.
- Collaborator: The health care professional has to work effectively within a team.
- Leader and manager: The health care professional is expected to organise health care systems and take the lead in decision-making regarding allocation of health resources.
- Health advocate: The health care professional promotes the health care of individuals, communities and populations.
- Scholar: In this role, the health care professional demonstrates lifelong commitment to learning and dissemination of knowledge.
- Professional: The health care professional ensures ethical practice and setting of high personal standards.

These roles have been accepted for undergraduate training, but are not yet supported for postgraduate training. Unreserved acceptance of the AfriMEDS framework by the College of Medicine of South Africa (CMSA), which is the examining body for specialist exams in South Africa, is still pending. The inclusion of the principles of AfriMEDS in specialist curricula is inconsistent and not compulsory.

Communication in neurology

Communication in neurology faces its own challenges. The field of neurology includes many disorders of chronicity, disability and premature mortality. Concepts relating to pathophysiology, investigations, diagnosis and prognosis can be difficult to explain in simple terms, as much of the essence of the disease can be lost in oversimplification. There is great demand for the neurologist to be a masterful communicator, and also to display humility, empathy and professionalism. Diseases, such as multiple sclerosis and motor neuron disease, can be particularly difficult to explain to, for instance, young patients destined to be wheelchair-bound in a short time, or to be reliant on a ventilator prior to a tragic end (Solari et al. 2007, 768). Neurologists are frequently required to break bad news and doing so can be immensely difficult and uncomfortable for a poorly trained neurologist; receiving bad news is equally difficult for the hapless patient. Communication with patients, colleagues, nursing staff, allied health care workers and families requires a variety of verbal and written communication skills, which must be mastered by neurologists during their training. Acquiring effective communication skills during training should, therefore, be a priority and, realistically, a core competency requirement during training.

Challenging examples of communication issues in neurology needing special focus during training

Breaking bad news

Bad news in medicine is defined as communicating a diagnosis with poor prognosis to a patient, or a diagnosis with a terminal outcome (Watling and Brown 2007, E22–E26). In neurology, these diagnoses include conditions such as motor neuron disease, Huntington's disease, Alzheimer's disease, multiple sclerosis, Parkinson's disease, Parkinson's plus syndromes and many others. Non-progressive neurological disease can also be very disturbing to patients when associated with significant disability, such as the inherited ataxias. Motor neuron disease presents as an extremely challenging diagnosis to reveal to a patient. Often, the patient involved has led an active physical life and now faces the prospect of being physically disabled, with a shortened lifespan – for amyotrophic lateral sclerosis the lifespan is approximately three to five years.

The response of patients to bad news depends on subjective and social factors. The acceptance of a diagnosis of Parkinson's disease in a 78-year-old patient is very different

to that in a 45-year-old patient. However, the need to leave one's home and to move to a care home facility can be equally distressing for patients, regardless of age. Moreover, the loss of one's independence can be traumatic, especially to a young adult who has to stop driving owing to the development of progressive visual loss from, for instance, Leber's hereditary optic neuropathy.

Training in the ability to break bad news is lacking in neurology curricula throughout the world. Much has been written about proper skills that should be espoused and, perhaps, Storstein's approach should be the blueprint. Storstein presents seven basic steps of breaking bad news, which were modified from Fallowfield and Jenkins (Fallowfield and Jenkins 2004, E20–E24; Storstein 2011, 5-9):

- i. Preparing in advance: Include a significant other, identify special needs and assemble the medical information.
- ii. Facilitate the setting: Choose a calm environment, prevent interruptions, include other health personnel and allocate sufficient time.
- iii. Explore the patient's perspective: Determine preferences for disclosure, consider that some patients refuse to be told, and the role of prior experiences and knowledge, and the patient's awareness of health issues.
- iv. Give information tailored to the patient's needs: Give clear and unequivocal information and use non-verbal communication.
- v. Encourage reactions and emotions: Acknowledge emotions and encourage expression of feelings.
- vi. Ensure understanding: Repeat messages and allow time for questions. Check if the message is understood.
- vii. Summing up: Present a plan for the future. Provide written information and resources.

These guidelines are intended to assist with the process, and not intended as a recipe. Bad news should be broken by a professional who is candid, realistic, honest and empathic.

Disclosing medical errors

Patients are more inclined to respond favourably to doctors who disclose medical errors than to doctors who do not, and if errors have been disclosed, are less likely to institute legal proceedings (Wu et al. 2009). Patients want explicit details on how and why an error occurred, especially if it has long-term health implications. They want the doctor to take

responsibility and make a personal apology. Wendy Levinson, an expert on error disclosure, summarised the following steps to take when disclosing errors, but emphasises that disclosing errors is no easy task (Berthold 2014).

- “Begin by stating there has been an error;
- Describe the course of events, using nontechnical language;
- State the nature of the mistake, consequences, and corrective action;
- Express personal regret and apologize;
- Elicit questions or concerns and address them; and
- Plan the next step and next contact with the patient.”

Admitting to an error and presenting a plan of action to redress the error and prevent further mishaps in the future is more important than merely accepting responsibility. Patients often need to understand that remedial action will be taken, and not just punitive action (Wu et al. 2009, 1015–1016).

Communicating with ‘difficult’ patients and family

Given that neurological disorders are commonly associated with significant disability in physical, psychological and social functioning, frustration and anger are often expressed by patients and targeted at the neurologist. Patients can appear hostile, impatient and oppositional. Patients are experienced as being difficult for various reasons, and dealing with such a difficult patient requires appropriate communication skills.

The underlying neurological disorder itself may have neuropsychiatric features, such as suspicious behaviour in patients with frontotemporal dementia or dementia with Lewy bodies. Patients may have comorbidities of anxiety, depression and psychosis, which, in themselves, may be threatening to the neurologist and staff. Countertransference by the neurologist, expressed by being impatient, intolerant and angry, could exacerbate the already tense situation. Awareness of the wide-ranging reasons patients and family present as ‘difficult’ can contribute to improving the doctor-patient relationship and, thereby, avoiding dismissing the patient.

Arciniegas and Beresford (2010, S39–S43) present a triad of factors that need addressing before a patient or family is labelled as ‘difficult’, namely, health care system factors, patient factors and physician factors. Health care system factors refer to deficiencies encountered

in the hospital or practice, such as long waiting times, lack of ablution facilities, shortage of medication and so on. All these factors may be experienced as frustrating to even very level-headed individuals. Patient factors consist of issues that pertain directly to the patient. Patients may have a neurological disorder that presents with psychiatric disease or patients may have personality disorders, such as maladaptive coping styles, feeling entitled, being manipulative or being self-destructive. Physician factors include burnout, being overworked, clinical inexperience, intolerance and easy frustration, which may contribute to the patient being experienced as 'difficult'.

The point is that, although patients may be considered difficult, it is more accurate to frame the problem as a difficult doctor-patient interaction. Understanding the ways in which these three factors contribute to the difficult doctor-patient relationship will encourage the physician and the patient to take a different approach to the problem. Achieving this understanding requires training and experience, which is given to psychology trainees and psychiatry registrars, but is lacking in neurology training.

Communication with the legal profession

The access to information on the internet is one of the reasons patients have become more litigious, in spite of not all online resources being reliable. The nature of neurological disorders, which are progressive in some patients, degenerative in others and usually associated with much physical and cognitive disability, places a great deal of strain on the doctor-patient-carer relationship. Often, after lapses in communication, frustration and anger are directed at the neurologist. The recourse to legal proceedings follows adverse events, or sometimes mere dissatisfaction.

It is important for clinicians to realise that, to err is human, and that not all errors are due to negligence. The practice of evidence-based medicine, with appropriate management protocols and humane, joint decision-making practices, will avoid many medico-legal proceedings (Jayalakshmi and Vooturi 2016, S3–S8). Most of the communication issues discussed thus far refer to attempts to improve on the doctor-patient encounter.

Neurologists need to be informed about legal matters (Jayalakshmi and Vooturi, S3–S8). Neurologists must know their legally defined scope of practice and be able to provide expert witness within that scope. By acknowledging the role of a multidisciplinary team in the management of patients, neurologists are less likely to assume the bulk of the burden. The

legal lexicon presents challenges of its own and training in this regard is essential for the registrar in training. Verbal and written communication to the legal profession needs to be taught, so that neurologists do not unknowingly self-incriminate. Neurologists need to understand court procedure, and providing evidence has to be done within their scope of expertise. This knowledge should not be experiential, but a vital component of the neurology curriculum, and presented by medico-legal experts from the legal fraternity. Medical Protection Society, an insurance company for medical practice, publishes a quarterly magazine that publishes case reports on the many legal *faux pas* experienced by doctors in practice (MPS 2020). Sadly, this publication is only distributed to qualified specialists who are paid-up members of the Medical Protection Society, and not registrars in training. The responsibility for providing relevant legal training should fall on the shoulders of postgraduate training institutions and bioethics departments.

Communication in neurology training and assessment in South Africa

The current neurology curriculum, as specified on the CNSA website, focuses on the basic neurosciences and clinical syllabus required for training as a neurologist who wishes to practice independently in South Africa (CMSA, 2018). The information is explicitly deficient regarding the acquisition of the communication skills and professionalism that is expected in the profession. In addition to the medical requirement of expertise in clinical neurology, there is provision for a research component in neurology towards the MMed degree, which is a requirement of the HPCSA for licensure to practice. The Part 1 FC Neurol exam tests knowledge of the basic sciences of neuroanatomy, neurophysiology, neuropharmacology, neurochemistry, genetics and statistics. The Part 2 FC Neurol exam tests all aspects of theoretical clinical neurology, clinical examination and management of the patient, and serves as the exit exam. The Part 2 exam includes a written, objectively structured clinical exam (OSCE) that tests neuroradiology, electroencephalography and nerve conduction studies. Revisions to the clinical assessment are anticipated for the 2020/2021 exam, which may include an objectively structured practical exam (OSPE) tested at six stations: the OSPE will replace the two short clinical cases currently in the final clinical exam. However, the long clinical case, testing of history taking, and management will still be included. Should the need for communication testing be realised, the OSPE is well positioned to test communication skills at one of the stations.

However, acceptance of interpersonal communication in neurology as a core competency requirement and as a subject of testing in the exam requires that it is accepted by the CNSA

executive, whose members currently do not perceive this skill to be relevant.

Neurology training requirements for interpersonal communication in Canada, United Kingdom, United States of America, Europe and Australia

Communication skills, as a core competency requirement, has long been accepted by the Royal College of Medicine of Canada, Royal College of Medicine of the United Kingdom and the College of Medicine of Australia and New Zealand, both at undergraduate and postgraduate levels. CanMEDs, the Canadian educational framework, makes provision for including interpersonal communication skills and professionalism in the Canadian neurology curriculum for training and assessment (CanMEDs, 2015). Neurologists are positioned as the central figures in the management of neurology patients, and are well equipped with skills that empower them to assume various roles. In Canada, interpersonal communication is emphasised strongly in training, thereby empowering neurologists in their daily practice. Even though difficult and uncomfortable situations do arise in daily practice, neurologists can generally manage these situations professionally and competently. An oft quoted communication station in the OSCE of the Canadian neurology board exam is an exercise to inform and counsel a 19-year-old patient that she has multiple sclerosis – a challenging task by any stretch of the imagination, but a requirement nonetheless. This board exam recognises the dictum that assessment drives learning.

The practical assessment of clinical and examination skills (PACES) exam of the Royal College of Medicine of the United Kingdom is a postgraduate exam in clinical medicine that assesses practical skills. Included in this exam are two stations that assess communication. The one station assesses information-gathering (history-taking) and the other, information-giving. Communication skills are included in the postgraduate curriculum and are tested in the relevant postgraduate examinations. Feedback from candidates involved in training workshops prior to assessment in the PACES exam has been positive for exam preparation, but more especially, for communication skill development (Dacre et al. 2004, 714–715).

The Royal Australasian College of Medicine places similar emphasis on communication in postgraduate education. There are two curricula for postgraduate training of specialists: the advanced training curriculum in a specific specialty, and the professional qualities curriculum that is relevant to all specialties and which focuses on communication and professionalism. Both are core competency requirements for the neurology exit exams in Australia and New Zealand (RACP, 2017).

Over the last 15 years, communication skills training has been done at undergraduate and postgraduate levels by various postgraduate medical bodies. Training takes the form of didactic lectures, videos and workshops. The most effective training programmes are those that involve roleplaying and feedback, which are techniques that have been reported as the most favourable (Kurzweil *et al.* 2018, 3.011). In fact, the more closely communication training mimics the assessment process, the more beneficial it is (Dacre *et al.* 2004, 714–715; Watling and Brown 2007, E22–E24). No doubt, assessment is a great motivator. The introduction of assessment of interpersonal communication skills at postgraduate level has ensured better training and preparation of candidates entering the final exit exams in Canada, the United Kingdom, Europe and the United States of America (Middlemas *et al.* 2013, 515–516; Manyuk and Lubov. 2016, 43–48).

The future of communication training in neurology in South Africa

In South Africa, the anticipated new OSPE in neurology could allow for the testing of communication. One of the stations in the OSPE can be allocated to communication, as is the case in the Canadian Neurology Fellowship exam and Membership of the Royal College of Physician exam in the United Kingdom. However, for this to become a reality in the South African context, a strong motivation is required to include communication skills in formal testing in the neurology exit exam. The gaps in communication training are considerable, and the communication demands on the practicing neurologist are extreme. Practical steps to address these shortcomings are urgent. The very high subscriptions for legal protection in the private sector bears testimony to the need for neurologists to be skilled communicators. Studies to elicit the opinions of current trainees and qualified neurology specialists on communication training and assessment will provide the College of Neurology with useful insights into the needs of clinical neurology practice. Subjectively, the need is great, but policies are not made on opinions alone.

References

Association of American Medical Colleges. 1999. *Medical School Objectives Project: Report III: Contemporary Issues in Medicine: Communication in Medicine*. Washington, DC: AAMC. <http://hdl.handle.net/10822/927531>

Arciniegas, D.B. and Beresford, T.P. 2010. "Managing Difficult Interactions with Patients in Neurology Practices: A Practical Approach." *Neurology* 75: S39-S44 doi: 10.1212/WNL.0b013e3181fc2887.

Berthold, J. 2014. "Disclosing Medical Errors the Right Way." *Internal Medicine* 2014, June. ACP Internist. http://www.acpinternist.org/archives/2014/06/errors.htm?_ga=2.175266784.335336444.1590585838-1910639037.1590585837.

CanMEDs. 2015. "CanMeds Framework". Royal College of Physicians and Surgeons of Canada. Website. <http://www.royalcollege.ca/rcsite/canmeds/canmeds-framework-e>.

Chichirez C.M. & Purcăarea, V.L. 2018. "Interpersonal Communication in Healthcare." *Journal of Medicine and Life* 2018 11, (2) : 119–122.

CMSA (College of Medicine of South Africa). 2018. "The Colleges of Medicine of South Africa: Fellowship of the College of Neurologists of South Africa: FC Neurol (SA)." https://www.cmsa.co.za/view_exam.aspx?QualificationID=13

Dacre, N., Richardson, J., Noble, L., Stephens, K. and Parker, N. 2004. "Communication Skills Training in Postgraduate Medicine: The Development of a New Course." *Postgraduate Medical Journal* 80: 711–715.

Elamin, A. 2015. "Communication Skills in Medicine. Supercourse: Epidemiology, the internet, and global health." PowerPoint. <http://www.pitt.edu/~super7/19011-20001/19581.ppt>

Fallowfield, L. and Jenkins, V. 2004. "Communicating Sad, Bad, and Difficult News in Medicine." *The Lancet* 363: 312–9.

Ferreira-Padilla, G., Ferrández-Antón, T., Baleriola-Júlvez, J., Braš, M., and Đorđević, V. 2015. "Communication Skills in Medicine." *Croatian Medical Journal* 56, (3): 311-314 doi: 10.3325/cmj.2015.56.311

Haggerty, J., Burge, J., Lévesque, J-F., Gass, D., Pineault, R., Beaulieu, M-D. and Santor, D. 2007. "Operational Definitions of Attributes of Primary Health Care: Consensus among Canadian Experts." *Annals of Family Medicine* 5, (4): 336–344. doi: 10.1370/afm.682

HPCSA (Health Professions Council of South Africa). 2018. *Overview – HPCSA*. Website. <https://www.hpcsa.co.za/about>.

HPCSA. 2014. *Core Competencies* for Undergraduate Students in Clinical Associate, Dentistry and Medical Teaching and Learning Programmes in South Africa*. Blog, 7 August 2020.

<http://www.hpcsa-blogs.co.za/wp-content/uploads/2017/04/MDB-Core-Competencies-ENGLISH-FINAL-2014.pdf>.

Jayalakshmi, S. and Vooturi, S. 2016. "Legal Challenges in Neurological Practice." *Annals of Indian Academy of Neurology* 19, Suppl 1, Oct.: S3–S8. doi: 10.4103/0972-2327.192888.

Koul, P.A. 2017. "Effective Communication, the Heart of the Art of Medicine." *Lung India* 34: 95-96.

Kurzweil, A., Lewis, A., Pleninger, P., Rostanski, S., Nelson, A., Ishida, K., Balcer, L. and Galetta, S. 2018. "Assessing and Enhancing Neurology Resident Education on Interpersonal Communication and Professionalism." *Neurology* 90, (15) (Supplement): P3.011.

Levinson, Wendy, Roter, D., Mullooly, J., Dull, V. and Frankel, R. 1997. "Physician-Patient Communication. The Relationship with Malpractice Claims Among Primary Care Physicians and Surgeons." *JAMA*, 277 (7): 553-559.

Manyuk, Lubov. 2016. "Future Physicians' Professional Communication Skills Training at US Universities: Structure and Content." *Comparative Professional Pedagogy* 6 (3) (Sept.): 43-48.

MPS. 2020. *Casebook*. Medical Protection Society.

<https://www.medicalprotection.org/southafrica/casebook>

Middlemas, S., Haftel, H., Ross, P.T. and Lypson, M.L. 2013. "Assessing Interpersonal Communications Skills: The Use of Standardized Patients in Graduate Medical Education." *Journal of Graduate Medical Education* 5, (3), Sept.: 515–516. doi: 10.4300/JGME-D-13-00205.1.

MRCP UK. (Membership of the Royal Colleges of Physicians of the United Kingdom). 2019. "MRCP (UK) Examinations." Website. <https://www.mrcpuk.org/mrcpuk-examinations/paces/paces-examination-format>. 12 November 2019

Novak, M.C. "Everything You Need to Know About Communication Theory." Learning Hub, 8 April. Website. <https://learn.g2.com/communication-theory>.

PRACTO. 2015. "The Importance of Interpersonal Communication in Medical Practices." The Practo Blog for Doctors, 27 February 2015. <https://doctors.practo.com/the-importance-of-interpersonal-communication-in-medical-practices/>.

RACP (The Royal Australasian College of Physicians). (2017). *Core competency Requirements for The Neurology Exit Exams in Australia and New Zealand*. <https://www.racp.edu.au/docs/default-source/default-document-library/at-neurology-handbook-2017-18.pdf?sfvrsn=6>.

Shannon, C.E. and Weaver, W. 1949. *The Mathematical Theory of Communication*. University of Illinois Press.

Solari, A., Acquarone, N., Pucci, E., Martinelli, V., Marrosu, M.G., Trojano, M., Borreani, C. and Messmer Uccelli, M. 2007. "Communicating the Diagnosis of Multiple Sclerosis - A Qualitative Study." *Multiple Sclerosis* 13: 763–769.

Storstein, A. 2011. "Communication and Neurology – Bad News and How to Break Them." *Acta Neurologica Scandinavica* 124, Suppl. 191: 5–11.

Tanveer, F., Shahid, S. & Hafeez, M.M. 2018. "Impact of Doctor's Interpersonal Communication Skill on Patient's Satisfaction Level." *Isra Medical Journal* 10, : 306-309.

Watling, C. and Brown, J. 2007. "Communication Skills for Neurology Residents: Structured Teaching and Reflective Practice." *Neurology* 69: E20–E26.

Wu A.W., Huang I., Stokes S. and Pronovost P.J. 2009. "Disclosing Medical Errors to

Patients: It's Not What You Say, It's What They Hear." *Journal of General Intern Medicine*
24 (9): 1012–1017. doi: 10.1007/s11606-009-1044-3

CHAPTER 3:

ARTICLE 2

TRAINING FOR INTERPERSONAL COMMUNICATION SKILLS RELEVANT TO NEUROLOGICAL PRACTICE IN SOUTH AFRICA

Moodley AA¹, Van Aswegen A², Bezuidenhout J³

¹Department of Neurology, Faculty of Health Sciences, University of the Free State, South Africa.

²Department of Neurosurgery, Faculty of Health Sciences, University of the Free State, South Africa.

³Division Health Sciences Education, Faculty of Health Sciences, University of the Free State, South Africa.

Corresponding author

Moodley AA, Department of Neurology, Faculty of Health Sciences, University of the Free State

MoodleyAA@ufs.ac.za

Keywords: Interpersonal communication, AfriMEDS, CanMEDS, Breaking bad news, Disclosing medical errors, Objectively structured clinical exam, Objectively structured practical exam, Neurological association of South Africa, College of Medicine of South Africa, College of Neurology of South Africa

Conflict of interest: None declared

Acknowledgements: We are grateful to all participants from throughout the country, Prof. G. Joubert from the Biostatistics department, Faculty of Health Sciences, University of the Free State; the ICT department UFS for access to the EvaSYS online system; and Mrs E.P. Robberts for her meticulous attention to detail whilst formatting and editing the Article.

Abstract

Introduction: Interpersonal communication skills between neurologists and patients, caregivers, fellow health professionals and the legal profession carries many unique challenges in practice. While undergraduate training in communication helps with generic information receiving and information giving, uncomfortable and demanding neurology issues are not covered during undergraduate and postgraduate teaching. The latter is a consequence of the failure of the college of neurology in adopting the AfriMEDS framework of physician training as a compulsory component in the neurology core competency requirements of practicing neurologists.

Method. We undertook a quantitative self-administered descriptive cross sectional survey using printed questionnaires and the EvaSYS online system to gauge the opinions of neurology registrars in training from seven training centres in South Africa and from qualified neurology specialists from the training centres and the private sector. Descriptive data results were presented as percentages and where comparisons were relevant, the Fisher exact score was computed.

Results: We received a 62.9% response rate due mostly to using the WhatsApp messaging service to submit the link to the online questionnaire. One hundred and twenty-nine participants were recruited comprising 42 registrars and 87 specialists. As expected, there were significant differences in ages and experience between the two groups considering the nature of participants recruited. Registrars were more commonly female, more likely to be multilingual, less likely to use interpreters. Undergraduate training in communication was insufficient in 42.9% and 39.1% of registrars and specialists respectively, and was not relevant to address neurology specific issues encountered in neurological practice. Most training received has been by observation of others and on-the-job training. Both groups felt strongly that postgraduate training in interpersonal communication was important; registrars 95.2%, specialists 91.9%, especially in the fields of dealing with issues of death and dying, disclosing medical errors and dealing with the legal profession. While scoring breaking bad news highly, training for neurology specific issues does require additional skills. Postgraduate assessment is supported by both groups in the form of an OSCE station in the FC Neurol exam and by a separate workshop with certification of skills acquired.

Conclusion and recommendation: Undergraduate training of interpersonal communication as required of neurologists is insufficient. Most training has been by

observation of others or experiential by trial and error. Assessment of interpersonal communication for neurology at the FCNeurol exit board exam will drive postgraduate training and importantly, will embrace the AfriMEDS framework developed to produce the holistic doctor.

Introduction

Neurology as a specialty presents with many challenging, uncomfortable and demanding communication issues in routine practice. The nature of the profession is such that often degenerative, disabling and non-remitting disorders are diagnosed in patients across all generations. Counselling of patients faced with bad news requires a set of skills beyond the clinical acumen neurologists are trained in and are expected to be expert at performing. Breaking bad news, disclosing medical errors, dealing with difficult patients and family, communicating with fellow health professionals and the legal profession requires adept counselling skills (Bužgová & Kozáková 2019:4-12). Depending on the neurologist's abilities, he/she either shies away from these vexing encounters or performs poorly with potential and unfortunate legal consequences. It is not uncommon for patients to feel abandoned by their neurologists when communication is poor (Boersma 2014:561-567). However, not all neurologists are inept in interpersonal communication but the stark reality in South Africa, is that communication in neurology is mostly self-taught, dependent on learning on the job, or learnt from mishaps from the past. Improved communication between the doctor and patient results in an improved therapeutic relationship and better management outcomes (Lode 2007:792-797; Bužgová & Kozáková 2019:4 -10). Interpersonal communication is a necessary component in the CanMeds structure of resident training in Canada and a requirement in the training for the MRCP in the United Kingdom with OSCEs structured to assess interpersonal communication during the exit board exams (CanMEDS 2015; MRCP 2020).

The South African neurology curriculum required for training in neurology is specified in the College of Neurology website (CMSA, 2020). It is intended for use by the various training units as well as current and prospective neurology registrars. The emphasis of training is on the gaining of clinical knowledge and the acquisition of clinical skills in the fields of neurology and neurophysiology. Upon completion of four years of training in neurology at an accredited training unit in South Africa, successful outcome in the parts one and two neurology board exams and successful completion of a MMed dissertation, the candidate becomes eligible for a license to practice neurology independently in South Africa. Regrettably, the focus is mainly on knowledge and practical neurology skill acquisition for the board exam. Research skills for the MMed dissertation have been a recent addition. Interpersonal communication however, is neither offered in training nor assessed in the exit board exams.

From personal experience and communication with fellow neurologists both in the public and private sectors, the lack of training in interpersonal communication is a considerable omission to our training of South African neurologists. But this is subjective and not representative of the whole neurology fraternity. It is likely that the four years of training is sufficient for all aspects of training and that additional communication training might be an overindulgence. Regardless a consensus view is necessary to gauge the competency of neurologists and registrars in interpersonal communication and to inform the college of neurology about the need for additional training and assessment if needed.

Hence, we undertook a paper-based and online survey of neurology registrars and specialists in the public and private sectors to gauge their opinions regarding interpersonal communication training in South Africa.

The aim of the study was to assess the self-perceived competence of neurology registrars and graduates in interpersonal communication and to elicit their perceptions on the importance of interpersonal communication as a core competency requirement in the training and assessment of neurologists.

Method

A quantitative self-administered descriptive cross sectional survey was used to obtain the opinions of neurology specialists and neurology registrars. A minimal qualitative aspect was included when other suggestions from those listed were requested. A paper-based questionnaire and online survey using the EvaSys system provided by the University of the Free State (UFS) were distributed to all registrars and all neurology specialists in the public, academic and private sectors (EvaSys, 2020). There are currently about 45 registrars and 160 qualified neurologists in the country (NASA, 2020). The survey was conducted over a four month period from 01 February 2020 to 31 May 2020. Registrars were recruited from the seven training units in the country located at the University of the Free State, University of KwaZulu-Natal, University of Cape Town, University of the Witwatersrand, University of Pretoria, Stellenbosch University and Sefako Makgatho medical university. Specialist neurologists were recruited from these training units and from various cities and towns where their private practices are located. The online link for the EvaSys system was submitted via email and the WhatsApp messenger service. Email addresses were obtained from the Neurological Association of South Africa (NASA) database with the expressed approval of the NASA executive. The EvaSys link was sent via a message on the NASA

WhatsApp group administered by the president of NASA. Registrars were recruited at the annual registrar teaching weekend and via email addresses also obtained from NASA. The required number of registrars and specialists to be sufficiently representative was 40 and 60 respectively as derived by power calculations.

Pilot study

The pilot study was conducted in January 2020 to test the reliability of the EvaSys online system and the paper-based questionnaire. The participants for the pilot study were recruited from the University of the Free State neurosurgery department and were therefore not included in the analysis.

Ethics

Ethics approval for the study was obtained from the UFS human sciences research ethics committee. Ethics approval clearance number: UFS-HSD2020/0028/2605.

Statistics

Support for data analysis was provided by the UFS biostatistics department. Results were summarised as frequencies and percentages (categorical variables) and means, standard deviations or percentiles (numerical variables); 95% confidence intervals were calculated for main outcomes. The Fisher exact test and Chi squared tests were performed for comparative data.

Results

One hundred and twenty-nine participants responded to the survey, amounting to a 62.9% response rate. This highly acceptable response rate was achieved by sending the EvaSys online survey link by email and by the active NASA WhatsApp messaging group administered by the NASA president. There were 42 registrars and 87 neurology specialists who participated. Table 1 presents the demographic data of this cohort. As expected, the specialist group were older and had more years of experience. The new admission policy by most units in the country of recruiting more female registrars was reflected in the higher percentage of female registrars (62%) versus the higher percentage of male specialists (60%) (Office on the status of women policy 2001).

The larger training units based in Cape Town, Gauteng and Durban provided the larger number of registrar participants. Additionally, the larger cities also provided more specialist participation, where realistically larger populations demand more doctors.

Table 1. Demographic data, current location, training units and language proficiency of participants

	Registrars (n = 42) (33%)	Specialists (n = 87) (67%)	Total N (%) or p-value	Fisher Exact p-value
Median Age (Range)	33 (28-51)	47 (32-79)		
Gender Male (%)	16 (38%)	52 (60%)		0.0234
No. of years of experience	2 (1;3)	19 (11;29)		
Median (IQR)				<0.05
Current location	N = 42	N = 85	N = 127	
Ballito	0	1 (1)	1 (1)	
Bloemfontein	3 (7)	4 (5)	7 (6)	
Cape Town	10 (24)	20 (24)	30 (24)	
Durban	8 (19)	20 (24)	28 (22)	
East London	0	1 (1)	1 (1)	
Johannesburg	11 (26)	20 (24)	31 (24)	
Ngwelezana	0	1 (1)	1 (1)	
Pietermaritzburg	2 (5)	5 (6)	7 (6)	
Pretoria	7 (17)	11 (13)	18 (14)	
Somerset West	0	1 (1)	1 (1)	
Stellenbosch	0	1 (1)	1 (1)	
University training unit	N = 42	N = 82	N = 124	
Free State	3 (7)	5 (6)	8 (6)	
Witwaterstrand	11 (26)	22 (27)	33 (27)	
Pretoria	3 (7)	12 (15)	15 (12)	
Sefako Makgatho	5 (12)	1 (1)	6 (5)	
Cape Town	5 (12)	7 (9)	12 (10)	
Stellenbosch	5 (12)	11 (13)	16 (13)	
KwaZulu-Natal	9 (21)	24 (29)	33 (27)	
Other	1 (2)	0	1 (1)	
Language proficiency	N = 42	N = 87	N = 129	
English	35 (83)	86 (99)	121 (94)	0.0016
Zulu	6 (14)	3 (3)	9 (7)	0.0576
Afrikaans	12 (29)	52 (60)	64 (50)	0.0013
Xhosa	3 (7)	0	3 (2)	
Sesotho	5 (12)	1 (1)	6 (5)	
Venda	1 (2)	0	1 (1)	
Tswana	4 (10)	0	4 (3)	
Tsonga	1 (2)	0	1 (1)	
Siswati	0	0	0	
Ndebele	1 (2)	0	1 (1)	
Northern Sotho	5 (12)	0	5 (4)	

Given that English is the common medium of instruction at all universities in South Africa, 94% of participants reported proficiency in English. English and Afrikaans were most spoken by registrars and specialists but significantly more by the specialists (Fisher exact score $p = 0.0016$ & 0.0013 respectively). Zulu was spoken more by registrars but this difference

showed a trend but not statistical significance on the Fisher exact score ($p = 0.0576$).

Registrars showed a more diverse language proficiency in the other ethnic official languages and hence were less likely to use interpreters when communicating with patients (56% of registrars vs. 92% of specialists, $p < 0.0001$) (Figure 1). Both groups fared equally well with competency in communicating with other health care professionals and patients, despite specialists using interpreters more often. Neither group saw their language skills as a barrier to their communication.

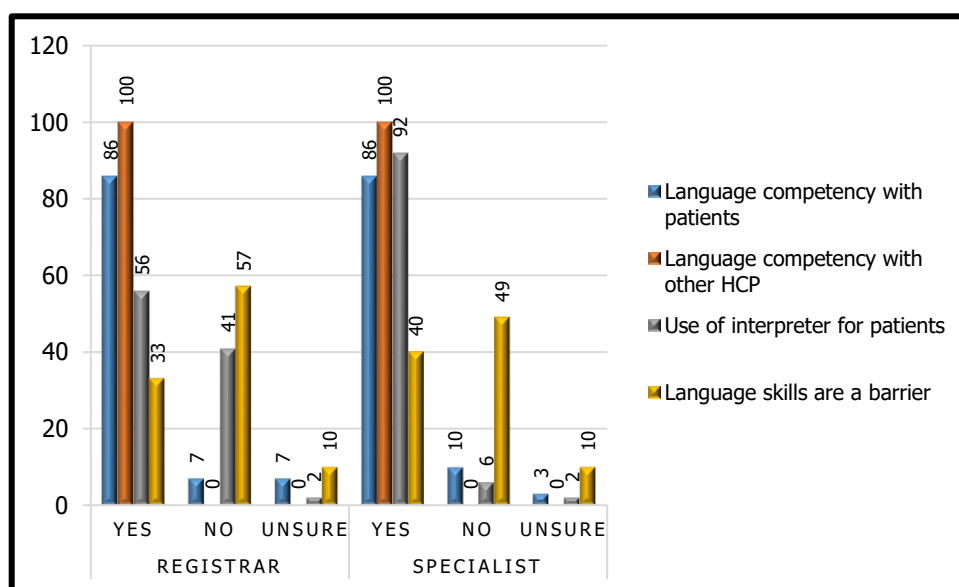


Figure 1. Language skills with patients and other health care professionals

HCP (Health Care Professionals)

Figure 2 shows the communication training both groups received during their undergraduate and post graduate training. Both groups are in agreement that they were inadequately trained for interpersonal communication with patients and other health care professionals. More registrars than specialists received communication training during the undergraduate years (71.4% vs. 26.4% $p < 0.0001$) but they are in agreement that neither group had adequate communication training during postgraduate education (registrars 83.3%, specialists 83.9% $p = 1.000$).

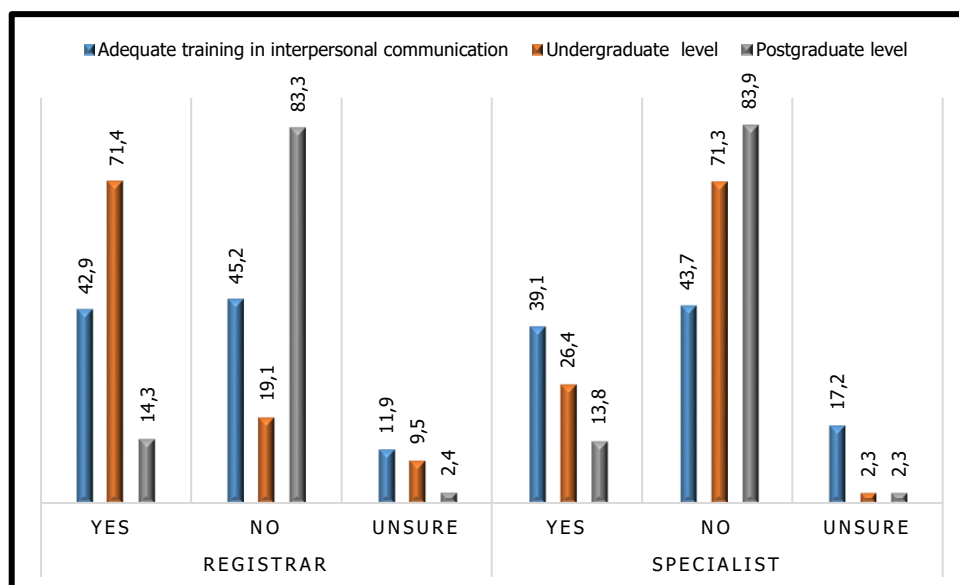


Figure 2. Prior or current training in interpersonal communication

For those who experienced interpersonal communication training during their undergraduate years, most training was done in the 4th year of study for registrars in the form of lectures and role playing but was equally distributed during the first 5 years for specialists. The focus of training has been on interpersonal communication for history taking and information giving but not really with regard to challenging management issues. Some communication training with families was offered to registrars. Communication with other health care professionals, communication in writing and especially communication with the legal profession was suboptimal (Figures 3, 4 & 5). In addition to the training formats suggested, four respondents included tutorials, group activity in modules and interpersonal teaching at the University of Pretoria by family medicine (Table 4).

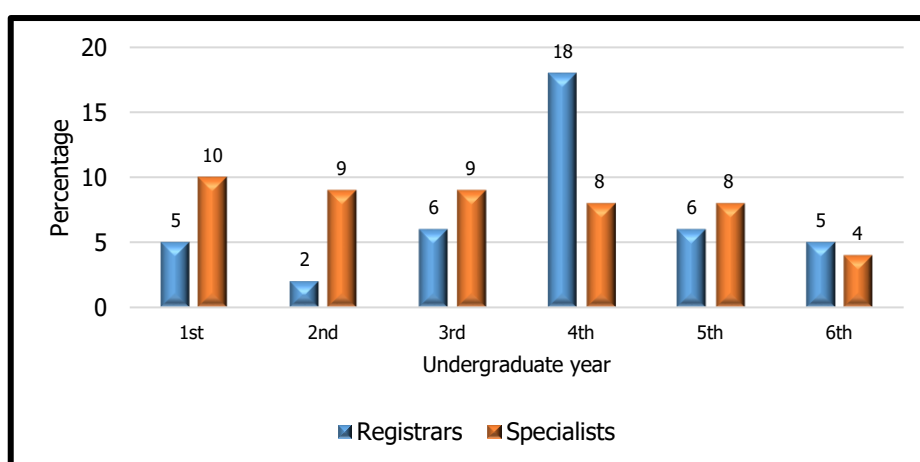


Figure 3. Year during which undergraduate interpersonal communication skills were taught

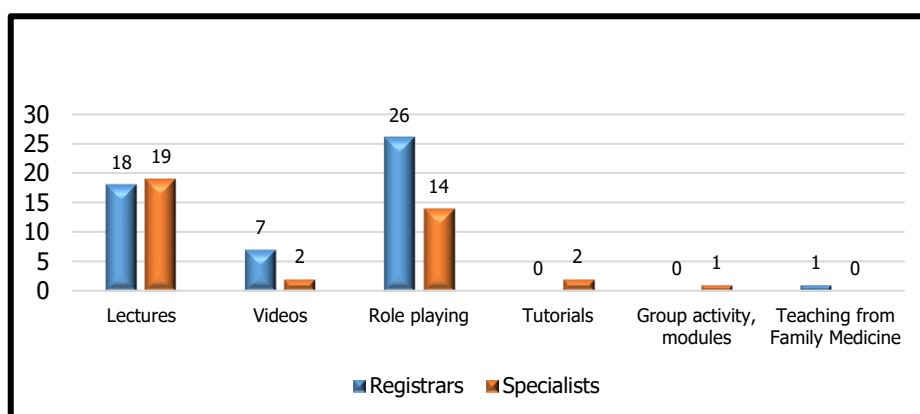


Figure 4. Type of training received at undergraduate level

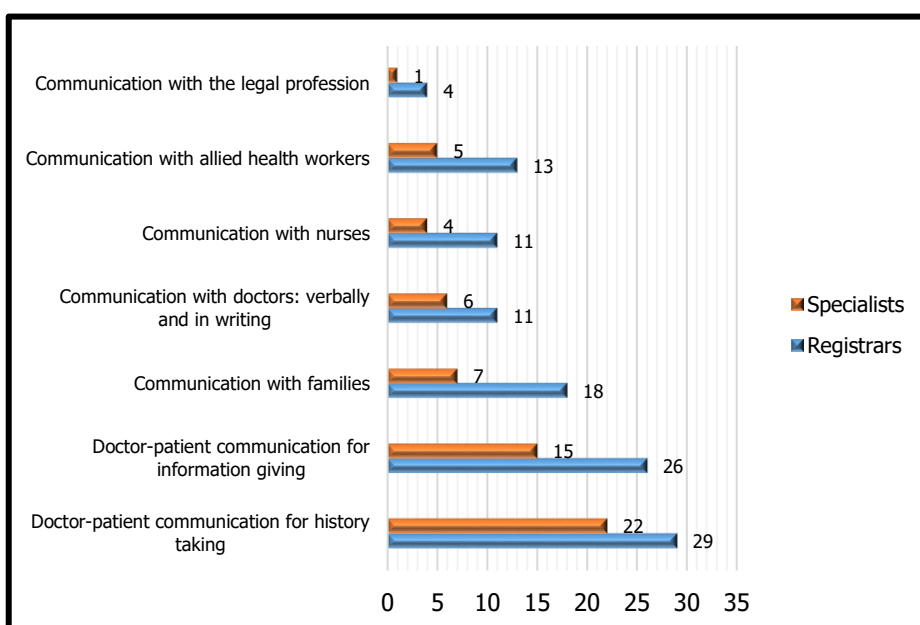


Figure 5. Category of training received at undergraduate level

Doctor-patient communication was tested formally for most registrars but not for specialists (registrars 69.1% vs. specialists 23.3% $p < 0.0001$). For those that did have formal testing, the format was mostly role playing (Figures 6 & 7). A formal written exam was also a means of testing reported by both registrars and specialists. Testing of communication skills was done by objectively structured clinical exams (OSCE) in three registrars and a further two had videos shown to them for which they had a written test.

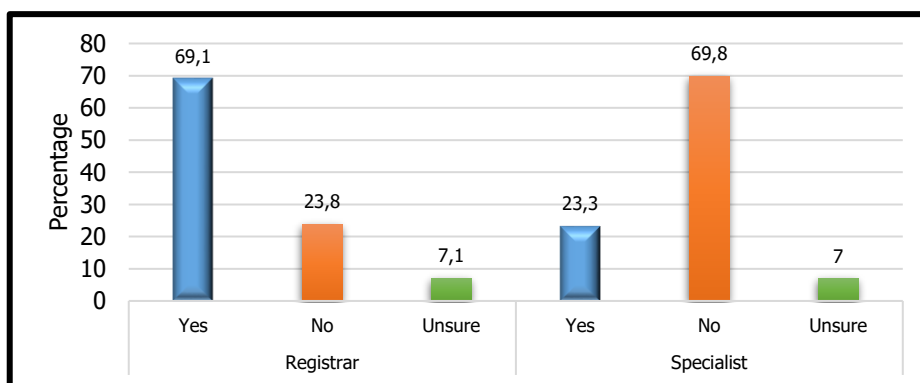


Figure 6. Formal testing received of doctor-patient communication at undergraduate level

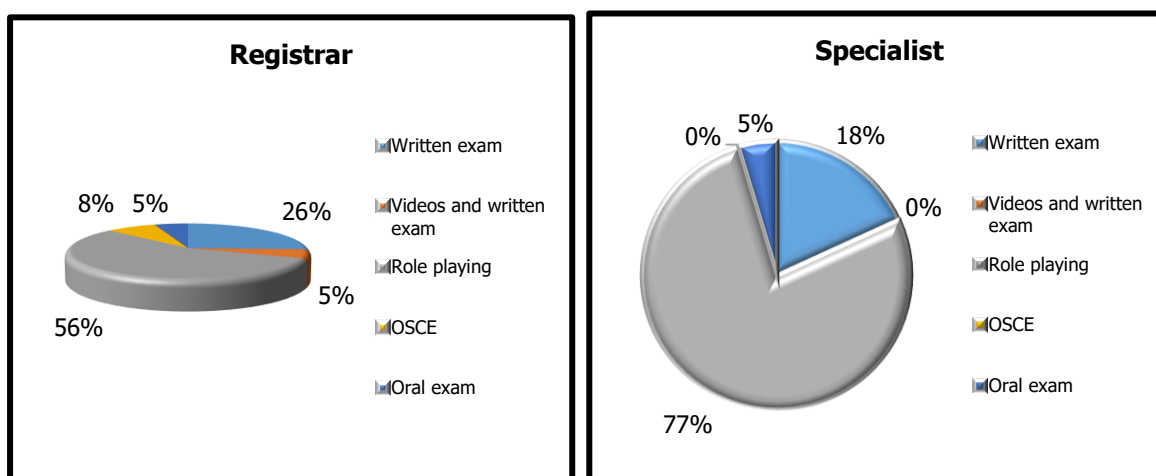


Figure 7. Format of communication testing received at undergraduate level

OSCE – objectively structured clinical exam

For those who did receive undergraduate communication training, there was a tendency by specialist to feel that the training they received did not prepare them adequately for practice (Table 2). Registrars and specialists did not feel competent in neurological communication issues and felt strongly that training was important (registrars 95.2%, specialists 91.9% $p = 0.08$). Both groups also felt strongly that interpersonal communication does not belong to the realm of psychiatry alone.

Table 2. Opinions relating to interpersonal communication training

	Registrar			Specialist			Fisher exact p
	Yes	No	Unsure	Yes	No	Unsure	
Did undergraduate communication training prepare you for practice?	16 (53.3)	12 (40)	2 (6.7)	6 (26.1)	16 (69.6)	1 (4.4)	0.09
Do you feel competent in neurology communication issues?	22 (52.4)	13 (31)	7 (16.7)	47 (54.7)	28 (32.6)	11 (12.8)	0.83

Is formal training in doctor-patient communication important?	40 (95.2)	2 (4.8)	0	79 (91.9)	1 (1.2)	6 (7)	0.08
Does interpersonal communication belong in psychiatry?	3 (7.1)	39 (92.9)	0	0	85 (98.8)	1 (1.2)	0.03

At least 59.5% of registrars and 43.7% of specialists have been directly observed by senior colleagues while in training, during history taking, information giving and counselling. Both groups agree that the feedback when given was helpful (Figure 8).

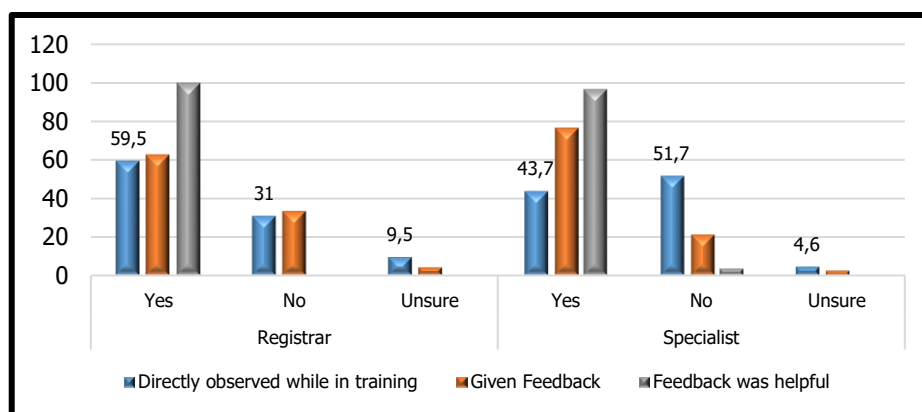


Figure 8. Experience in communication during registrar training

Table 3 shows an overwhelming majority in both groups agreeing that communication training should be offered in neurology and be a core competency requirement in the neurology curriculum. However there wasn't a strong support for testing of communication in the final FC Neurol exit exam.

Table 3. Opinions relating to communication training during registrar training

Should communication training be offered in Neurology?	Yes N (%)	No N (%)	Unsure N (%)	Fisher's exact p Value
Registrar	38 (92.7)	1 (2.4)	2 (4.9)	
Specialist	76 (91.6)	2 (2.4)	5 (6)	
Total	114	3	7	1.0
Should communication be a core competency requirement?				
Registrar	32 (76.2)	4 (9.5)	6 (14.3)	
Specialist	54 (63.5)	19 (22.4)	12 (14.1)	
Total	86	23	18	0.2
Should communication be tested in FCNeurol exam?				
Registrar	12 (29.3)	20 (48.8)	9 (22)	
Specialist	27 (32.1)	35 (41.7)	22 (26.2)	
Total	39	55	31	0.8

Of the 114 (88.4%) participants who felt that communication training should be offered during neurology training, registrars were more supportive of training in the first year of the registrarship while specialists felt that training should occur in all years of training. Role playing, videos and lectures were supported mostly by specialists and on the job training was recommended by both groups more so than workshops and online study (Figure 9). In addition, other suggestions for type of training included bedside teaching, direct observation by a consultant, interpersonal practical discussions, podcasts containing quizzes, practice with supervision, real-life mentoring, using recommended textbooks, sitting in with psychologists or psychiatrists during counselling, on the job training and small group discussions. These suggestions were mainly by specialists rather than registrars (14 vs. 1, respectively). Three other training formats were suggested and included podcasts with quizzes, biannual scheduled sessions of 90 minutes each and fortnightly or monthly tutorials or lectures.

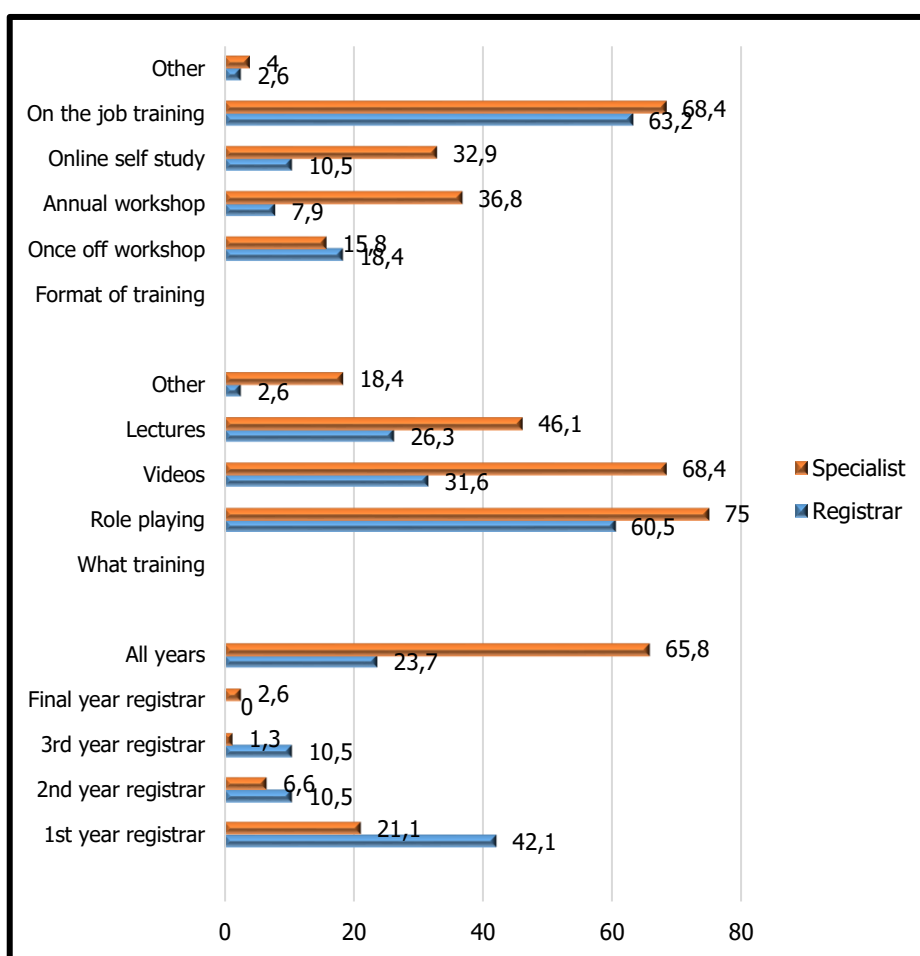


Figure 9. Response from 114 participants who felt that communication training should be offered during neurology registrar training

Thirty-nine participants (30.2%) felt that communication should be formally tested in the

FC Neurol exam mostly by means of an OSCE station in the clinical exam. In addition there was good support for a workshop offering certification at the end of training (Figure 10). Three specialists recommended ongoing and continuous assessment during all years of registrar training.

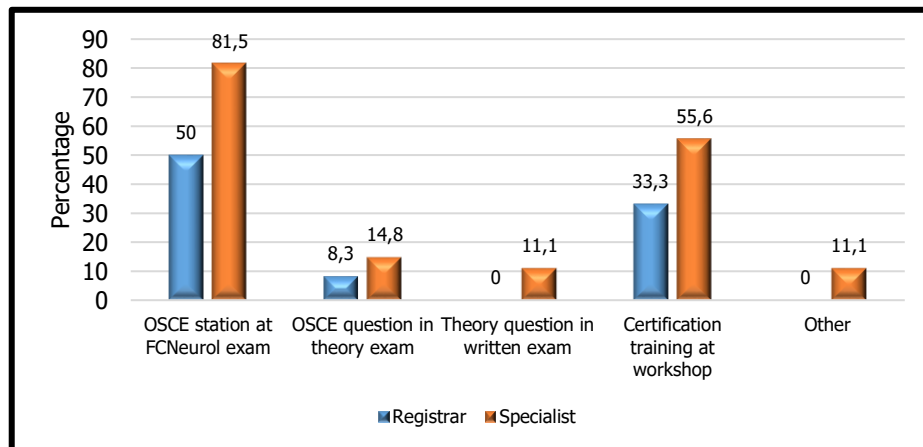


Figure 10. Response from 39 participants who felt that communication should be formally tested in the FC Neurol exam

The response from both groups as regards competency in dealing with various communication issues in neurology showed a moderate belief that the participants were well skilled. In fact over 60% of registrars agreed or strongly agreed that they felt competent in breaking bad news, discussing goals of care, obtaining informed consent, discussing life and death issues and communicating with other health professionals. They felt less competent in disclosing medical errors to patients, dealing with difficult patients and family, writing medical reports and communicating with the legal profession (Figure 11).

Neurology specialists on the other hand agreed or strongly agreed in over 70% of the time that they were competent in dealing with communication issues in neurology for most situations except disclosing medical errors, dealing with difficult patients and families, writing of medical reports and dealing with the legal fraternity (Figure 12).

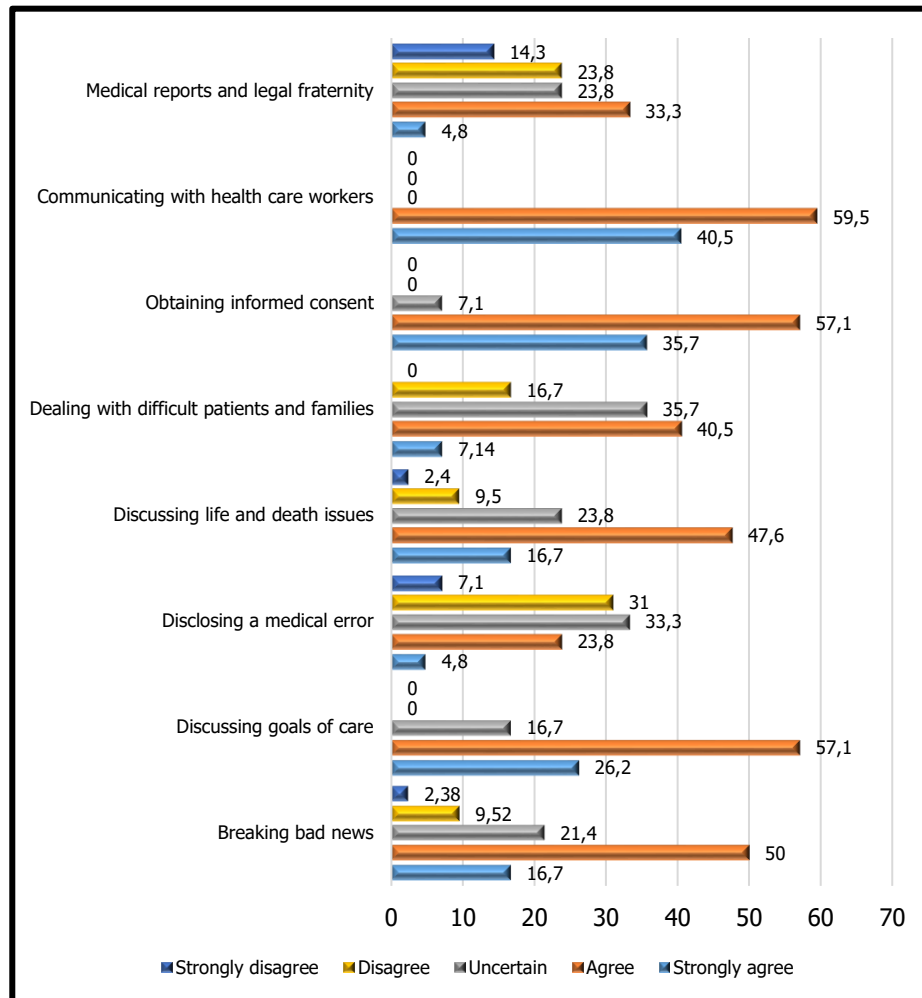


Figure 11. Registrars' self-perceived competency in dealing with neurological communication issues in neurology

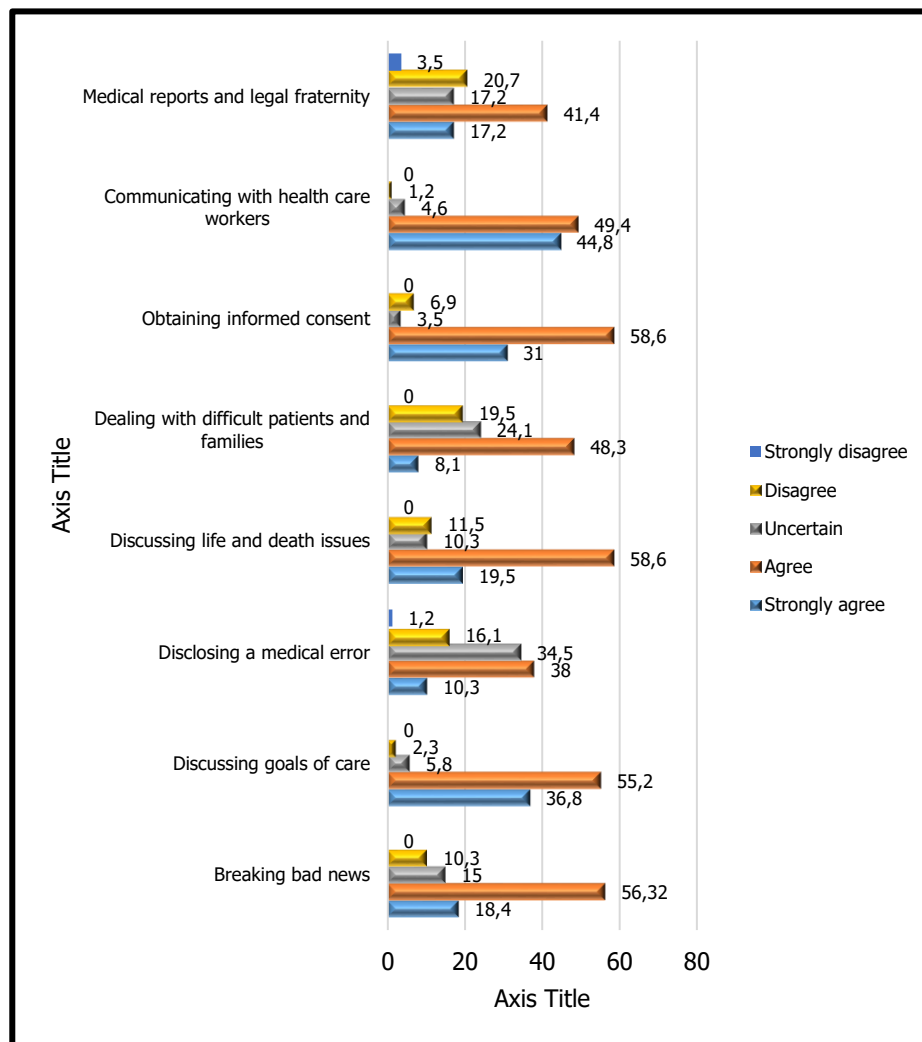


Figure 12. Neurology specialists' self-perceived competency in dealing with communication issues in neurology

Discussion

The field of neurology presents difficult communication issues for many neurological disorders. Patients are afflicted by chronic and debilitating diseases (Bužgová & Kozáková, 2019:4-12). Examples include informing young patients with multiple sclerosis that 50% of them will be wheelchair-bound in 15 years; and telling middle-aged patients that they have motor neuron disease with a remaining life expectancy of five years; and informing previously active individuals that they have Alzheimer's disease or Parkinson's disease which is progressive and unrelenting. Having the skills to address these challenging situations is not innate to neurologists and requires a separate set of skills from those of eliciting tendon jerks and testing pupil reflexes. The current training of neurology registrars does not cater for these challenges. The College of Neurology has not made communication a core competency requirement and neither does it make provision or recommendation for an assessment in communication skills (CMSA, 2020). This is contrary to training programs

and board exams in developed countries. If South African neurologists have intentions of gaining experience or obtaining fellowships in neurology subspecialty areas offered by these overseas institutions, then equivalent training in all domains is essential. Regardless, communication training of neurologists for routine and proper management of our local South African patients should be non-negotiable.

The goal of this study was to motivate for communication training of registrars and postgraduate assessment by surveying the opinions of neurology registrars and specialists on their self-perceived communication skills. As expected, the specialists recruited were more experienced in the practice of neurology. It was important to include registrars' perspectives as they are currently in training and perhaps have more exposure to undergraduate communication teaching which has improved in the recent past. In addition, registrars are more *au fait* with the current workload of neurology services during their training and better positioned to offer opinion on available time for communication training. There were more females in the registrar cohort than males and more males in the specialist cohort than females ($p < 0.05$). The distribution is reflective of the change in policy of registrar recruitment in South Africa where preference is given to females to address the traditional gender disparity of specialist training (Office on the Status of Women 2001:40). The gender distribution of registrars was valid as 42 out of the 45 neurology registrars were recruited, so selection bias was unlikely.

Registrars are only located in the major cities where neurology training is offered by the seven major training units in the country. The numbers of registrars from each unit is determined by the number of training numbers issued by the health professions council of South Africa which is calculated from the number of neurology specialists at each unit. The ratio of trainer to trainee was 1:2 for training at tertiary units but has been changed to 1:4 over the last four years (HPCSA, 2020). This previous ratio was approved to allow for better trainer - trainee contact, hence better supervision and better standard of graduates. Theoretically, the smaller trainer to trainee ratio in the past would mean that qualified neurologists could have received better supervision in all aspects of the neurology curriculum during their training and perhaps communication as well even if it was done only by observation. The need for more communication training for preparedness of clinical practice is more robustly expressed by the qualified specialists than by registrars. The omission of interpersonal communication as a core competency requirement in the neurology training curriculum in South Africa has to be an important determining factor.

While English is the common medium of instruction at all neurology training units in South Africa, a shift in the training policy of recruiting more black registrars is consistent with the finding that black registrars speak more ethnic languages in the country than their consultant counterparts. Ninety-four percent of all respondents reported English proficiency. A sub analysis was not done comparing the private to the public sector but based on previous selection criteria of neurology registrars, it is likely that more qualified neurologists speak English and Afrikaans rather than the various other ethnic languages. This also explains the greater number of consultants using an interpreter for patients who speak the ethnic languages rather than registrars (92% vs. 56%, $p < 0.0001$). Despite this significant limitation in neurology specialists, Figure 1 shows that they still do not regard their language skills as a barrier to communication. Many subtleties are lost in translation, and language both verbal and non-verbal form the foundation of communication. Breaking bad news to a patient in a language they do not understand and through an interpreter does have a negative influence on the doctor-patient and the therapeutic relationship between the two. South African medical schools have recognised this obstacle and have made the teaching of a geographically relevant ethnic language compulsory in the pre-clinical years of undergraduate medical training (Nudelman 2015:26). Whether this should continue at postgraduate level is open for deliberation. Language competency between health care professionals was not a barrier to good communication and was scored 100% by both registrars and specialists.

Only 39.1% of specialists and 42.9% of registrars considered their training of interpersonal communication as adequate (Figure 2). The majority of registrars (71.4%) received this training as undergraduates and mostly in the 4th year of training whereas a minority of specialists (26.4%) received their undergraduate training in interpersonal communication (71.4% vs. 26.4%, $p < 0.0001$). The 26.4% of specialists indicated training across all undergraduate years but still reported that this training was insufficient. Both groups were unanimous in indicating no postgraduate training in interpersonal communication (83.3% for registrars and 83.9% for specialists $p = 1.000$). This is a massive indictment for the training of neurologists in South Africa considering that neurology presents unique categories of communication demands, requiring specific communication skills by the neurologist. For instance, knowing how to communicate with a dementing patient about advance care planning and being cognizant of the noise that dementia presents during communication requires sophisticated communication skills. Knowing that patients with Alzheimer's disease have poor working memory and are likely to forget recent events whereas patients with semantic dementia have problems with language comprehension

presents different communication challenges even in patients collectively classified as demented. Undergraduate training was in the form of role playing and lectures but mostly concentrated on the doctor-patient communication for history taking and information giving (Figures 4 & 5). The challenging issues of communication requiring more introspection and neurology specific issues were not covered during undergraduate communication training. This is understandable considering that undergraduate communication training is generic and not targeted at subspecialties.

Registrars were formally assessed in interpersonal communication at undergraduate level in the form of role playing and written exams (Figures 6 & 7). Specialists on the other hand were only tested in 30.2% of cases and this difference was statistically different. Similar testing procedures were used for both groups but registrars were also tested at OSCEs. Given that assessment drives learning, it is clear from this statistic that the change in the undergraduate curriculum necessitating the training of communication is starting to show benefit. Table 2 shows that undergraduate training in communication did prepare registrars for practice in 53.3% but in only 26.1% of specialists ($p = 0.09$) showing a trend but not statistical significance. Both groups feel competent in dealing with neurology communication issues in just over 50% of responders but are in strong agreement (registrars 95.2%, specialists 91.9%) that formal training in interpersonal communication is important. Neurologists need communication skills and both groups are in agreement that such skills are not the prerogative of psychiatry alone. While psychiatry registrars rotate through neurology during their training to develop clinical skills, neurology registrars should be expected to do a similar rotation in psychiatry to acquire counselling skills. This is certainly a proposal that needs to be presented to the college of neurology.

During registrar training, acquisition of communication skills have largely been by experiential learning, by observation of more senior colleagues and by being directly observed by senior colleagues when clerking and counselling patients. Unfortunately, this was only experienced by 59.5% and 43.7% of registrars and specialists respectively. Notably, when feedback was given by senior colleagues, these were usually very helpful (Figure 8) thereby suggesting that on the job training is a useful strategy for communication skills learning, but this needs to be better formalized for it to be consistent and measurable. The overwhelming majority are in agreement that communication training should be offered in neurology at postgraduate level and that it should be a core competency requirement. However when it comes to testing of communication, both groups are reluctant to have this as an essential component in assessment with only 29.3% and 32.1% of registrars and

specialists respectively, being supportive. This is not unexpected as human nature dictates that including an extra component for assessment is unlikely to be supported by the examination candidate. Such responsibility falls on the shoulders of the college of neurology.

In terms of the need for communication training, specialists were in favour of training during all years of registrar training, in the form of role playing, videos, annual workshops, online self-study and mostly on-the-job training (Figure 9). Registrars on the other hand felt that most training should be done in the first year of registrar training, also via role playing and on-the-job training. It is conceivable that the added burden of the MMed dissertation which has become an HPCSA registration requirement for all registrars since 2012 has influenced this decision. Registrars feel pressured during their final years to complete their MMed dissertations and prepare for the fellowship exam. Communication training, while essential is therefore preferred during the earlier years of training. This opinion is inclined to change if communication skills testing becomes a requirement to pass the fellowship exit exams.

For those in support that communication should be assessed in the FC Neurol exam, 81.5% of specialists feel that this should be tested at an objectively structured practical exams station in the final exam compared to only 50% of registrars (Figure 10). The Canadian neurology board exam allocates one of the ten stations to communication where difficult and challenging communication issues in neurology are tested. This serves to fulfil many CanMeds requirements for training. When the AfriMeds framework is adopted by the college of medicine of SA the requirement for a communication component in the exit exams will probably be included (HPCSA, 2014). The option for a certified course in communication received support from both groups, but more so by specialist neurologists.

The self-perceived competency skills in various neurology communication issues revealed unexpectedly high assessment values by registrars and specialists (Figures 11 & 12). The subjectivity of this scale is very evident considering the predominant theme for the need for more communication skills training throughout the survey. Regardless, registrars and specialists agree on poor skills in disclosing a medical error, dealing with difficult patients and families and especially in writing medical reports and communicating with the legal fraternity. In fact both groups scored the latter very poorly suggesting a critical area of need.

Conclusion and recommendations

There is an overwhelming need for communication training at postgraduate and undergraduate levels of medical training. Neurology presents unique communication challenges that warrant additional communication skills. While registrars and specialists believe that their language proficiencies are not a barrier to communication, a large percentage of specialists use interpreters for counselling of patients from other ethnic background. This is a barrier to communication even if denied by the respondents. On-the-job training by observation of senior colleagues has been the most common format of communication skills development by registrars. However formalization of this training by use of more regular role playing, videos and being directly observed and critiqued by senior colleagues will be better received by registrars. A certification course in communication received strong support from both groups but frequent workshops were not. Specialists were more supportive of communication assessment in the form of an OSCE at the neurology exit exam. Registrars on the other hand felt that assessment and training should be done early during their training, preferably during the first year and that formative rather than summative assessments were better. The pressure of completing the MMed dissertation and preparation for the fellowship exam takes center stage during the latter half of their training.

Registrars and specialists rated themselves highly for skills involved in breaking bad news, obtaining consent from patients and communicating with fellow professionals but fared poorly in skills involved in disclosing medical errors to patients, dealing with difficult patients and families and especially in writing medical reports and dealing with the legal fraternity. Given that assessment drives learning, it is clear from this study that the need for communication training in neurology can constructively be addressed if the College of Neurology includes communication skill testing in the exit neurology exam for specialization. This will drive the need for training in communication during the registrar training. The College of Neurology needs to include communication skills training in the neurology curriculum and outline specific challenges in communication at which neurologists need to be skilled at. A summative assessment in the form of a station in the anticipated neurology OSPE needs ratification. Departments that are currently equipped for communication training, such as the health professions education departments, family medicine, palliative medicine, psychology and psychiatry should be recruited to assist in communication training in neurology.

References

Boersma, M.E., Miyasaki, J., Kutner, B. & Kluger, A. Palliative Care in Neurology. Time for a Paradigm Shift *Neurol.* 2014;83:561–7.

Bužgová & Kozáková *BMC Neurology*. Informing patients with progressive neurological disease of their health status, and their adaptation to the disease (2019) 19:250 <https://doi.org/10.1186/s12883-019-1488-y>

CanMEDs. 2015. CanMeds framework. Royal College of Physicians and Surgeons of Canada. Website. <http://www.royalcollege.ca/rcsite/canmeds/canmeds-framework-e>

CMSA (College of Medicine of South Africa). 26 May 2020. The Colleges of Medicine of South Africa: Fellowship of the College of Neurologists of South Africa: FC Neurol(SA). https://www.cmsa.co.za/view_exam.aspx?QualificationID=13

EvaSys. University of the Free State. <http://surveys.ufs.ac.za/evasys/indexeva.php>

HPCSA.

https://isystems.hpcsa.co.za/uploads/editor/UserFiles/downloads/medical_dental/PETM%20-%20TRAINER%20TRAINEE%20RATIO%2020%20January%202010.pdf

HPCSA. 2014. <http://www.hpcsa-blogs.co.za/wp-content/uploads/2017/04/MDB-Core-Competencies-ENGLISH-FINAL-2014.pdf>

Lode, K., Larsen, J.P., Bru, E., Klevan, G., Myhr, K.M. & Nyland, H. Patient information and coping styles in multiple sclerosis. *Mult Scler.* 2007;13:792–9.

MRCP UK. (Membership of the Royal Colleges of Physicians of the United Kingdom). 2019. MRCP (UK) examinations. <https://www.mrcpuk.org/mrcpuk-examinations/paces/paces-examination-format>. 26 May 2020

Neurological association of South Africa (NASA). May 2020. <https://www.mynasa.co.za/>

Nudelman C. Language in South Africa's Higher Education Transformation: A Study of Language Policies at Four Universities

https://open.uct.ac.za/bitstream/handle/11427/13739/thesis_hum_2015_nudelman_cl.pdf?sequence=1&isAllowed=y

Office on the Status of Women. 2001. South Africa's National Policy Framework for Women's Empowerment and Gender Equality.

https://www.environment.gov.za/sites/default/files/docs/national_policy_framework.pdf

CHAPTER 4:

KEY ELEMENTS FROM THE RESEARCH

Communication with patients and their caregivers is important for a successful therapeutic relationship. Even if the therapy works, a bad encounter with a doctor can have long-term negative implications both from the patient's psychological perspective and from the perspective of the reputation of the treating physician. Having a good reputation in medicine and at the same time not demeaning that of fellow colleagues is the hallmark of an ethical and honorable practice. Communication is not innate to doctors and certainly not to neurologists who are faced on a daily basis with complex and challenging issues. Interpersonal communication with patients, caregivers and fellow healthcare professionals is an acquired skill and the responsibility for this training rests on the shoulders of the training institutions of South Africa.

This study undertaken to elicit the opinions of registrars and specialist neurologists on the importance of communication in training and assessment as well as their self-perceived opinion regarding their own skills in communication revealed both expected and surprising results.

The study was conducted by a paper-based questionnaire and online system. Most registrars were recruited at the annual registrar teaching weekend. Specialist neurologists were recruited at the annual NASA congress and electronically via email and the WhatsApp messenger service. The neurology community is small with only 45 registrars currently in training and 160 specialists in academic or private practice. A 62.9% response rate was most gratifying. The following results obtained from the study are listed for simplicity:

- 129 participants were recruited comprising 42 registrars and 87 specialists;
- 62% of registrars were female and 40% of the specialists were female;
- Specialists had 19 years of experience vs 2 years of experience by registrars;
- 31 respondents were from Johannesburg, 30 respondents from Cape town, 28 respondents from Durban and 18 respondents were from Pretoria – made up the majority of participants;
- The University of the Witwatersrand and University of KwaZulu-Natal had 33 respondents, 16 were from Stellenbosch University, 15 were from Pretoria University and 12 were from the University of Cape Town;

- Significant difference in the language proficiency of English and Afrikaans were noted between registrars and specialists ($p = 0.0016$ & 0.0013 respectively);
- More registrars than specialists spoke Zulu which showed a trend but not statistically significance ($p = 0.0576$);
- Registrars spoke more diverse ethnic languages and used interpreters less than specialists ($p < 0.0001$);
- Both groups communicated well with fellow health professionals;
- Both groups did not see language as a barrier to communication;
- Both groups had insufficient training of communication in undergraduate and post graduate training (42.9% of registrars & 39.1% of specialists). Registrars had more communication training at undergraduate (71.4% vs. 26.4% $p < 0.0001$);
- Postgraduate communication training was poor for both groups (83.3 & 83.9%, $p = 1.000$);
- Registrars had most communication training in undergraduate 4th year in the form of role playing and lectures;
- Specialists who received undergraduate communication training received this during the first five years of medical school;
- History taking and information given was the bulk of training in communication at undergraduate level;
- Doctor-patient communication was tested formally for most registrars but not for specialists (registrars 69.1% vs. specialists 23.3% $p < 0.0001$);
- Testing was in the form of written exams and role playing for both groups. Few had these in OSCEs;
- Specialists felt that the limited training received did not prepare them for practice;
- Both groups felt strongly that communication training involving neurological communication issues is important (registrars 95.2%, specialists 91.9% $p = 0.08$);
- Less than 50% of both groups felt competent in dealing with neurological communication issues;
- Both groups felt strongly that communication does not belong to psychiatry alone. (92.9 & 98.8%);
- At least 59.5% of registrars and 43.7% of specialists have been directly observed by senior colleagues;
- When feedback was given by senior colleagues, this was helpful;
- Both groups felt strongly that communication in neurology should be a core competency requirement in the neurology curriculum;
- Only about 30% of both groups feel that communication skills should be tested in the

FC Neurol exam, exit neurology exam;

- Registrars supported training in mostly first year;
- Specialists suggested training in all years of registrar training;
- Training by roleplaying, videos and lectures were supported by both. On-the-job training was also preferred by both;
- Testing at an OSCE, workshop with certification and formative assessments during training were supported by both groups;
- 60% of registrars agreed or strongly agreed that they felt competent in breaking bad news, discussing goals of care, obtaining informed consent, discussing life and death issues and communicating with other health professionals;
- Registrars felt less competent in disclosing medical errors to patients, dealing with difficult patients and family, writing medical reports and communicating with the legal profession; and
- Neurology specialists on the other hand agreed or strongly agreed in over 70% of the time that they were competent in dealing with communication issues in neurology for most situations, except disclosing medical errors, dealing with difficult patients and families, writing of medical reports and dealing with the legal fraternity.

Undergraduate and postgraduate interpersonal communication skills training for neurologists is suboptimal. Adoption of the AfriMEDS competency requirements will facilitate interpersonal skills training and assessment at the neurology exit exams and better prepare neurologists for the communication challenges in practice. Both groups are in agreement regarding the requirement for interpersonal skills training in principle but differ in terms of the format and timing of training and assessment.

CHAPTER 5:

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

5.1 INTRODUCTION

Interpersonal communication skills training for undergraduate medical students has become a core competency requirement offered by departments of community health, and more recently, by family medicine. This training is done through a generic communication curriculum that is aimed at preparing the general practitioner for medical practice during internship, community service and the profession thereafter. The requirements for training are outlined by the AfriMEDS framework for training, which was adapted from the Canadian CanMEDS framework for physician training.

Specialist training in South Africa is provided by the seven training institutions linked to the respective universities (cf. Section 1.6.2.1). The exit board exam for specialist practice is conducted by the CMSA, of which the College of Neurology is a constituent college that oversees the neurology primary and final exams. The College of Neurology consists of elected officials, namely, a president, secretary, senators and co-opted heads of departments of the various training units in the country. The elected officials are elected into the executive committee by neurology alumni. The College exams are held every semester and are rotated through the different training units, whose responsibility it is to convene the written and oral exams. Senior co-examiners and the moderator are recruited from the other units in the country. Each person recruited is given a specific role of moderator, Part 1 convener, Part 2 convener and examiners. The aim of the entire process is to ensure a free and fair examination that promotes candidates who are competent to practice as independent specialists in South Africa, and who possess all the skills required of a holistic specialist. Registration to practice in South Africa is governed by the HPCSA. After passing the college exit exam, four to five years of postgraduate training, depending on the specialty, and the successful completion of the MMed dissertation, a candidate is licensed to practice as a specialist.

The content of the neurology curriculum that serves as the blueprint for the basic sciences and clinical sciences exams is formulated by the council of the College of Neurology. Submissions to the committee for inclusion of additional material to examine are made by the neurology collegiate. At the 2018 College of Neurology Annual Meeting, a suggestion

was made to include examination of interpersonal communication, as a core competency requirement in accordance with the AfriMEDS framework for training, but the proposal was declined by a majority of the committee, who considered communication to be a non-essential competency for neurology. This imprudence by the executive committee could be revised by robust evidence provided by neurology alumni that demonstrates the need for postgraduate training in interpersonal communication peculiar to neurology, and followed by assessment in the college exams.

The above background information was the motivation for this study. The practice of neurology presents unique challenges for communication, given that many neurology patients suffer from progressive and unremitting disorders. Physical, psychological and social disability are common consequences of these disorders. Having the skills to manage these disorders and, moreover, to break bad news or discuss life and death issues are not innate qualities of neurologists, but skills that need to be inculcated during training. The trainers themselves need adequate training to impart those skills, or need to recruit experts from other disciplines who can.

The doctor patient communication is important for the therapeutic relationship and lays the cornerstone for a favourable outcome. Effective communication forms the basis of mutual understanding and trust. Poor communication causes a great deal of misunderstanding and prevents work productivity. Neurologists need to be skilled communicators, as the nature of the job requires compassion and understanding, especially as they manage chronic, disabling and incurable diseases.

5.2 OVERVIEW OF THE STUDY

This was a study to assess the self-perceived competence of neurology registrars and graduates in interpersonal communication and to elicit their perceptions on the importance of interpersonal communication as a core competency requirement in the training and assessment of neurologists. The objective was to inform the CNSA about the importance of communication training during registrar training, and assessment at the final neurology exit exam and, thereby, to effect the inclusion of interpersonal communication training as a core competency requirement for neurology. The objective was also to point out communication deficiencies of experienced specialist neurologists, if identified. The possibility of communication training and assessment during and at the end of registrar training was also entertained and, either way, the CNSA needed to be informed.

The key research question was to enquire about the self-perceived competence of neurology registrars and qualified neurologists for dealing with tough issues relating to communication in neurology. The questionnaire that was administered to participants addressed the following questions:

- Is there a need for the current curriculum to be changed, so that it includes communication as a core competency requirement?
- Should interpersonal communication be assessed in the exit neurology exam?
- If deficiencies are identified, are neurology registrars and qualified neurologists willing to undergo training in communication to address deficiencies?

5.2.1 Research question 1

This question was addressed by eliciting the opinions of registrars and specialist neurologists regarding the training they had received in communication at undergraduate and postgraduate levels. The amount, relevance and formats of communication training were questioned in the first and second parts of the questionnaire. Both groups were also asked to assess their self-perceived opinions about their ability to handle various challenging issues in neurology; this was addressed in the third part of the questionnaire. The results indicate a considerable gap in training, especially in relation to dealing with breaking bad news to patients with neurological disorders. This bad news could, for instance, involve patients with motor neuron disease, or with dementing illnesses with different forms of cognitive decline. Undergraduate communication training is useful as a generic tool, but not for neurologically specific issues.

5.2.2 Research question 2

In the fourth part of the questionnaire, participants were asked if they had been assessed in communication at undergraduate and postgraduate levels, and the format of assessment they had been subjected to. If they had been assessed, assessment involved mostly role playing and written examinations. At postgraduate levels, assessment was non-existent, or involved being informally observed by senior colleagues. Formal assessment of communication was not done.

Both groups agreed that communication assessment in the final exit neurology exam was necessary, and they believed it should be done mostly in the form of an OSCE or OSPE. A

certified workshop during registrar training was also supported by both groups.

Specialists were more prone to suggesting assessment as a formative and summative assessment. Registrars expressed that summative assessments would add to the pressure of the fellowship exam and the MMed study.

5.2.3 Research question 3

Participants were asked what the categories and format of communication training should be at postgraduate level. Both groups indicated that they would be willing to undergo training at workshops that provided certification, and at postgraduate level, to be assessed at the final OSCE and OSPE exam. Specialists also supported on-the-job training of communication skills, and assessment at the bedside and by podcasts and quizzes. These formats were offered as other suggestions by the participants.

5.3 CONCLUSION

This study found overwhelming need for communication training at postgraduate and undergraduate levels of medical training. Neurology presents unique communication challenges that warrant additional communication skills. While registrars and specialists believe that their language proficiencies are not a barrier to communication (cf. Chapter 3), a large percentage of specialists use interpreters for counselling patients from another ethnic background. This is a barrier to communication, even if it was denied by the respondents. On-the-job training by observation of senior colleagues was reported as the most common format of communication skills development by registrars. Registrars indicated that they would be more receptive to formalising this training by using more regular role playing and videos, and being directly observed and critiqued by senior colleagues. A certification course in communication received strong support from both groups, though frequent workshops did not. Specialists were more supportive of communication assessment in the form of an OSCE at the neurology exit exam. Registrars, on the other hand, expressed that assessment and training should be done early on in their training, preferably during the first year, and that it should take the form of formative, rather than summative assessments. The pressure of completing the MMed dissertation and preparing for the fellowship exam takes centre stage during the latter half of training.

Registrars and specialists rated themselves highly on skills required to break bad news,

obtaining consent from patients and communicating with fellow professionals, but they fared poorly on skills needed to disclose medical errors to patients, deal with difficult patients and families and, especially, writing medical reports and dealing with the legal fraternity.

Given that assessment drives learning, it is clear from this study that the need for communication training in neurology can be addressed constructively if the CNSA includes communication skills testing in the exit neurology exam for specialisation. Doing so will drive the need for proper training in communication during neurology registrar training. The CNSA needs to include communication skills training in the neurology curriculum and outline specific challenges in communication that neurologists need to be skilled at. A summative assessment in the form of a testing station in the anticipated neurology OSPE needs ratification. Departments that are currently equipped for communication training, such as health professions education departments, family medicine, palliative medicine, psychology and psychiatry should be drafted to assist with communication training in neurology.

5.4 LIMITATIONS OF THE STUDY

The researcher recognises the following limitations in the study.

This was a questionnaire-based study and, as such, responses were dependent on the honest opinion of the participants. The overarching theme for most questions was the paucity of training in communication at both undergraduate and postgraduate levels, yet participants rated their communication skills much higher than expected. This reflects either that specialists acquired excellent communication skills over the years, or that they feared being judged by the researcher, despite the anonymity of the responses. Registrars also rated themselves highly, despite admitting that they were not prepared for neurology practice communication issues during undergraduate communication skills training. The reliability of these responses are in question.

A direct comparison of opinions of registrars and specialist neurologists could not be made, as they could not be matched for age and experience. Registrars are in training and their experience in neurology extends only as far as the duration of the training programme, unlike specialists, who have the experience of many years of practice. However, where comparisons were possible, these were appropriately made.

5.5 CONTRIBUTION OF THE RESEARCH

The researcher is of the opinion that this study contributes relevant information that is essential to the CNSA in relation to neurology training. The CNSA must take cognisance of the need for communication skills training at the postgraduate level. Interpersonal communication as a subject should be included in the prescribed neurology curriculum on the college website and be prescribed as a core competency requirement. Interpersonal communication that relates to issues in neurology should be tested at the neurology board exit exam. The anticipated OSPE will provide the ideal platform for this testing. The CNSA needs to embrace the AfriMEDS framework of physician competency and adopt the tenets of this framework as a blueprint for neurology training in South Africa. Future study in the competency of neurology specialists after accepting these suggestions regarding communication skills training and assessment will validate this appeal.

5.6 CONCLUDING REMARK

Assessment drives learning. If neurology registrars are not assessed in interpersonal communication at the neurology exit exam, the deficiencies that neurologists experience regarding communication, are likely to be perpetuated. Breaking bad news, disclosing medical errors, discussing life-and-death issues, communicating with the legal profession and other issues of communication should be second nature to the holistically trained neurologist.

REFERENCES

Arciniegas, D.B. & Beresford, T.P. 2010. Managing difficult interactions with patients in neurology practices: A practical approach. *Neurology*, 75: S39-S44. doi 10.1212/WNL.0b013e3181fc2887

Association of American Medical Colleges. 1999. *Medical School Objectives Project: Report III: Contemporary Issues in Medicine: Communication in Medicine*. Washington, DC: AAMC. <http://hdl.handle.net/10822/927531>

Berthold, J. 2014. Disclosing medical errors the right way. *Internal Medicine 2014*, June. ACP Internist. http://www.acpinternist.org/archives/2014/06/errors.htm?_ga=2.175266784.335336444.1590585838-1910639037.1590585837.

Boersma, M.E., Miyasaki, J., Kutner, B. & Kluger, A. 2014. Palliative care in neurology. Time for a paradigm shift. *Neurology*, 83: 561–567.

Bužgová, R. & Kozáková, R. 2019. Informing patients with progressive neurological disease of their health status, and their adaptation to the disease. *BMC Neurology*, 19(250). <https://doi.org/10.1186/s12883-019-1488-y>

CanMEDs. 2015. CanMeds framework. Royal College of Physicians and Surgeons of Canada. Website.<http://www.royalcollege.ca/rcsite/canmeds/canmeds-framework-e>

MPS. 2020. *Casebook*. Medical Protection Society. <https://www.medicalprotection.org/southafrica/casebook>

Chichirez, C.M. & Purcăarea, V.L. 2018. Interpersonal communication in healthcare. *Journal of Medicine and Life*, 11(2), April-June: 119–122.

CMSA (College of Medicine of South Africa). 2018. The Colleges of Medicine of South Africa: Fellowship of the College of Neurologists of South Africa: FC Neurol(SA). Website. https://www.cmsa.co.za/view_exam.aspx?QualificationID=13

CMSA (College of Medicine of South Africa). 2020. The Colleges of Medicine of South Africa:

Fellowship of the College of Neurologists of South Africa: FC Neurol(SA). 26 May. Website. https://www.cmsa.co.za/view_exam.aspx?QualificationID=13

Dacre, N., Richardson, J., Noble, L., Stephens, K. & Parker, N. 2004. Communication skills training in postgraduate medicine: the development of a new course. *Postgraduate Medical Journal*, 80(950): 711–715. doi: 10.1136/pgmj.2004.022129

Elamin, A. 2015. *Communication skills in medicine. Supercourse: Epidemiology, the Internet, and Global Health*. PowerPoint. <http://www.pitt.edu/~super7/19011-20001/19581.ppt>

Fallowfield, L. & Jenkins, V. 2004. Communicating sad, bad, and difficult news in medicine. *Lancet*, 363: 312–319.

Ferreira-Padilla, G., Ferrández-Antón, T., Baleriola-Júlvez, J., Braš, M., & Đorđević, V. 2015. Communication skills in medicine. *Croatian Medical Journal*, 56(3): 311-314 doi: 10.3325/cmj.2015.56.311

Haggerty, J., Burge, J., Lévesque, J-F., Gass, D., Pineault, R., Beaulieu, M-D. & Santor, D. 2007. Operational definitions of attributes of primary health care: Consensus among Canadian experts. *Annals of Family Medicine*, 5(4): 336–44. doi: 10.1370/afm.682

HPCSA (Health Professions Council of South Africa). 2018. *Overview – HPCSA*. Website. <https://www.hpcsa.co.za/about>

HPCSA 2014. *Core competencies* for undergraduate students in clinical associate, dentistry and medical teaching and learning programmes in South Africa*. <http://www.hpcsa-blogs.co.za/wp-content/uploads/2017/04/MDB-Core-Competencies-ENGLISH-FINAL-2014.pdf>

Jayalakshmi, S. & Vooturi, S. 2016. Legal challenges in neurological practice. *Annals of Indian Academy of Neurology*, 19(Suppl 1), Oct.: S3–S8. doi: 10.4103/0972-2327.192888

Koul, P.A. 2017. Effective communication, the heart of the art of medicine. *Lung India*, 34: 95-6.

Kurzweil, A., Lewis, A., Pleninger, P., Rostanski, S., Nelson, A., Ishida, K., Balcer, L. & Galetta, S. 2018. Assessing and enhancing neurology resident education on interpersonal communication and professionalism. *Neurology*, 90(15 Supplement): P3.011.

Levinson, W., Roter, D., Mullooly, J., Dull, V. & Frankel, R. 1997. Physician-patient communication. The relationship with malpractice claims among primary care physicians and surgeons. *JAMA*, 277(7): 553-559.

Lode, K., Larsen, J.P., Bru, E., Klevan, G., Myhr, K.M. & Nyland, H. 2007. Patient information and coping styles in multiple sclerosis. *Multiple Sclerosis Journal*, 13:792–799.

Manyuk, L. 2016. Future physicians' professional communication skills training at US Universities: Structure and content. *Comparative Professional Pedagogy*, 6(3): 43–48.

Middlemas, S., Haftel, H., Ross, P.T. & Lypson, M.L. 2013. Assessing interpersonal communications skills: The use of standardized patients in graduate medical education. *Journal of Graduate Medical Education*, 5(3), Sep.: 515–516. doi: 10.4300/JGME-D-13-00205.1

MRCP UK. (Membership of the Royal Colleges of Physicians of the United Kingdom). 2019. *MRCP(UK) examinations*. <https://www.mrcpuk.org/mrcpuk-examinations/paces/paces-examination-format>. 12 November 2019.

Neurological association of South Africa (NASA). May 2020. Title of particular page. Website. <https://www.mynasa.co.za/>

Novak, M.C. Everything you need to know about communication theory. *Learning Hub*, 8 April. Website. <https://learn.g2.com/communication-theory>.

Nudelman, C. 2015. *Language in South Africa's higher education transformation: A study of language policies at four universities*. Master's dissertation. University of Cape Town. https://open.uct.ac.za/bitstream/handle/11427/13739/thesis_hum_2015_nudelman_cl.pdf?sequence=1&isAllowed=y

Office on the Status of Women. 2001. South Africa's National Policy Framework for Women's

Empowerment and Gender Equality.

https://www.environment.gov.za/sites/default/files/docs/national_policy_framework.pdf

PRACTO. 2015. *The importance of interpersonal communication in medical practices*. The PRACTO Blog for Doctors, 27 February 2015. <https://doctors.practo.com/the-importance-of-interpersonal-communication-in-medical-practices/>

RACP (The Royal Australasian College of Physicians). 2017. *Core competency requirements for the neurology exit exams in Australia and New Zealand*. Website. <https://www.racp.edu.au/docs/default-source/default-document-library/at-neurology-handbook-2017-18.pdf?sfvrsn=6>

Republic of South Africa. 2019. National Qualifications Framework Amendment Act, 2019. *Government Gazette*, Vol. 650, No. 42646, 19 August. <https://www.saqa.org.za/sites/default/files/2019-11/4264619-8act12of2019natqualificationsframeamendact.pdf>

SAQA (South African Qualifications Authority Standard). 2014. *Glossary of terms*. NQFPedia, 2 April. <https://hr.saqa.co.za/glossary/pdf/NQFPedia.pdf>

Shannon, C.E. & Weaver, W. 1949. *The mathematical theory of communication*. University of Illinois Press.

Solari, A., Acquarone, N., Pucci, E., Martinelli, V., Marrosu, M.G., Trojano, M., Borreani, C. & Messmer Uccelli, M. 2007. Communicating the diagnosis of multiple sclerosis – a qualitative study. *Multiple Sclerosis Journal*, 13: 763–769.

Storstein, A. 2011. Communication and neurology – bad news and how to break them. *Acta Neurologica Scandinavica*, 124 (Suppl. 191): 5–11.

Tanveer, F., Shahid, S. & Hafeez, M.M. 2018. Impact of doctor's interpersonal communication skill on patient's satisfaction level. *Isra Medical Journal*, 10(5), Sep–Oct: 306-309.

UFS (University of the Free State). 2014a. *Faculty of Health Sciences Home. Health Sciences*

Research Ethics Committee. Website. <https://www.ufs.ac.za/health/departments-and-divisions/health-sciences-research-ethics-committee>

UFS (University of the Free State). 2014b. *Using Evasys. Evasys procedure*. February 2014. [https://www.ufs.ac.za/docs/librariesprovider43/directorate-for-institutional-research-and-academic-planning-\(dirap\)-documents/policies-and-guidelines-documents/evasys-procedure-using-evasys-\(february-2014\)-4677-eng.pdf?sfvrsn=7598f021_0](https://www.ufs.ac.za/docs/librariesprovider43/directorate-for-institutional-research-and-academic-planning-(dirap)-documents/policies-and-guidelines-documents/evasys-procedure-using-evasys-(february-2014)-4677-eng.pdf?sfvrsn=7598f021_0)

Watling, C. & Brown, J. 2007. Communication skills for neurology residents: Structured teaching and reflective practice. *Neurology*, 69: E20–E26.

Wu A.W., Huang I., Stokes S. and Pronovost P.J. 2009. Disclosing medical errors to patients: It's not what you say, it's what they hear. *Journal of General Intern Medicine* 24(9): 1012–1017. doi: 10.1007/s11606-009-1044-3

LIST OF APPENDICES

- APPENDIX A: ETHICS APPROVAL LETTER**
- APPENDIX B: QUESTIONNAIRE**
- APPENDIX C: NASA APPROVAL LETTER**
- APPENDIX D: PARTICIPATION INFORMATION LETTER**
- APPENDIX E: INFORMED CONSENT LETTER**
- APPENDIX F: UFS GATEKEEPING CLEARANCE**
- APPENDIX G: BIostatISTICS APPROVAL LETTER**
- APPENDIX H: AUTHOR GUIDELINES FROM SOUTH AFRICAN JOURNAL OF
HEALTH PROFESSIONS EDUCATION**
- APPENDIX I: TURN-IT-IN REPORT**

ETHICS APPROVAL LETTER

UNIVERSITY OF THE
FREE STATE
UNIVERSITEIT VAN DIE
VRYSTAAT
YUNIVESITHI YA
FREISTATA



UFS·UV
HEALTH SCIENCES
GESONDHEIDSWETENSKAPPE

Health Sciences Research Ethics Committee

06-May-2020

Dear Prof Anandan Moodley

Ethics Clearance: **TRAINING FOR INTERPERSONAL COMMUNICATION SKILLS RELEVANT TO NEUROLOGICAL PRACTICE IN SOUTH AFRICA**

Principal Investigator: Prof Anandan Moodley

Department: Neurology Department (Bloemfontein Campus)

APPLICATION APPROVED

Please ensure that you read the whole document

With reference to your application for ethical clearance with the Faculty of Health Sciences, I am pleased to inform you on behalf of the Health Sciences Research Ethics Committee that you have been granted ethical clearance for your project.

Your ethical clearance number, to be used in all correspondence is: **UFS-HSD2020/0028/2605**

The ethical clearance number is valid for research conducted for one year from issuance. Should you require more time to complete this research, please apply for an extension.

We request that any changes that may take place during the course of your research project be submitted to the HSREC for approval to ensure we are kept up to date with your progress and any ethical implications that may arise. This includes any serious adverse events and/or termination of the study.

A progress report should be submitted within one year of approval, and annually for long term studies. A final report should be submitted at the completion of the study.

The HSREC functions in compliance with, but not limited to, the following documents and guidelines: The SA National Health Act, No. 61 of 2003; Ethics in Health Research: Principles, Structures and Processes (2015); SA GCP(2006); Declaration of Helsinki; The Belmont Report; The US Office of Human Research Protections 45 CFR 461 (for non-exempt research with human participants conducted or supported by the US Department of Health and Human Services- (HHS), 21 CFR 50, 21 CFR 56; CIOMS; ICH-GCP-E6 Sections 1-4; The International Conference on Harmonization and Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH Tripartite), Guidelines of the SA Medicines Control Council as well as Laws and Regulations with regard to the Control of Medicines, Constitution of the HSREC of the Faculty of Health Sciences.

For any questions or concerns, please feel free to contact HSREC Administration: 051-4017794/5 or email EthicsFHS@ufs.ac.za.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours Sincerely

Dr. SM Le Grange

Chair : Health Sciences Research Ethics Committee

Health Sciences Research Ethics Committee

Office of the Dean: Health Sciences

T: +27 (0)51 401 7795/7794 | E: ethicsfhs@ufs.ac.za

IRB 00011992; REC 230408-011; IORG 0010096; FWA 00027947

Block D, Dean's Division, Room D104 | P.O. Box/Posbus 339 (Internal Post Box G40) | Bloemfontein 9300 | South Africa



QUESTIONNAIRE**A. Biographical information**

1. Age

2. Gender

Male	Female	Other
------	--------	-------

3. Current occupation

Neurology Registrar	Neurologist in Private Practice	Neurologist in Government/Academic practice
---------------------	---------------------------------	---

4. Number of years of training as a registrar or practice as a neurologist.

5. For qualified neurologists, in what year did you complete your training?

6. In which city are you currently practising or in training?

7. Where are you currently training or did you train?

<input type="checkbox"/>	University of the Free State
<input type="checkbox"/>	University of the Witwatersrand
<input type="checkbox"/>	University of Pretoria
<input type="checkbox"/>	Sefako Makgatho Faculty of Health Sciences
<input type="checkbox"/>	University of Cape Town
<input type="checkbox"/>	Stellenbosch University
<input type="checkbox"/>	University of KwaZulu Natal
<input type="checkbox"/>	Other – Please indicate:

8. Which of the following languages do you speak fluently? (Tick relevant options)

<input type="checkbox"/>	English
<input type="checkbox"/>	Zulu
<input type="checkbox"/>	Afrikaans
<input type="checkbox"/>	Xhosa
<input type="checkbox"/>	Sesotho
<input type="checkbox"/>	Venda
<input type="checkbox"/>	Tswana
<input type="checkbox"/>	Tsonga
<input type="checkbox"/>	Siswati
<input type="checkbox"/>	Ndebele
<input type="checkbox"/>	Northern Sotho

9. Do you feel competent in the language/s you use to communicate with patients?

Yes	No	Unsure
-----	----	--------

10. Do you feel competent in the language you use to communicate with other health care professionals?

Yes	No	Unsure
-----	----	--------

11. Do you use an interpreter when communicating with patients?

Yes	No	Unsure
-----	----	--------

12. Do you feel that your language skills are a barrier to interpersonal communication?

Yes	No	Unsure
-----	----	--------

B. Questions pertaining to training in interpersonal communication (doctor –patient, doctor – family, doctor-other healthcare professional etc.) at undergraduate level

1. Do you think you are adequately trained in interpersonal communication with a patient and other health care professionals?

Yes	No	Unsure
-----	----	--------

2. Did you receive training in interpersonal communication as an MBCHB undergraduate?

Yes	No	Unsure
-----	----	--------

3. In what year/s of undergraduate training did you receive this training?

1st	2nd	3rd	4th	5th	6th	N/A
-----	-----	-----	-----	-----	-----	-----

4. What format did undergraduate training in communication take?

Lectures	Videos	Role playing	None	Other (specify)
----------	--------	--------------	------	-----------------

5. In which of the following categories did you receive training? Tick all relevant categories

	Doctor-patient communication for history taking
	Doctor-patient communication for information giving
	Communication with families
	Communication with doctors: verbally and in writing
	Communication with nurses
	Communication with allied health workers: psychologists, occupational therapists, physiotherapists, speech therapists, audiologists, social workers and dietitians
	Communication with the legal profession

6. Was doctor-patient communication formally tested (practically or theoretically) at undergraduate level?

Yes	No	Unsure
-----	----	--------

7. If communication was tested, in what format was it tested?

Written exam	Videos and written	Role playing	Other (specify):
--------------	--------------------	--------------	------------------

8. Do you think that undergraduate training in interpersonal communication adequately prepared you for neurology practice?

Yes	No	Unsure
-----	----	--------

9. Do you feel competent in dealing with difficult communication issues with neurology patients?

Yes	No	Unsure
-----	----	--------

10. Do you believe formal training in doctor-patient communication is important?

Yes	No	Unsure
-----	----	--------

11. Do you think interpersonal communication is a skill that belongs to psychiatry alone?

Yes	No	Unsure
-----	----	--------

C. Competency in dealing with neurology communication issues:

I feel comfortable in dealing with the following issues in neurology

1. Breaking bad news

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

2. Discussing 'goals of care' with a patient

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

3. Disclosing a medical error

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

4. Discussing life and death decisions with families regarding a patient with a critical/terminal illness

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

5. Communicating with 'difficult' patients or family members

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

6. Obtaining informed consent for tests, procedures or therapies

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

7. Communicating with other health care workers regarding a patient

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

8. Completing medical reports and communicating with the legal fraternity

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

D. Questions pertaining to training in interpersonal communication at postgraduate level

1. Did you receive any training in communication during registrar training?

Yes	No	Unsure
-----	----	--------

2. Have you ever been directly observed communicating with a patient regarding history taking or information giving by a senior colleague or consultant whilst you were/are in training?

Yes	No	Unsure
-----	----	--------

3. If you answered yes to Question 2 answer Question 3. Otherwise proceed to Question 4

3.1. Were you given feedback by the senior doctor?

Yes	No	Unsure
-----	----	--------

3.2 Was the feedback helpful?

Yes	No	Unsure
-----	----	--------

4. Do you think communication training should be offered in neurology?

Yes	No	Unsure
-----	----	--------

If you answered yes to Question 4 proceed to Question 5, otherwise proceed to Question 6

5.1. At what level should this training be offered?

Undergraduate	1 st year registrar	2 nd year registrar	3 rd year registrar	Final year registrar	All years
---------------	--------------------------------	--------------------------------	--------------------------------	----------------------	-----------

5.2. How should training be offered?

Role playing	Videos	Lectures	Other (specify):
--------------	--------	----------	------------------

5.3. What format should this training take?

Once-off workshop (1-2 days)	Annual practical workshop (1-2 days)	Online self-study (Videos)	On-the-job training with consultant feedback	Other (specify):
------------------------------	--------------------------------------	----------------------------	--	------------------

6. Do you think that communication should be a core competency requirement and included in the syllabus in neurology?

Yes	No	Unsure
-----	----	--------

7. Do you think that communication should be formally tested during the FC Neurol exam?

Yes	No	Unsure
-----	----	--------

If you answered yes to Question 7,

8.1 What format/s do you think this testing should take?

One OSCE station at the clinical exam with role playing	One OSCE question in the theory exam	Theory questions in the written exam	Certification of training on completion of the workshop or online course	Other (specify):
---	--------------------------------------	--------------------------------------	--	------------------



Unit 16, Northcliff Office Park
203 Beyers Naude Drive
Northcliff, Johannesburg, 2115, South Africa
Tel: (+27)(11) 340 9000, Fax: (+27)(11) 782 0270
Email: neurology@healthman.co.za
PO Box 2127, Cresta, Johannesburg, 2118, South Africa

25th February 2020

To Whom it may Concern
Health Sciences Research Ethics Committee

Dear Sir/Madam,

RE: APPROVAL FOR ACCESS TO NEUROLOGISTS AND REGISTRARS

Professor Anandan Moodley has approached the Neurological Association of South Africa (NASA) for access to neurologists and registrars at the Neurology Congress and Registrar Weekend for a descriptive cross-sectional study titled: TRAINING FOR INTERPERSONAL COMMUNICATION SKILLS RELEVANT TO NEUROLOGICAL PRACTICE IN SOUTH AFRICA. This will be administered by a questionnaire in printed and online format.

The executive committee of NASA hereby grants approval for the above, including access to email addresses of neurologists who are not attending the Congress. The recruitment of neurologists and registrars will be done under the direct supervision and authority of NASA without any infringement on their privacy.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Patty Francis".

Dr Patty Francis
NASA PRESIDENT

A handwritten signature in black ink, appearing to read "Lawrence Tucker".

Dr Lawrence Tucker
NASA VICE PRESIDENT

PARTICIPANT INFORMATION LETTER

Information Form

Dear participant,

Request to participate in a Master of Health Professions study

**TRAINING FOR INTERPERSONAL COMMUNICATION SKILLS RELEVANT TO
NEUROLOGICAL PRACTICE IN SOUTH AFRICA**

I am currently the head of Neurology at the University of the Free State and a member of the College of Neurology of South Africa, and involved in the development of the neurology curriculum and assessment process. The basic sciences and clinical practice of neurology are tested in the Fellowship exit exam. Communication skills are a core competency requirement for most international neurology exit exams, but not in South Africa. Whether this is necessary in the South African context has not been officially determined.

I am in the process of soliciting the opinions of doctors busy with neurology training, and qualified neurologists, on the importance of communication training and assessment as it relates to neurology practice.

The objectives of this study are:

1. To establish the current level of competence by neurology registrars and consultants in dealing with communication issues in neurology;
2. To assess the perception of neurology registrars and qualified neurologists on the significance of interpersonal communication as a core competency requirement in the practice of neurology;
3. To estimate the willingness of neurology doctors to participate in communication workshops or courses at various levels in training and post-training; and
4. By using the results from the above objectives, to make recommendations to the CNSA on relevant curriculum changes.

A printed survey questionnaire and the EvaSys online survey will be used for this study, and mainly quantitative data will be analysed. Feedback from this survey will be submitted to the College of Neurology of South Africa, with recommendations for changes to the neurology curriculum, if required.

I therefore request that you participate in this questionnaire survey. Your opinion is important and can make a difference to the provision of holistic neurology care to our patients.

Should you have any queries, my contact details are as follows:

Tel: 051 4053550

Mobile: 0845955077

Email: MoodleyAA@ufs.ac.za

Postal address: Department of Neurology, PO
Box 339, Internal Box G63, Bloemfontein,
9300

Supervisor: **Dr J Bezuidenhout**,
Health Professions Education,
Faculty of Health Sciences, UFS;
Email: BezuidJ@ufs.ac.za
Tel: 051 4017772

There is no compensation for participating in this survey. As your participation is voluntary, you may also withdraw from this study at any time without facing any repercussions. Your responses will be confidential at all times and will be respected as such.

Thank you for your time and your willingness to participate in this survey.

Kind regards

Anand Moodley

HOD: Neurology

University of the Free State

Bloemfontein

INFORMED CONSENT LETTER

I hereby consent to participate in the study titled:

**TRAINING OF INTERPERSONAL COMMUNICATION SKILLS RELEVANT TO
NEUROLOGICAL PRACTICE IN SOUTH AFRICA**

The principal investigator, Dr A Moodley using a printed and online questionnaire will conduct the study and analysis will be done at the University of the Free State, Biostatistics department.

I have read the information page and I understand the contents and relevance of the study.

I consent voluntarily without any coercion or prejudice. I understand that the study is intended to obtain the views of neurology registrars and consultants and that confidentiality will be respected throughout the study.

Sincerely

Signature

Name

Date

UFS GATEKEEPING CLEARANCE

UNIVERSITY OF THE
FREE STATE
UNIVERSITEIT VAN DIE
VRYSTAAT
YUNIBESITHI YA
FREISTATA



Office of the Vice-Rector: Research and Internationalisation
Kantoor van die Viserektor: Navorsing en Internasionalisering

06-May-2020

Dear Prof Anandan Moodley

UFS AUTHORITIES APPROVAL

Research Project Title:

**TRAINING FOR INTERPERSONAL COMMUNICATION SKILLS RELEVANT TO
NEUROLOGICAL PRACTICE IN SOUTH AFRICA**

This letter serves as confirmation that your request to collect data from students and/or staff members at the University of the Free State for your research project has been approved provided that you also have ethical clearance for the research from the ethics committee at the University of the Free State.

Please make sure that you also obtain your ethics clearance letter containing your reference number from the ethics committee after you have received this letter before you conduct your research.

Kind Regards

A handwritten signature in black ink, appearing to read 'RC Witthuhn'.

**PROF RC WITTHUHN
VICE-RECTOR: RESEARCH & INTERNATIONALISATION
CHAIR: SENATE RESEARCH ETHICS COMMITTEE**

206 Nelson Mandela Drive/Ryalaan
Park View/Parkeer
Bloemfontein 9301
South Africa/Suid-Afrika

P.O. Box / Posbus 330
Bloemfontein 9300
South Africa / Suid-Afrika
T +27(0)51 401 2110
F +27(0)51 401 3752
WitthuhnRC@ufs.ac.za
www.ufs.ac.za



BIostatISTICS APPROVAL LETTER



22 November 2019

For attention: Health Sciences Research Ethics Committee, UFS

**Title of project: TRAINING OF INTERPERSONAL COMMUNICATION SKILLS
RELEVANT TO NEUROLOGICAL PRACTICE IN SOUTH AFRICA**

Researcher: Prof A Moodley, HPE Programme

I hereby confirm that as a member of the Masters evaluation committee I gave inputs on the above protocol and approve the planned study.

Best regards

A handwritten signature in black ink, appearing to read 'G Joubert', is written above the printed name.

G Joubert

APPENDIX H

AUTHOR GUIDELINES – SOUTH AFRICAN JOURNAL OF HIGHER EDUCATION



Author Guidelines

1. The submission has not been previously published, nor is it before another journal for consideration and is the author(s) own original work. The submission file is in a Microsoft Word 2007 or later file format. (Submissions not conforming to the journal's style will be rejected)
2. Where available, URLs for the references have been provided.
3. The text is 1.5-spaced; uses a 12-point font; employs italics, rather than underlining (except with URL addresses); and all illustrations, figures, and tables are placed in the article text and clearly marked. The article should be between 5500 and 7500 words in length. References: The **Chicago Manual of Style** author-date system is used. That is, references are cited in the text by the author(s) name(s), the year of publication and the page numbers(s) in brackets, for example, (Apollonia 1973, 370), as a key to the full list of all references that appears at the end of the article. The list of references should include every work cited in the text. Ensure that dates, spelling and titles used in

the test are accurate and consistent with those listed in the references.

4. When citing others' work, always use double quotation marks for the citation, and, if required, use single quotation marks within the citation. This especially applies to indented quotations. Turnitin does not recognise indentations with quotation marks, instead, it recognises indented quoted text without quotation marks as previously used work that appears elsewhere (thus - picks this up as plagiarism).
5. The instructions in Ensuring a Blind Review have been followed, and all author details have been removed from the initial review copy.
6. The article has been professionally edited and a letter from the editor will be attached to it (step 4 of submission process - Uploading Supplementary Files)

Submission Preparation Checklist

As part of the submission process, authors are required to check off their submission's compliance with all of the following items, and submissions may be returned to authors that do not adhere to these guidelines.

1. The submission has not been previously published, nor is it before another journal for consideration and is the author(s) own original work.
2. The submission file is in a Microsoft Word 2007 or later file format. (Submissions not

conforming to the journal's style will be rejected)

3. Where available, URLs for the references have been provided.
4. The text is 1.5-spaced; uses a 12-point font; employs italics, rather than underlining (except with URL addresses); and all illustrations, figures, and tables are placed in the article text and clearly marked. The article should be between 5500 and 7500 words in length. References: The Chicago Manual of Style author-date system is used. That is, references are cited in the text by the author(s) name(s), the year of publication and the page numbers(s) in brackets, for example, (Apollonia 1973, 370), as a key to the full list of all references that appears at the end of the article. The list of references should include every work cited in the text. Ensure that dates, spelling and titles used in the test are accurate and consistent with those listed in the references. Please take note that quotes must be done with double quotation mark – as Turnitin picks this up as plagiarism.
5. The instructions in Ensuring a Blind Review have been followed, and all author details have been removed from the initial review copy.
6. The article has been professionally edited and a letter from the editor will be attached to it (step 4 of submission process - Uploading Supplementary Files)

Copyright Notice

This journal is an open access journal, and the authors and journal should be properly acknowledged, when works are cited.

Authors, **copyright holders**, may use the publishers version for teaching purposes, in books, theses, dissertations, conferences and conference papers.

A copy of the authors' publishers version may also be hosted on the following websites:

- Non-commercial personal homepage or blog.
- Institutional webpage.
- Authors Institutional Repository.

The following notice should accompany such a posting on the website: "This is an electronic version of an article published in SAJHE, Volume XXX, number XXX, pages XXX–XXX", DOI. Authors should also supply a hyperlink to the original paper or indicate where the original paper (<http://www.journals.ac.za/index.php/SAJHE>) may be found.

Authors publishers version, affiliated with the Stellenbosch University will be automatically deposited in the University's Institutional Repository **SUNScholar**.

Articles as a whole, may not be re-published with another journal.

The following license applies:

Attribution CC BY-NC-ND 4.0

Privacy Statement

The names and email addresses entered in this journal site will be used exclusively for the stated purposes of this journal and will not be made available for any other purpose or to any other party.

Author Fees

This journal charges the following author fees.

Article Submission Handling Fee: 500.00 (ZAR)

Article Publication Fee - PER PAGE: 345.00 (ZAR)

If this paper is accepted for publication, you will be asked to pay an Article Publication Fee to cover publications costs. The administrator will contact you with the invoice for page fees when your paper has been accepted for publication. No credit card facilities available. Page fees will be confirmed annually. Page fees for publication in 2018 - R345 per page. Page fees will be confirmed annually.

M Dissertation

by Anand Moodley

Submission date: 12-Jul-2020 10:15AM (UTC+0200)
Submission ID: 1356370603
File name: MOODLEY_A_-_Masters_-_as_on_10-07-2020_Turnitin.docx (3.01M)
Word count: 23883
Character count: 142047

M Dissertation

ORIGINALITY REPORT

13%

SIMILARITY INDEX

11%

INTERNET SOURCES

4%

PUBLICATIONS

10%

STUDENT PAPERS

PRIMARY SOURCES

1

www.journals.ac.za

Internet Source

4%

2

scholar.ufs.ac.za

Internet Source

1%

3

scholar.ufs.ac.za:8080

Internet Source

1%

4

Submitted to North West University

Student Paper

1%

5

www.pitt.edu

Internet Source

<1%

6

Submitted to University of the Free State

Student Paper

<1%

7

hdl.handle.net

Internet Source

<1%

8

Submitted to The College of Health Care Professions

Student Paper

<1%

9

docplayer.net

