European Institute of Knowledge & Innovation

Bulletin of Language and Literature Studies (BLLS) ISSN: 2977-6201

Research Article

Diagnostic Conversation with a Neurological Patient at the Polyclinic Department: Efficient Strategies and Challenges

Valentyna Berestetska [1*]

[1] Polonne Town Hospital, Ukraine
* Correspondence: valentynaberest@meta.ua

https://doi.org/10.59652/blls.v1i1.386

Abstract: This article explores the critical aspects of conducting diagnostic conversations with neurological patients in a polyclinic setting, highlighting both effective strategies and inherent challenges. Neurological disorders often present complex symptoms, requiring precise communication to ensure accurate diagnosis and effective treatment planning. The paper outlines key strategies such as active listening, structured questioning, and empathetic communication, which enhance patient engagement and information accuracy. Special attention is given to overcoming challenges such as cognitive impairments, language barriers, and emotional distress, which can hinder the diagnostic process. Additionally, the role of interdisciplinary collaboration between neurologists, nurses, and therapists in facilitating comprehensive assessments is discussed. The article also addresses the importance of cultural sensitivity and patient-centered approaches in fostering trust and improving outcomes. Practical recommendations and case studies illustrate how healthcare professionals can navigate these challenges to enhance diagnostic accuracy and patient care quality in busy polyclinic environments.

Keywords: communication strategy, diagnostic conversation, diagnostic skills, language and communication barriers, technological tools

1. Introduction

Doctors in polyclinic departments play a pivotal role as primary healthcare providers, offering specialized outpatient care across various medical fields. Unlike hospital-based specialists who often manage acute or severe cases, polyclinic doctors handle a broad spectrum of health issues, ranging from routine check-ups to managing chronic conditions (Albanesi & Gitto, 2024). Their work requires a comprehensive approach, as they often serve as the first point of contact, needing to diagnose, treat, and sometimes refer patients for more specialized care. Effective communication, diagnostic skills, and time management are essential, as polyclinic doctors typically work within tight schedules and must make accurate clinical decisions quickly (Biglu et al., 2017).

Neurologists in polyclinic settings face unique challenges due to the complexity of neurological disorders, which often present with subtle or overlapping symptoms (Hickner et al., 2014). They must conduct thorough diagnostic conversations and physical examinations to differentiate between conditions such as migraines, epilepsy, or neurodegenerative diseases. Since many neurological issues can impact communication and cognitive function, neurologists need to adapt their approach to each patient's abilities, often relying on detailed medical histories and input from family members. Their role involves not only diagnosing but also managing long-term care, coordinating with other specialists, and educating patients about their conditions, making them essential for maintaining neurological health in the community (Huynh et al., 2023).

Dialogues between doctors and patients are crucial for effective healthcare, as they facilitate the accurate exchange of information necessary for diagnosis, treatment planning, and patient education (Ha & Longnecker, 2010). These conversations help build trust and rapport, which can significantly impact patient compliance and overall satisfaction with care. For doctors, understanding a patient's symptoms, medical history, and personal concerns through dialogue provides a holistic view of their condition, leading to more precise diagnoses

Received: November 14, 2024
Accepted: November 29, 2024
Published: December 2, 2024

and tailored treatments (Lampus & Wuisan, 2024). For patients, clear communication demystifies complex medical information, reducing anxiety and empowering them to participate actively in their care (Huynh et al., 2023). Ultimately, effective doctor-patient dialogues enhance clinical outcomes and foster a collaborative, patient-centered healthcare environment.

A diagnostic conversation is a structured yet flexible dialogue between a healthcare professional and a patient, aimed at gathering essential information to identify or rule out medical conditions (Espinoza Suarez et al., 2023). In the context of neurology, this conversation involves discussing the patient's symptoms, medical history, and lifestyle factors while observing cognitive, emotional, and physical responses. The practitioner uses targeted questions and active listening to uncover critical details about neurological function, often requiring adaptation to accommodate the patient's communication abilities (Karkera et al., 2024). Effective diagnostic conversations build trust, ensure accurate information exchange, and lay the foundation for accurate diagnosis and tailored treatment plans (Peel, 2015).

A neurologist employs various communication strategies when interacting with patients due to the complex and sensitive nature of neurological disorders, which often affect cognition, language, and emotional well-being (Huynh et al., 2023). Effective communication is important not only for accurate diagnosis but also for establishing trust and ensuring that patients feel understood and supported (Lampus & Wuisan, 2024). Analyzing these strategies is essential because it reveals how different approaches can impact the patient's comprehension, cooperation, and overall experience during consultations. Such analysis helps identify best practices that can be tailored to individual patient needs, improving diagnostic accuracy and fostering a patient-centered approach. Understanding the nuances of communication in neurological settings also enables healthcare providers to address challenges more effectively, ultimately enhancing the quality of care and patient outcomes.

The *research aim* is to identify and evaluate effective communication strategies and challenges faced during diagnostic conversations with neurological patients in a polyclinic setting, aiming to enhance diagnostic accuracy and patient-centered care.

The research focuses on the following *research questions*:

1) What communication strategies do healthcare professionals commonly use during diagnostic conversations with neurological patients?
2) What are the key challenges encountered by healthcare professionals during diagnostic conversations with neurological patients?
3) What technological tools or resources support efficient diagnostic conversations in neurology?

2. Materials and Methods

2.1. Research Design

The research design is structured to ensure a systematic and comprehensive examination of communication practices within a clinical setting. Employing observation and document analysis, the study adopts a qualitative approach that emphasizes context-rich, detailed data collection. The research is organized around key themes, such as identifying effective strategies and understanding communication barriers. Observations focus on capturing real-time interactions between healthcare providers and patients, while document analysis provides supplementary insights from clinical records, supporting a triangulated perspective. This combination ensures that findings are both empirically grounded and reflective of broader patterns. Ethical considerations, such as informed consent and confidentiality, are integrated into the research process to uphold patient and clinician rights. The design is iterative, allowing for ongoing refinement as themes emerge, ensuring a thorough understanding of the complexities inherent in neurological diagnostic conversations.

2.2. Sample and Participants

The study involves a sample of 127 neurological patients. These participants represent a diverse demographic, ensuring a broad spectrum of neurological conditions and communication abilities are examined. Inclusion criteria include adult patients (aged 18 and above) diagnosed with various neurological disorders, such as stroke, Parkinson's disease, multiple sclerosis, and neurodegenerative conditions. Participants must have undergone at least one diagnostic consultation at the polyclinic within the past year. Exclusion criteria involve patients with severe cognitive impairments that prevent meaningful participation or those with psychiatric conditions unrelated to neurological diagnoses. This structured

sampling ensures a representative group that reflects the real-world challenges faced during diagnostic conversations in neurological care settings.

Ethical considerations are central to the study's design. Informed consent is obtained from all participants, with detailed explanations provided regarding the study's purpose, methods, and their right to withdraw at any time without consequence. To protect privacy and confidentiality, all personal data is anonymized, and patient records used in document analysis are de-identified. The study adheres to ethical guidelines outlined by relevant institutional review boards, ensuring that the dignity and rights of patients are respected throughout the research process. Special care is taken to accommodate the needs of participants with communication difficulties, providing additional support or modified consent procedures as necessary.

2.3. Data Collection

The data collection process concerned two main methods: structured observation and medical document analysis. The procedure began with real-time observation of diagnostic consultations between healthcare professionals and neurological patients. Observations were conducted in a naturalistic setting within the polyclinic to ensure authenticity and reliability. Researchers used a standardized observation checklist to record key elements such as communication strategies, patient responses, non-verbal cues, and any noticeable challenges during interactions. Each session was observed by trained researchers, who remain non-intrusive to minimize any impact on the natural flow of the conversation. Detailed field noted and, where consent was obtained, audio or video recordings supplement the observational data, capturing nuanced aspects of communication that might otherwise be missed.

The second component, medical document analysis, involved a thorough review of patient records and consultation notes. These documents provided context and background information on each patient's medical history, previous diagnoses, and treatment plans. Researchers focused on identifying patterns in the documentation that reflected communication strategies used during consultations, as well as any documented challenges or misunderstandings. Special attention was paid to language used in clinical notes, descriptions of patient behavior, and documented outcomes from diagnostic conversations. This method ensured that data from the observations could be cross-referenced with documented evidence, enhancing the validity of the findings and providing a more comprehensive understanding of each diagnostic interaction.

To ensure consistency and reliability, both data collection methods were conducted concurrently, allowing researchers to compare and triangulate findings from observations with insights gained from document analysis. Ethical protocols were strictly followed throughout the data collection process, including obtaining informed consent from all participants and maintaining strict confidentiality. All data was anonymized, and access to patient records was restricted to authorized research personnel only. This rigorous approach to data collection ensured that the study yields rich, credible data that could be analyzed to identify effective communication strategies and the key challenges faced during diagnostic conversations with neurological patients.

2.4. Data Analysis

The data analysis process is methodically structured to extract meaningful insights from both observations and medical document analysis. Initially, data from observations – such as field notes, audio recordings, and transcriptions – are organized and coded thematically. Researchers use qualitative analysis software to systematically categorize the data, identifying recurring patterns in communication strategies and challenges. Thematic coding focuses on elements such as communication techniques, patient responses, non-verbal interactions, and moments of miscommunication or breakthrough. By coding these interactions, researchers can draw connections between specific strategies used by neurologists and their impact on patient understanding and engagement.

The analysis of medical documents follows a similar thematic approach. Patient records and consultation notes are reviewed to identify documented evidence of communication strategies, as well as references to challenges or specific patient behaviors. Researchers look for consistent themes or patterns, such as how certain strategies correlate with positive diagnostic outcomes or documented instances where communication barriers affected the consultation process. Cross-referencing these findings with observation data enhances the validity of the analysis, allowing researchers to confirm trends and identify discrepancies between observed interactions and documented accounts. This triangulation of data sources

ensures a comprehensive understanding of the communication dynamics in neurological consultations.

Finally, the combined data is synthesized to draw overarching conclusions and identify best practices. Researchers compare the identified themes with existing literature to contextualize their findings within broader communication frameworks. This step involves evaluating how specific strategies align with or diverge from established best practices in clinical communication. Integrating the data from both observation and document analysis, the study provides a holistic view of the communication landscape in neurological diagnostics, highlighting both effective approaches and areas for improvement. This thorough analysis informs practical recommendations for enhancing diagnostic conversations, ultimately aiming to improve patient outcomes and the quality of neurological care.

3. Results and Discussion

3.1. Communication strategies during diagnostic conversations with neurological patients

Communication during diagnostic conversations with neurological patients has distinct peculiarities due to the complex nature of neurological disorders, which can affect a patient's cognitive, emotional, and physical abilities (Albu et al., 2023). Neurological conditions, such as stroke, dementia, or Parkinson's disease, often result in challenges like memory impairment, difficulty articulating thoughts, or altered emotional responses, all of which require healthcare providers to adapt their communication style (Armstrong et al., 2024). Doctors must be particularly attuned to the subtle cues that indicate a patient's level of understanding or discomfort, as patients may struggle to express their concerns or comprehend medical information fully. Moreover, the emotional toll of a neurological diagnosis can lead to heightened anxiety, depression, or frustration, making it essential for clinicians to approach these conversations with empathy and patience (Kim et al., 2023). These unique aspects of communication necessitate the use of tailored strategies to ensure that patients not only receive accurate information but also feel heard, supported, and respected throughout the diagnostic process.

Healthcare professionals commonly use a variety of communication strategies during diagnostic conversations with neurological patients to ensure clarity, understanding, and emotional support (Huynh et al., 2023). One key strategy is the use of simplified language (Espinoza Suarez et al., 2023). Since neurological patients often have difficulty processing complex medical terms or concepts, healthcare professionals adjust their language to be more accessible. This involves breaking down medical jargon into simpler terms, using analogies or visual aids, and repeating important information when necessary. This approach helps ensure that patients grasp the significance of their condition and the recommended treatment plans, fostering better comprehension and engagement in their care.

Another essential strategy is active listening, where healthcare professionals make a concerted effort to pay attention to both verbal and non-verbal cues from the patient (Epstein & Beach, 2023). Active listening involves nodding, maintaining eye contact, and paraphrasing the patient's concerns to demonstrate understanding. It also includes giving patients adequate time to express themselves, even if they have difficulty articulating their thoughts. This approach not only helps patients feel heard and valued but also allows clinicians to identify key issues that may not be immediately apparent, enabling a more accurate diagnosis and tailored care plan.

Empathy and emotional support play a significant role in the communication strategies employed by healthcare professionals when working with neurological patients (Haribhai-Thompson et al., 2022). Given the potential for neurological disorders to induce feelings of fear, frustration, or confusion, healthcare providers must show compassion and sensitivity in their conversations. Acknowledging the emotional distress that often accompanies such diagnoses, healthcare professionals can build trust and rapport with their patients. Offering reassurance, validating the patient's feelings, and addressing their concerns with understanding helps to reduce anxiety and improve the patient's overall experience during the diagnostic process (Babaii et al., 2021).

Patient-centered communication is crucial in fostering collaborative relationships between healthcare providers and patients (Çakmak & Uğurluoğlu, 2024). This strategy involves involving the patient in decision-making, explaining options clearly, and considering the patient's preferences and values when formulating a treatment plan. For neurological patients, this means taking extra care to ensure they are part of the conversation, despite any

cognitive or communicative challenges they may face. Focusing on the patient's perspective and creating a supportive environment, healthcare professionals can empower patients to make informed decisions, enhancing their sense of autonomy and overall satisfaction with their care (Carthon et al., 2020).

Observations and medical documents analysis revealed that healthcare professionals use various communication strategies. Figure 1 shows that they include simplified language, active listening, empathy and emotional support, patient-centered communication, use of visual aids, non-verbal communication, repetition, and providing written information.

The findings demonstrate that most neurologists use providing written information, ensuring they can recall important details after the consultation. Also, simplified language is frequently used. It was noticed that using clear, simple language and avoiding medical jargon ensure the patient understands the information being shared. Besides, a number of healthcare professionals apply repetitions because they help check for understanding by asking patients to repeat key points, offer additional explanations when needed, and verify their comprehension. At the same time, only few participants use non-verbal communications. They admit that using body language, facial expressions, and gestures reinforce understanding and create a supportive environment. But often it can be helpless since a patient requires more accurate explanation.

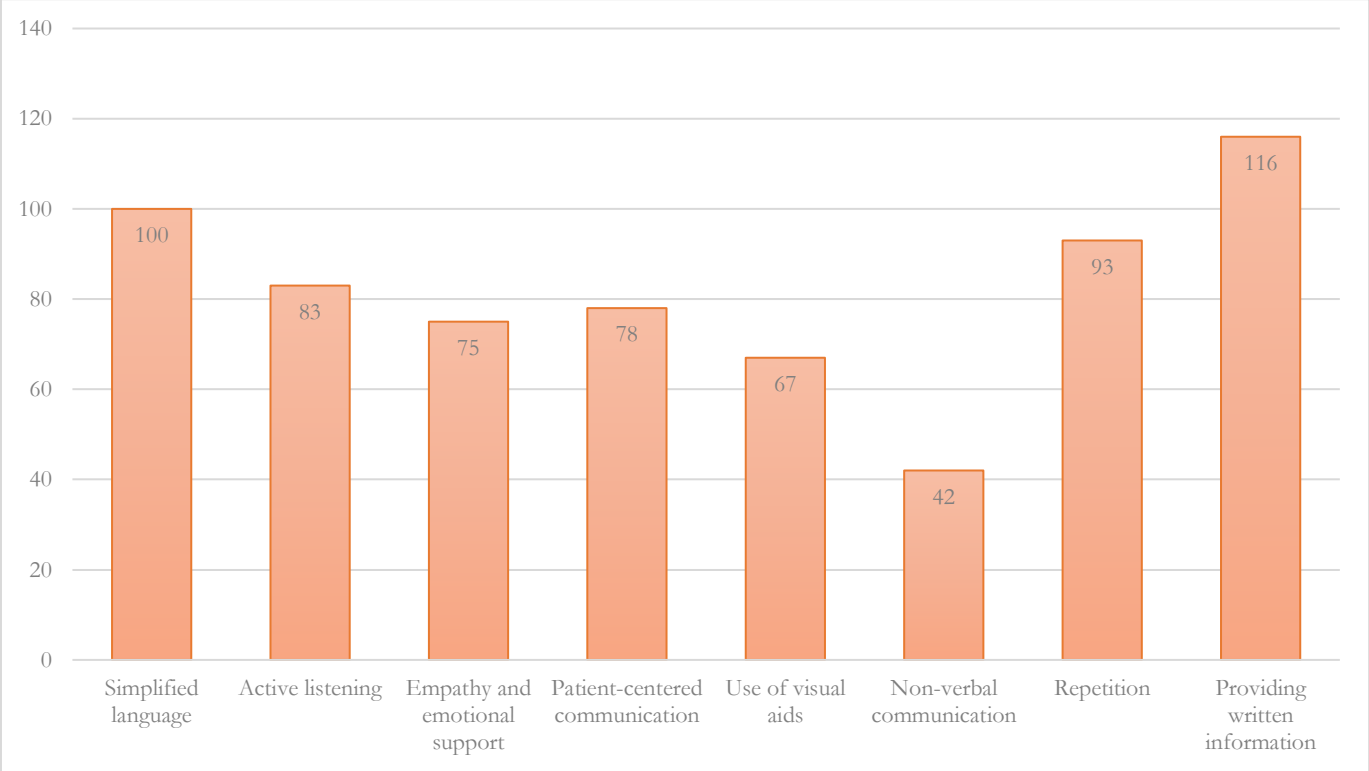

Figure 1. Communication strategies during diagnostic conversations with neurological patients.

Obviously, the relevant use of communication strategies during diagnostic conversations with neurological patients fosters clarity, reduces anxiety, and empowers patients to make informed decisions about their care. Moreover, it prevents the challenges hindering diagnostics procedures.

3.2. Key challenges during diagnostic conversations with neurological patients

Doctors often navigate complex dynamics during diagnostic conversations with neurological patients, balancing clinical precision with emotional sensitivity (Huynh et al., 2023). Neurological conditions can affect cognition, communication, or perception, complicating the exchange of information and requiring physicians to interpret nuanced signs beyond verbal responses (Armstrong et al., 2021). Building trust becomes crucial, as patients may struggle to articulate symptoms or understand medical explanations. The uncertainty inherent in neurological diagnoses adds another layer of tension, as doctors must convey intricate information while managing patient anxiety. Effective communication, therefore, demands not only medical expertise but also empathy and adaptability to bridge the gap between clinical realities and patient experiences (Çakmak & Uğurluoğlu, 2024).

Diagnostic conversations with neurological patients present unique challenges that require doctors to navigate complex communication landscapes (Yates et al., 2021). One major difficulty lies in the impact of neurological conditions on patients' cognitive and communicative abilities. Disorders such as dementia, stroke, or Parkinson's disease can impair memory, language, and comprehension, making it challenging for patients to express symptoms accurately or understand medical explanations (Peel, 2015). Doctors must rely on alternative communication strategies, such as observing non-verbal cues or involving family members, to gather accurate information (Del Giacco et al., 2020). This dynamic complicates the diagnostic process, as incomplete or unclear information can hinder precise assessments and appropriate treatment plans.

Another challenge is the inherent uncertainty in neurological diagnoses (Elsey et al., 2015). Many neurological conditions share overlapping symptoms, and definitive diagnostic tools may not always provide clear-cut answers. In this context, doctors must balance transparency with caution when discussing potential diagnoses and prognoses. Delivering uncertain or complex information without causing unnecessary alarm requires both medical expertise and exceptional communication skills. Patients and their families may feel overwhelmed or anxious about ambiguous outcomes, and doctors must address these emotional responses while maintaining their professional role. This delicate interplay of empathy and objectivity is crucial in fostering trust and guiding patients through the diagnostic journey.

Neurological diagnoses often carry significant emotional and psychological weight for patients and their families, adding another layer of complexity to these conversations. Conditions like multiple sclerosis or amyotrophic lateral sclerosis can imply long-term impacts on quality of life, mobility, and independence (Hanna & Strober, 2020). Doctors must communicate these realities sensitively, acknowledging the emotional toll while providing hope and support. This requires a deep understanding of the patient's personal context and coping mechanisms. Effective communication goes beyond clinical information; it involves building a therapeutic alliance, offering reassurance, and connecting patients with resources for ongoing support (Armstrong et al., 2021). These multifaceted challenges highlight the demanding nature of neurological diagnostic conversations, where medical, emotional, and communicative expertise must converge.

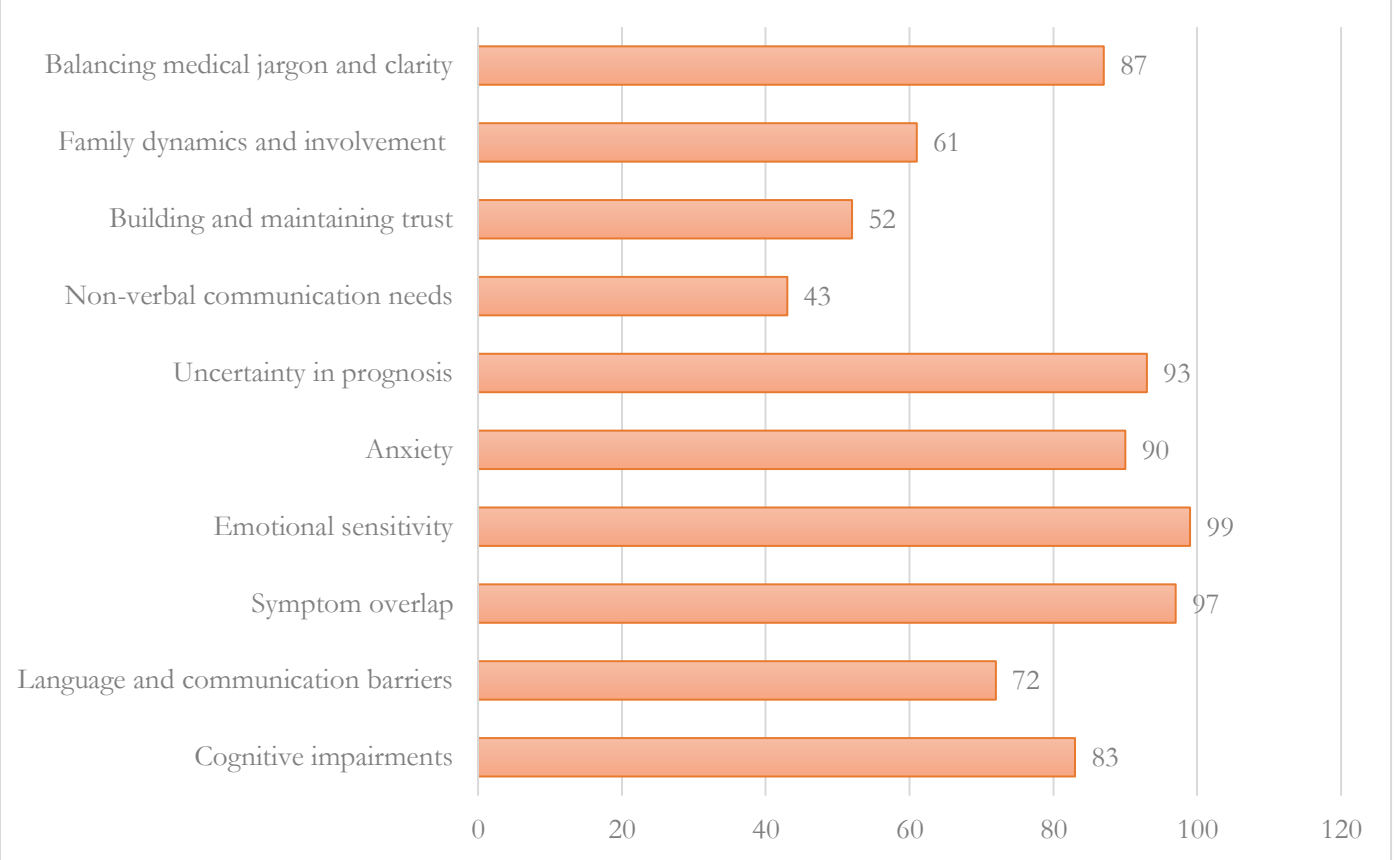

Figure 2. Key challenges during diagnostic conversations with neurological patients.

Figure 2 represents key challenges during diagnostic conversations with neurological patients according to participants' responses. It shows that these challenges include cognitive impairments because patients may have difficulty remembering, processing, or communicating their symptoms due to conditions like dementia or stroke. Also, the challenges include language and communication barriers, necessity to use non-verbal communication, emotional sensitivity of patients, and their sensitivity. Some difficulties concern symptom overlap as many neurological conditions share similar symptoms, making diagnosis complex and sometimes ambiguous. Besides, predicting the progression of neurological diseases can be difficult, and conveying this uncertainty without causing undue alarm is challenging. Additionally, balancing medical jargon and clarity is a significant challenge hindering doctor-patient dialogue. It was found that explaining complex neurological concepts in a way that is accessible yet accurate can be challenging, particularly when addressing cognitive impairments.

The findings show that addressing the challenges doctors face during diagnostic conversations with neurological patients can be significantly improved through digital tools that enhance communication and data accuracy (Simon et al., 2024). Technologies such as speech recognition, cognitive assessment apps, and telemedicine platforms can aid in collecting detailed patient information, even when verbal communication is impaired. And it is important to add that digital tools can provide visual aids and interactive models, helping doctors explain complex neurological concepts more effectively and ensuring patients and families better understand diagnoses and treatment options.

3.3. The use of technological tools to support efficient diagnostic conversations in neurology

The use of technological tools to support efficient diagnostic conversations in neurology is crucial for enhancing accuracy and patient-centered care (Hadi et al., 2024; Simon et al., 2024). Neurological conditions often affect cognition, speech, and comprehension, making traditional communication challenging. Technology can bridge these gaps by facilitating clearer interactions and providing more comprehensive data, which helps doctors make informed decisions. Furthermore, digital innovations can present complex information in accessible formats, improving patient understanding and engagement. Integrating these tools into diagnostic conversations, neurologists can better navigate the nuances of each case, ultimately fostering a more empathetic and effective clinical environment.

Technological tools are transforming diagnostic conversations in neurology, enhancing accuracy, communication, and patient engagement. One key tool is electronic health records, which streamline access to comprehensive patient histories and neurological data, facilitating more informed discussions (Dixit et al., 2023). Neuroimaging software such as MRI and CT scan analyzers provides detailed brain images that help neurologists explain structural and functional abnormalities clearly (Aderinto et al., 2023; Middei, 2022). These tools not only support diagnostic precision but also allow doctors to present visual evidence to patients, fostering transparency and understanding during consultations.

In polyclinic settings, digital cognitive assessment tools play a crucial role in evaluating memory, attention, and executive function (Staffaroni et al., 2020). These standardized tests, administered on tablets or computers, offer objective data that doctors can discuss with patients and their families. Speech recognition software assists in documenting conversations and identifying speech patterns that may indicate neurological issues, ensuring no critical detail is overlooked. This technology also facilitates clearer communication for patients with speech impairments, bridging potential barriers during diagnostic conversations.

Telemedicine platforms and interactive patient education systems significantly improve access and engagement in neurology diagnostics (Mikelsone et al., 2024). Telemedicine allows patients to consult with neurologists remotely, an essential service for those with mobility issues or in underserved areas. Interactive education tools, often incorporating videos and VR models, help explain complex neurological conditions and treatment options in an accessible manner (Shah-Mohammadi & Finkelstein, 2024). Together, these technologies not only make diagnostic conversations more efficient but also foster a collaborative and empathetic environment, enhancing overall patient care.

According to scientific literature, technological tools in diagnostic conversations in neurology offer significant advantages by enhancing accuracy, efficiency, and patient engagement (Staffaroni et al., 2020; Willis et al., 2021). They bridge communication gaps that often arise due to cognitive or speech impairments, allowing for more precise information gathering and clearer explanations. Tools such as neuroimaging software provide detailed

visual data, enabling neurologists to illustrate complex conditions in ways that are easier for patients and families to understand (Aderinto et al., 2023). Additionally, digital cognitive assessments offer objective insights, reducing reliance on subjective reporting (Staffaroni et al., 2020). These tools foster a more interactive and transparent diagnostic process, improving patient trust and collaboration while supporting more informed decision-making and personalized care. During the research we studied the advantages of using technological tools in diagnostic conversations in neurology (figure 3).

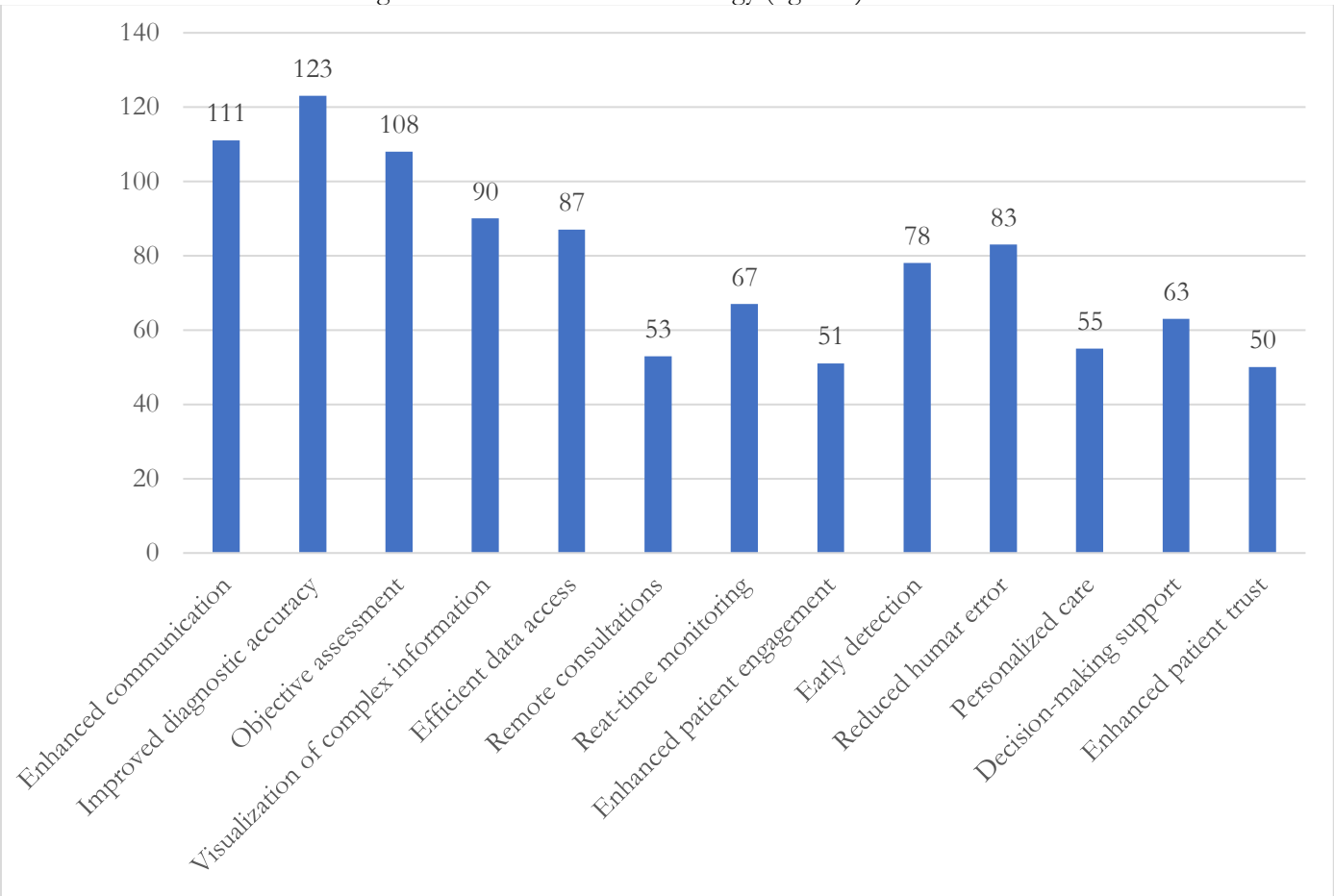

Figure 3. Advantages of using technological tools in diagnostic conversations in neurology

During a recent questionnaire, the majority of neurologists acknowledged an increasing reliance on technological tools in diagnostic conversations. They highlighted that these tools significantly enhance their ability to gather accurate patient information, particularly when cognitive or speech impairments complicate communication. Many respondents noted that digital assessments and neuroimaging software provide critical insights that improve diagnostic precision and patient understanding. The neurologists emphasized that these technologies not only streamline their workflow but also foster clearer, more transparent conversations, allowing patients and families to engage more meaningfully in the diagnostic process. This growing trend reflects the recognition of technology's essential role in modern neurology.

4. Conclusions

In diagnostic conversations with neurological patients at polyclinic departments, healthcare professionals employ several effective communication strategies to bridge the challenges posed by cognitive or speech impairments. They often use simplified language, visual aids, and repetition to ensure patients grasp complex information. Active listening and empathetic communication are also essential, helping to build trust and rapport. Additionally, involving family members or caregivers in discussions provides crucial context and ensures a more comprehensive understanding of the patient's condition. These strategies foster clearer interactions, enhancing both the accuracy of the diagnosis and the patient's engagement in their care.

Despite these efforts, healthcare professionals face significant challenges during these conversations. Neurological conditions can impair a patient's ability to articulate symptoms or comprehend medical information, complicating the diagnostic process. Symptom overlap between different disorders can create uncertainty, requiring careful navigation to avoid misdiagnosis. Emotional sensitivity is another critical factor, as discussing potentially life-altering diagnoses demands a delicate balance of honesty and compassion. Time constraints in busy clinical settings further exacerbate these difficulties, limiting the depth of communication and the opportunity for thorough patient education.

To address these challenges, technological tools have become invaluable in supporting efficient diagnostic conversations. Electronic health records streamline access to patient history, while neuroimaging software provides detailed insights into brain function and structure. Digital cognitive assessment tools offer objective data to complement subjective observations, improving diagnostic accuracy. Telemedicine platforms expand access to specialized care, and interactive educational resources help explain complex conditions in accessible ways. Together, these tools not only enhance communication but also create a more transparent, informed, and empathetic diagnostic experience for patients and their families.

References

Aderinto, N., Olatunji, D., Abdulbasit, M., & Edun, M. (2023). The essential role of neuroimaging in diagnosing and managing cerebrovascular disease in Africa: a review. *Annals of medicine, 55*(2), 2251490. https://doi.org/10.1080/07853890.2023.2251490

Albanesi, R., & Gitto, L. (2024). Motivational dynamics and impact on performances: the case of physicians of university polyclinics in the NHS scenario. *Journal of Evaluation in Clinical Practice, 30*, 42-45. doi:10.1111/jep.13856

Albu, S., Vallès, M., & Kumru, H. (2023). Diagnostic challenges of functional neurological disorders after covid-19 disease or vaccination: case series and review of the literature. *Acta neurologica Belgica, 123*(2), 553–564. https://doi.org/10.1007/s13760-022-02140-7

Armstrong, M. J., Bedenfield, N., Rosselli, M., Curiel Cid, R. E., Kitaigorodsky, M., Galvin, J. E., …Bylund, C. L. (2024). Best Practices for Communicating a Diagnosis of Dementia: Results of a Multi-Stakeholder Modified Delphi Consensus Process. *Neurology. Clinical practice, 14*(1), e200223. https://doi.org/10.1212/CPJ.0000000000200223

Babaii, A., Mohammadi, E., & Sadooghiasl, A. (2021). The Meaning of the Empathetic Nurse-Patient Communication: A Qualitative Study. *Journal of patient experience, 8*, 23743735211056432. https://doi.org/10.1177/23743735211056432

Biglu, M. H., Nateq, F., Ghojazadeh, M., & Asgharzadeh, A. (2017). Communication Skills of Physicians and Patients' Satisfaction. *Materia socio-medica, 29*(3), 192–195. https://doi.org/10.5455/msm.2017.29.192-195

Çakmak, C., & Uğurluoğlu, Ö. (2024). The Effects of Patient-Centered Communication on Patient Engagement, Health-Related Quality of Life, Service Quality Perception and Patient Satisfaction in Patients with Cancer: A Cross-Sectional Study in Türkiye. *Cancer control: journal of the Moffitt Cancer Center, 31*, 10732748241236327. https://doi.org/10.1177/10732748241236327

Carthon, J. M. B., Brom, H., Poghosyan, L., Daus, M., Todd, B., & Aiken, L. (2020). Supportive Clinical Practice Environments Associated With Patient-Centered Care. *The journal for nurse practitioners: JNP, 16*(4), 294–298. https://doi.org/10.1016/j.nurpra.2020.01.019

Del Giacco, L., Anguera, M. T., & Salcuni, S. (2020). The Action of Verbal and Non-verbal Communication in the Therapeutic Alliance Construction: A Mixed Methods Approach to Assess the Initial Interactions With Depressed Patients. *Frontiers in psychology, 11*, 234. https://doi.org/10.3389/fpsyg.2020.00234

Dixit, R. A., Boxley, C. L., Samuel, S., Mohan, V., Ratwani, R. M., & Gold, J. A. (2023). Electronic Health Record Use Issues and Diagnostic Error: A Scoping Review and Framework. *Journal of patient safety, 19*(1), e25–e30. https://doi.org/10.1097/PTS.0000000000001081

Elsey, C., Drew, P., Jones, D., Blackburn, D., Wakefield, S., Harkness, K., Venneri, A., & Reuber, M. (2015). Towards diagnostic conversational profiles of patients presenting with dementia or functional memory disorders to memory clinics. *Patient education and counseling, 98*(9), 1071–1077. https://doi.org/10.1016/j.pec.2015.05.021

Epstein, R. M., & Beach, M. C. (2023). "I don't need your pills, I need your attention:" Steps toward deep listening in medical encounters. *Current opinion in psychology, 53*, 101685. https://doi.org/10.1016/j.copsyc.2023.101685

Espinoza Suarez, N. R., Hargraves, I., Singh Ospina, N., Sivly, A., Majka, A., & Brito, J. P. (2023). Collaborative Diagnostic Conversations Between Clinicians, Patients, and Their Families: A Way to Avoid Diagnostic Errors. *Mayo Clinic proceedings. Innovations, quality & outcomes, 7*(4), 291–300. https://doi.org/10.1016/j.mayocpiqo.2023.06.001

Ha, J. F., & Longnecker, N. (2010). Doctor-patient communication: a review. *Ochsner journal, 10*(1), 38–43.

Hadi, A., Tran, E., Nagarajan, B., & Kirpalani, A. (2024) Evaluation of ChatGPT as a diagnostic tool for medical learners and clinicians. *PLoS ONE 19*(7): e0307383. https://doi.org/10.1371/journal.pone.0307383

Hanna, M., & Strober, L. B. (2020). Anxiety and depression in Multiple Sclerosis (MS): Antecedents, consequences, and differential impact on well-being and quality of life. *Multiple sclerosis and related disorders, 44*, 102261. https://doi.org/10.1016/j.msard.2020.102261

Haribhai-Thompson, J., McBride-Henry, K., Hales, C., & Rook, H. (2022). Understanding of empathetic communication in acute hospital settings: a scoping review. *BMJ open, 12*(9), e063375. https://doi.org/10.1136/bmjopen-2022-063375

Hickner, J., Thompson, P. J., Wilkinson, T., Epner, P., Sheehan, M., Pollock, A. M., Lee, J., Duke, C. C., Jackson, B. R., & Taylor, J. R. (2014). Primary care physicians' challenges in ordering clinical laboratory tests and interpreting results. *Journal of the American Board of Family Medicine: JABFM, 27*(2), 268–274. https://doi.org/10.3122/jabfm.2014.02.130104

Huynh, K., Brito, J. P., Bylund, C. L., Prokop, L. J., & Ospina, N. S. (2023). Understanding diagnostic conversations in clinical practice: A systematic review. *Patient education and counseling, 116*, 107949. https://doi.org/10.1016/j.pec.2023.107949

Karkera, S., Devendra, N., Lakhani, B., Manahan, K., & Geisler, J. (2024). A review on modern teaching and learning techniques in medical education. *EIKI Journal of Effective Teaching Methods, 2*(1). https://doi.org/10.59652/jetm.v2i1.128

Kim, S., Chang, H., Kim, T., & Cha, W. C. (2023). Patient Anxiety and Communication Experience in the Emergency Department: A Mobile, Web-Based, Mixed-Methods Study on Patient Isolation During the COVID-19 Pandemic. *Journal of Korean medical science, 38*(39), e303. https://doi.org/10.3346/jkms.2023.38.e303

Lampus, N. S., & Wuisan, D. S. S. (2024). Correlation between Doctor-Patient Communication with Patient Satisfaction and Loyalty. *Medical Scope Journal, 6*(2), 149–158. https://doi.org/10.35790/msj.v6i2.53161

Middei, S. (2022). Neuroimaging Applications for Diagnosis and Therapy of Pathologies in the Central and Peripheral Nervous System. *Brain sciences, 12*(2), 207. https://doi.org/10.3390/brainsci12020207

Mikelsone, E., Spilbergs, A., & Segers, J. P. (2024). Digital Healthcare Innovations and Idea Management. *Journal of Economics, Innovative Management and Entrepreneurship, 2*(3). https://doi.org/10.59652/jeime.v2i3.257

Peel, E. (2015). Diagnostic communication in the memory clinic: a conversation analytic perspective. *Aging & Mental Health, 19*(12), 1123–1130. https://doi.org/10.1080/13607863.2014.1003289

Shah-Mohammadi, F., & Finkelstein, J. (2024). Accuracy Evaluation of GPT-Assisted Differential Diagnosis in Emergency Department. *Diagnostics, 14*(16), 1779. https://doi.org/10.3390/diagnostics14161779

Simon, D. A., Raza, S., Shachar, C., & Glenn Cohen, I. (2024). Using digital technologies to diagnose in the home: recommendations from a Delphi panel. *NPJ digital medicine, 7*(1), 18. https://doi.org/10.1038/s41746-024-01009-8

Staffaroni, A. M., Tsoy, E., Taylor, J., Boxer, A. L., & Possin, K. L. (2020). Digital Cognitive Assessments for Dementia: Digital assessments may enhance the efficiency of evaluations in neurology and other clinics. *Practical neurology (Fort Washington, Pa.), 2020*, 24–45.

Willis, J. S., Tyler, C., Jr, Schiff, G. D., & Schreiner, K. (2021). Ensuring Primary Care Diagnostic Quality in the Era of Telemedicine. *The American journal of medicine, 134*(9), 1101–1103. https://doi.org/10.1016/j.amjmed.2021.04.027

Yates, J., Stanyon, M., Samra, R., & Clare, L. (2021). Challenges in disclosing and receiving a diagnosis of dementia: a systematic review of practice from the perspectives of people with dementia, carers, and healthcare professionals. *International Psychogeriatrics, 33*(11), 1161–1192. doi:10.1017/S1041610221000119