FUTURE TRENDS: PHYSICAL THERAPISTS' OUTLOOK ON AI-ASSISTED DATA-DRIVEN DECISION MAKING IN HEALTHCARE

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ABSTRACT

This study identified the outlooks of Physical Therapists' on AI-assisted data-driven decision making in healthcare. It specifically aimed to respond to the question: What are the outlooks of Physical Therapists when it comes to AI-assisted data driven decision-making in healthcare in terms of familiarity, attitude and perceived impact? A qualitative analysis of outlooks of Physical therapiststs' is presented in this study. It uses qualitative-descriptive research design, one of the methods consisted of interviewing respondents to acquire data. It is widely utilized in both scientific and social sciences, and has helped researchers in evaluating relationships between the variables. A qualitative-descriptive analysis of this research. The main conclusions drawn from 6 focused group interviews are summarized here. The study's findings help physical therapy students in (a) the outlooks of Physical Therapists in AI-assisted data-driven decision making in healthcare (b) potential concerns, challenges, and barriers in AI technologies. (c) expectations and perceived opportunities regarding the integration of AI in their daily practices. (d) the recommendations of Physical Therapists revolved in ensuring that all data input is regulated by firm ethical considerations and management.

Keywords: outlooks, AI-assisted data driven decision-making, physical therapy, healthcare

INTRODUCTION

AI or artificial intelligence has been slowly taking part in healthcare not too long ago when it comes to decision making, it has also been widely used by healthcare professionals around the world when it comes to clinical practice. It also serves its purpose as a way to keep track of patient electronic health records (EHRs), that are linked to other sources of data. The Clinical Decision Support System (CDSS) is a good example of how AI can assist clinicians in making decisions for patient care (Lim et al., 2019). It is used as an assistant in such a way that clinicians can access patient information easily and is organized to improve patient's health and healthcare delivery (Lysaght et al., 2019).

The evolution of healthcare AI such as Up To Date application tool that encourages the usage of evidence based clinical decision support systems. The said application provides clinicians key information that they need in the get go. It helps reduce human error and assist medical clinicians and provide patient services a tap away since the application is accessible through any digital device. It is used in over 190 countries with about 90% of the US population in academic medical centers. The application is proved to be effective by multiple studies and is recommended for a highly effective healthcare resource for learning and is preferred by those who are new to the field of medicine (Kinengyere et al., 2021).

One of the primary issues to address is the decision following the AI-assisted CDSS decision when there is a conflict on the medical professional side. It is presented with great concern with how these machines have numerous algorithms that may present a challenge in educating doctors what it wants to convey. With its lack of transparency, the large training data along with mathematical and statistical algorithms, raises problems pushing through its procedures (Asian Bioeth Rev, 2019).

In addition to this, AI-assisted decision making can lead to the redundancy of some jobs in the healthcare industry. According to the World Economic Forum in 2018, the study showed how about 58 million jobs could be done by AI. In return, 75 million jobs will be abolished. The main reason being that AI can be more sufficient for any role needed that requires repetitive tasks (Drexel University, 2021).

In recognition of AI Intelligence based decision making, healthcare professionals, especially physical therapists, the researchers were motivated to conduct a study on the outlooks of physical therapists in regards to the ingression of AI-assisted data driven decision making in healthcare. An example of the Up-to-date application tool was introduced in the study to give the respondents a leverage to base on throughout the discussion. In addition, this study can serve as a springboard for healthcare workers in looking for insights in the usage of AI in decision making in healthcare.

LITERATURE REVIEW

The studies that showed how AI decision making with clinical decision support systems has been keeping pace with healthcare were as follows: Charles (2022) stated how CDSS has made a difference in partnership with AI in how clinicians are handling their decisions in diagnosing their patients.

As for other variables describing the perception of physicians in AI decision making, Ueda et al., (2023) has stated that bias and fairness is then observed in using it through AI-clinician and AI-Patient interactions that are passed on to AI programs. According to Naik et al., (2022), ethical and legal concerns are to be noted as physicians have to have someone accountable for any actions including AI decision making. Clinical validation and regulatory approval as per the ethical and legal concerns are raised to ensure that these AI programs are set to testing before being distributed to hospitals and clinics as explained by Showalter (2023). According to Alowais (2023), AI also has an impact to healthcare professionals in its beneficial way in helping them in understanding and giving light for a thorough analysis of data of cases which then leads to its cost effectiveness as explained by Rossi et al., (2022) that is then tested on various fields of medicine. Predicaments such as the diagnostic accuracy of AI as explained by Myszczynska et al., (2020) and Alowais et al., (2023), diagnosing such diseases by AI can still be considered a challenge despite the advancement of technology in

the present time. The trend of AI in healthcare was then explained by Bohr and Memarzadeh (2020) of how it is slowly becoming a demand in the medical field. Perception and attitude towards AI was explained by Gao et al., (2020) since the demand of labor in healthcare has been increasing in the past years and are reaching levels that are considered alarming. According to Paranjape K, Schinkel M, Nannan Panday R, Car J & Nanayakkara P, (2019), appropriate training and education is a priority in the usage of AI in healthcare and causes a dilemma in which they are informed enough of the technology.

METHODOLOGY
Research Design

This qualitative-descriptive study involved a virtual focus group discussion to gather information and outlooks from six licensed physical therapists regarding AI-assisted decision-making in clinical practice.

Sources of Data

Filipino Licensed Physical Therapists were interviewed for the study's primary source. The majority of the information was acquired through an in-depth interview with 6 respondents who responded to open-ended questions on a questionnaire via an online interview. The researchers acquired relevant materials and studies by consulting and citing books, periodicals, published thesis, and online journals in order to give meaningful responses to the study concerns.

Population of the Study

The study included six Filipino Licensed Physical Therapists selected through purposive sampling. Participants met the following inclusion criteria: (1) Licensed Physical Therapists, (2) at least one year of work experience, (3) any gender, female, male or non-binary. (4) were willing to participate in virtual focus group discussions, and (5) experience with or familiarity with AI-assisted clinical decision-making tools.

Instrumentation

A structured questionnaire was used to assess participants' familiarity with AI, attitudes toward its implementation, and perceived impact on clinical practice. The questionnaire was thematically aligned with the study's statement of the problem, consisting of ten open-ended items. The instrument was reviewed for validation by the research adviser, followed by evaluation by an english language expert to ensure the clarity of each question.

Data Collection and Analysis

Virtual focus group discussions were carried out using Google Meet. An orientation session introduced participants to the study's objectives and discussion topics. Sessions were recorded with participants' consent to ensure that the recording was exclusive to them and to the researchers only. The collected data were transcribed verbatim and analyzed using Creswell's qualitative approach. The transcription was manually reviewed, and key themes were identified through coding. QSR NVivo 14 software facilitated thematic analysis, enabling researchers to recognize recurring patterns and generate meaningful interpretations. The findings were structured into key themes, supported by participant quotations and

contextual analysis, to provide a comprehensive understanding of physical therapists' perspectives on AI-assisted decision-making.

RESULTS

The collected data were coded and came up with four themes. What follows is brief description for each theme:

1.   The outlooks of Physical Therapists in AI-assisted data-driven decision making in healthcare have been discussed and the majority of those interviewed were hesitant in using AI.
2.   The second theme deals with potential concerns, challenges, and barriers in AI technologies. The results show that despite the functionalities and advantages of using AI, they consider the importance of human touch in their practice.
3.   The third subject refers to the expectations and perceived opportunities regarding the integration of AI in their daily practices. Results show that the collaboration between human and AI should be taken into consideration and must still be weighed upon the Physical Therapists' knowledge and skills.
4.   The recommendations of Physical Therapists revolved in ensuring that all data input is regulated by firm ethical considerations and management. Integrations in the academe, cultural etiquette and implementation of AI were also mentioned to put into consideration.

DISCUSSION

The outlooks of physical therapists on AI-assisted, data-driven decision-making in healthcare were predominantly hesitant. While they acknowledged the potential functionalities and advantages of AI, they expressed concerns about the importance of human touch and rapport-building in their practice.

Potential concerns, challenges, and barriers in adopting AI technologies included issues around data privacy, the need for human empathy in physical therapy, and the need for proper assessment and customization of AI tools to address diverse patient cases.

Physical therapists expressed expectations and perceived opportunities regarding the integration of AI, emphasizing that the collaboration between human and AI should be carefully considered, with the final decision-making still relying on the therapists' knowledge and skills.

The recommendations from physical therapists revolved around ensuring ethical considerations and proper management in the integration of AI, as well as the need for educational programs, research, and policy development to support the effective and responsible adoption of AI in physical therapy practice.

To conclude, based on the findings of the study, it suggests that while physical therapists recognize the potential benefits of AI, they have significant concerns about the ability of this technology to replace the human touch and rapport-building that are essential to their practice.

CONCLUSIONS

The following results were obtained after analyzing the codes and thematic analysis from the narratives of the participants. This study's conclusion are based on the questionnaires and findings that address four areas:

1.   The data privacy of each patient was raised to be in question because AI is a computer-generated tool that may be hacked. Although the use of AI was deemed helpful by the participants' responses such as it can be helpful in time management and be of use in measuring on some aspects of physical therapy.
2.   It can be concluded that AI could not replace human empathy when it comes to their treatment, especially since physical therapy relies much more on building rapport with the patients and ensuring that they are comfortable and can rely on the professional in deciding on the interventions to be used.
3.   The use of AI should be properly assessed and validated for its adaptability and customization to address the different cases that a physical therapist may encounter.
4.   When it comes to the implementation of AI in physical therapy practice, physical therapists are wary with the ethical consideration and management of this tool. Although there were themes which were mentioned in the previous chapter, the professionals agree with using AI as a second opinion or as a guide that can help in improving aspects of physical therapy interventions.

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