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Ethical considerations in laboratory, pharmacy, and nursing collaboration: Challenges and solutions

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Abstract--Background: Ethic in lab, ethic in pharmacy and ethic in nursing are central components in today's health and medicine delivery which involves cooperation from different fields of practice including laboratory, pharmacy, nursing and medicine. However, the ethical requirement applicable in each of the professions may at times prove difficult to implement while their responsibilities intersect. **Aim:** This work intends to examine the ethical standards that underpin laboratory, pharmacy and nursing processes; establish the problems that may ensue from the interdisciplinary framework; and recommend measures that would promote sound ethical functioning in the health-care setting. **Methods:** A presentation of the ethical issues in health care, samples of ethical issues in health care, and the evaluation of approaches to enhancing interprofessional communication and collaboration and decision made were performed. The place of technology and the legal solutions for the ethical approaches was also discussed. **Results:** It was evidenced that the regulations of each profession were based on some eth limited set of principles including beneficence, non-maleficence, autonomy, justice, and confidentiality. Ethical concerns are created by role confusion, inconsistent responsibilities and loyalties of different professionals, and effective communication problems. Some case descriptions pointed to the challenges with interprofessional approach in addressing these dilemmas. Use of technology and legal setting is proposed as critical to ethical choice making. **Conclusion:** Cooperation between the leaders and practitioners in laboratory, pharmacy, and nursing should embrace ethical solution finding to enhance the quality of patient care. Healthcare organizations should foster the importance of ethical decision making in its employees by developing ways to accurately handle problems like role ambiguity, inadequate clarification of ethical standards, lack of ethical training, conflicts of interest and other problems that may lead to ethical deterioration in the healthcare

setting by standardization, training and administering technological means. The growth of next generations of health related systems should be directed on the enhancement of cooperation with other fields and keeping high ethical level.

Keywords--Ethics, interdisciplinary collaboration, laboratories, pharmacy, nursing, ethical principles, ethical decision-making, ethical challenges.

Introduction

Screening partnerships between laboratory personnel, pharmacists, and nurses are an essential part of the healthcare system today due to the multifaceted and often competing goals of healthcare in today's world. Healthcare organizations and facilities are formed by different disciplines where each one comes with specialist knowledge, professional values and accountability. However, these practices seem to overlap, which in a number of cases presents some ethical considerations that have to be made in terms of the principles used by the different professions. Labs, for example, value diagnostics and patient privacy; pharmacists, medication safety; and nurses, the patient's needs and interests. It is when these disciplines interrelate that the significance of ethical paradigms that would reconcile these multiple valuable orientations emerges. It establishes need for communication, interprofessional respect and commitment to patient centered care but at the same time creates difficulties when attempting to ensure those duty to uphold ethics in different profession.[1,2]

Ethical Concerns between Lab and Pharmacy as well as Nursing Profession

The relations between laboratories and pharmacy and nursing are very essential in the current health facilities as they enable proper diagnostic undertakings effective and appropriate treatment of patients, and also empathetic care. Thus, this interdisciplinary interaction also has a rather diverse ethical perspective. Every field has its own ethical standards that govern it, but each of them has got some responsibilities overlapping the other field, and thus their ethical principles must coherently interrelate. For instance, laboratories are centered on accurate diagnosing and keeping details secret; pharmacists, drug security and sticking with the pharmaceutical code of ethics; nurses patients' rights and comprehensive care. When these disciplines mix, ethical dilemmas are always present for ethical interprofessional practice when their focuses or meanings of ethical principles differ.[3] Later on, patient's rights to self determination and informed consent remain an important ethical consideration. Pharmacogenomics must often relay delicate genetic or diagnosis information that must be relayed in an appropriate manner to pharmacists and nurses via laboratories without compromising on privacy. In return, the pharmacists have to be independent in respecting the ethical dilemma of prescribing or recommending a certain medication based on laboratory results for the relative needs of the patient. Some essential roles include being in a middle position to explain any information with shock value to the patient and fighting for the patient's choice. Sustaining these tasks shall demand certain ethical standards such as; honesty, courtesy, and

doing and offering good both to individuals and the community respectively.[4,5] The other area of ethics concern is resource availability. There are limitations such as lack of tests or certain medicines in a laboratory or pharmacy and this poses ethical issues from the patient's priority. Registered nurses, who are located closest to the patient, may bear the weight of these ethical decisions especially where resource provision bear no relation to the patient's requirements. Such conflicts are ideal for interdisciplinary discourses as well as frameworks for ethical decisions to be followed when addressing them in a way that fosters trust and integrity among patients.[6,7,8]

Communication is another aspect of ethical working with others since one may not always comprehend what is suitable for him/her or others. Interdisciplinary failure in communication may result in wrong diagnosis, medication dispensing or treatment planning between laboratories, pharmacies and the personnel in charge of handling nursing processes. Such errors pose not only risk to patients' lives but are equally sulky for ethic dilemma on negligence and accountability. These risks may be minimized and pave the way to ethical collaboration through setting standard means of communication, respecting each other's capacities, and practicing interdisciplinary ethical trainings.[8,9] the use of ethics in laboratory, pharmacy and nursing shows that there must be a uniform ethic code when it comes to health care profession. These professions can work in partnership efficiently to settle all the ethical hassles concerning their practices sticking to the best ethical practices and patient welfare since such welfare of the patients is the major concern.(**Figure 1**)

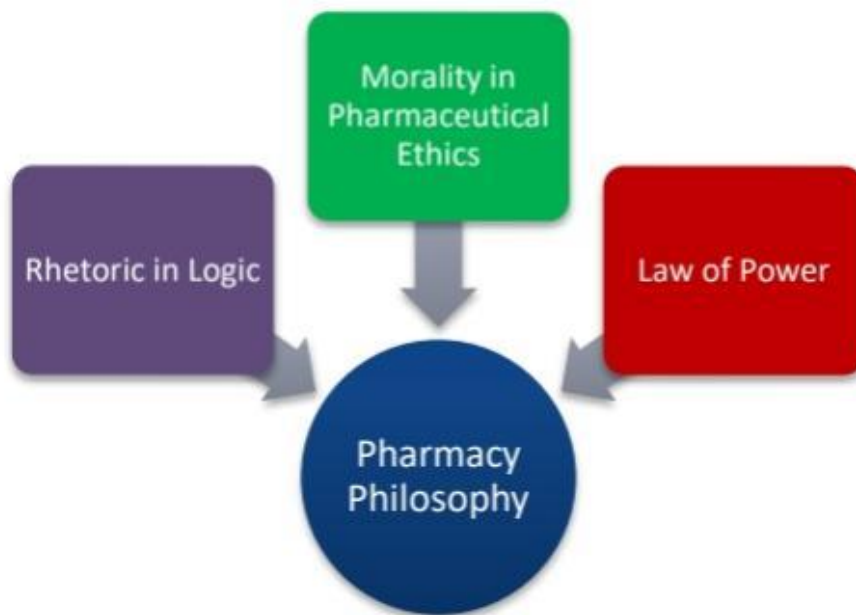


Figure 1 shows the relationship between pharmacy philosophy, the law of power, the morality of pharmaceutical ethics, and rhetorical logic.

Primary Ethical Values Invoked in Health Care Occupations

It is important to note that ethical issues that are central to essence of healthcare professions directors, patients' right, acknowledge value and respect their dignity and rights together with pursuit of professional integrity in the medical practice. These principles act as guidelines providing the direction in ethical response to matters that clients, staff, colleagues, and the society present in clinical and interprofessional practice and relationships. Some of the common ethical principles include beneficence, non-maleficence, autonomy, justice, and confidentiality; all are fundamental for a ethical practice and decision making in many professions including medicine, pharmacy, nursing and many of the laboratory sciences.[9,10] Beneficence the action of the doing good, is rooted in the fundamental values of healthcare practice. Ethics also mandates practitioners to put the interest of their clients first, and preserve, improve and protect health by not causing harm. For instance, a pharmacist who is a member of a treatment team or a nurse who is a member of a treatment plan or a laboratory scientist who is conducting tests for the patient must be able to guarantee that the inputs which they are providing are constructive. Beneficence also applies to the total person approach where by experts are not only concerned with the physiological wellbeing of the patient but the psychological/ emotional and social wellbeing of the patient as well. The principle of non-maleficence best translated as 'the principle of putting as much effort as possible not to harm', flows from beneficence because it requires from the healthcare professional to also be able to abstain from doing some actions that will cause unnecessary suffering to the patient.

This principle is especially underlying the risks and benefits in treatments or procedures. For instance, laboratory technician should follow several measures to prevent mistake in the results; a pharmacist should make sure that there are no interactions between the medications and a nurse should closely monitor how to administer the medication safely. Refinement of non-maleficence as a principle demands careful and accurate approach to avoid causing any harm to patients now and even in future.[10,11] One thing that autonomy brings out is the ability of the patient to make his or her own decision in regards to treatment. Autonomy entails informing the patients about facts and truth without any distortion or hospital bias, in ways that allow them decide on a treatment that reflects what they desire. The financial exchanges that take place within health care necessarily involve coercion and despite the unfortunate fact that many patients are not able to make the best decisions for their health, these exchanges cannot involve paternalism. For example, a nurse or a pharmacist describing the outcomes of a procedure or the possible side effects of medications, must enable patients to make their decisions independently, yet would require understanding and acknowledging their uniqueness.[10,11] The definition of justice in an embracing healthcare system is the provision of equal resource, treatments and opportunities, and ensuring that the each person receives fair treatment and opportunities without regard to their personal characteristics, social class or economic status. This principle is very crucial when it comes to matters related to systems that may in one way or another impact on the chances of getting an appropriate treatment. Hospitals, pharmacies, laboratory personnel and all health care workers should insist on policies and practice that promote fairness. Ethical

issues also apply to justice in allocation of scarce resources for instance in treatment, rationing and triage.[12,13]

Privacy is a fundamental aspect of the relationship of trust between a patient and a health care provider requiring the latter to safeguard patient information. This principle is particularly applicable to preserving the confidentiality of data stored in records integrated into systems. For instance, genetic test results handlers in a laboratory, a pharmacist who comes into contact with patient's history or record, a nurse who is required to enter patient information all have a sensitive responsibility that must be safeguarded to avoid patient harm or loss of public trust in issues to do with the health sector. Altogether, these ethical ampers make a conglomerate of the ethical framework that defines and organizes professional activities and cooperation of the health-care staff. In enshrinement of beneficence, non-maleficence, autonomy, justice, and confidentiality, professionals guarantee that they are meeting the highest standards in handling their individuals with dignity and respect for human. dignity. Also, these principles assist in solving ethical questions since it offers a heuristic method in solving questions, encourages health care organizations to be more accountable and trustful in their operations.

Problems in the Interprofessional Work

It comes as no surprise that integrated working between different fields of healthcare is essential in order to provide holistic, excellent care. However, this collaboration faces several issues because of the difference in professional roles, communication patterns and systems, and organizational culture. These challenges can hamper the progress of team work, distort the quality of service and; create ethical and operational issues. The knowledge of these challenges will help to break down barriers that would otherwise hinder improvement of patients' care and satisfaction of workers.[12] Professionalism and roles and tasks division is one of the major issues when working in an interdisciplinary team. Every profession in healthcare, which includes nursing, pharmacy and laboratory sciences, has its own range of practice, specialization and role. Lack of clarity concerning roles and responsibilities of several individuals in a team has consequences of role redundancy, care omissions or role conflict. For instance, let a nurse feel that he/she needs to change the medication dosage without consulting the pharmacist this may lead to tension or decisions that may lead to an error. In the similar manner, laboratory professionals often do not participate in clinical decision-making processes, even if their participation is essential for diagnosing diseases. This is why defining and observing the issues of professional etiquette with regards to boundaries yet engaging interdisciplinary input is such a delicate though crucial process.[13]

There are also revealed some key issues like communication barriers which impact on the organization and staff. As it can be seen and as this paper has pointed out, when there is confusion between two or more members of the team or when there is absence of communication, the results will always be fatal to the care that is being offered to the patient. For example, inadequate or ambiguous information in the laboratory from the patient to the pharmacy or nursing may cause patients to receive wrong dosages or wrong treatment plans. It becomes

obvious that different functions in the organization may rely on dissimilar terminology, documenting practices, and even technology base to support the communication process. Therefore, there has to be proper working relations and communication that facilitate the functionality of a team clear role definitions, use of norms regarding reporting and collecting data, work to be performed by the members of the team, and encouragement of communication and cooperation.[14] Discrepancies in culture and organizational structure within healthcare entities take further time to overcome in interdisciplinary collaboration. Different departments may have different work patterns, priorities and KPIs hence every department has a different agenda all together. For instance, laboratory may opt to work on the reliability and efficiency of result while the nursing groups aim at the initial comfort of the patient. In this case, different priorities can lead to conflict if not resolved by a common purpose and integrated activities. On the same note, care structures in a healthcare setting establish a vertical model of operation that can hinder cooperative patient care through reduced communicative interaction; this stifles junior care team members and makes them fearful to express concerns which may negatively affect patient care from other senior and/or interprofessional team members.[15]

Another typical issue is the existence of the conflict of conscience due to the divergence in understanding patient's needs. Healthcare interdisciplinary teams are regularly required to make the complicated choices for which 'beneficence, autonomy and justice' ethical principles clash. For instance, a pharmacist may recommend a cheap medication and a nurse will recommend a preferred medication plan even if the medication is expensive. Likewise, personnel working in laboratory may also get exposure to pressure to give quick results, this leads to compromising quality. Solving these dilemmas calls for dialogue and ethical interventions, for enhancing the efficacy of clinical rely on, and for setting up framework for shared decision making that value each profession's inputs.[16] Finally, time and resources are a real issue affecting interdisciplinary work on many occasions. Instrumental healthcare knowledge workers are frequently situated in environments that do not allow extended conversation or even individual group meetings. Such, lack of time results in improper and disjointed care, team members making decision on their own without consulting others. Lack of staff, for example when a team is understaffed, or restricted access to technology also aggravates these issues by burdening employees and limiting their chances of working together.[17] Meeting these needs calls for a conscious effort to enhance constructive cooperation, values humanist orientation, and professionalism. These gaps can be closed through policies like the integration of training for different teams within a health facility, conduct of daily as well as weekly meetings and the adoption of highly intergraded systems of communication namely technology. Local integration of knowledge Across health care disciplines, there are implicit challenges of Inter disciplinary collaboration that, if identified and dealt with efficiently, do enhance the overall relations and provision of health care services focused on patients' needs, ethical and quality.[18,19]

Examples of Ethical Issues: Case Analyses

Ethical issues in health care are most often not so cut and dry where one has to simply choose one course of action but rather it is quite the opposite as a health care worker one is faced with a list of principles and must decide which of the upholding of these principles will lead to the best outcome for the patient. These experiences are described in case studies and can give best understanding of what kind of ethical dilemmas interdisciplinary teams might face. It also emphasizes the interconnectedness of knowledge and practice—interprofessional cohesiveness, shared ideas, and maintaining the ethical standard in practices between and among the nursing profession, pharmacy, and laboratory sciences.[20]The last example includes a patient with terminal cancer and taking part in trial experimental drug. The laboratory team offers biomarkers regarding the possible increase of the patient's expectancy, thus the pharmacy team states the probable grave side effects, such as failure of organs. Since the nursing staff has a very intimate and friendly relationship with the patient and the family they use their channels to relay such risks and benefits to the patients.

The moral question stems from the clash between the virtues of beneficence if temporized treatment will act as a cure and non-maleficence of highly damaging side effects. Thirdly, the patient should be an independent person and his/her decision must be respected; The patient should be informed about the consequences of a trial as well as limitations. This case emphasizes the importance of transdisciplinary communication where all involved teams contribute their information to help the patient make the decision.[20,21]The second is another ethical controversy that can be witnessed when a patient has possibly been given a wrong prescription. For instance, laboratory technician sees that a sample mismatch has resulted in right test outcomes being reported to the pharmacy., which in turn prescribed medicines according to that flawed data. Some of the treatment is already being given out by the nursing staff and they are not even aware of the mistake. The issue can be divided into two basic conflicting ideas: justice or nonsuffering of the patient due to the injustice of the health system and accountability or walkthrough of the error. Should the team immediately report the mistake to the patient and stop treatment that may be for the patient's benefit, or should the team wait to confirm the error and possibly the patient develops other complications? This case shows the need for ethical decision-making models and effective mechanisms for identifying and controlling adverse events to reduce risks and preserve public confidence in healthcare organizations.[22] The third case illustrates more ethical issues to do with distribution of resources in case of a pandemic. A hospital's laboratory team finds out that there are few diagnostic tests available, and at the same time the pharmacy department lacks sufficient stock of antiviral medication. Nursing staff are in a fix because they are the ones who conduct tests and offer treatment to patients they priorities based on the severity of the situation or likely health outcome. This conflict is between justice (fair sharing of resources), autonomy (respect of patient's decisions), and beneficence (action that brings about most good). For example, should high-risk person such as front line workers, elderly patient or patient who has high probability of surviving should be prioritized. It shows the importance of efforts to provide clear, fair rules for interprofessional cooperation to manage resources in the context of disasters.[23] Lastly, examine

an example of the cone of silence and genetic testing. In a laboratory a patient is tested for genetic markers which indicate them to be a carrier of a gene that increases their chances of having a genetic disorder. The patient does not feel that he has to tell the rest of the family members along whom also the disease might have spread. The laboratory team, pharmacy, and nursing staff also reveal the patient dilemma of sacrificing the patient's right to privacy to facilitate ethical and moral issue of beneficence meaning that at risk relatives should be informed to take precautionary measures. Solving such a question involves evaluation of privacy laws, ethical rules, and adverse effects. These case studies show that ethical issues are inevitable in healthcare while their solutions require shared commitment to ethical principles and interprofessional collaboration. Thus, they underscore the importance of interactional and ongoing ethical education and of open communication as well as the importance of commitment to health care institutions to adequately protect patients and promote health care professionals to make ethically sound and caring choices.[24,25]

Ethical Relations and Collaboration: Precise and Actionable Approaches

The focus is now on interprofessional relationships and the value of coordinated action between different healthcare providers. However, such collaboration can be realized by overcoming some factors that threaten ethical decision making and collaboration. Healthcare governance to promote ethical interprofessional collaboration requires training across disciplines including medicine, nursing, pharmacy and laboratory medicine to set standards for interprofessional mimed, as well as transparent and accountability mechanisms such as reporting services. That way, different of them can collaborate better and excel in their patient ethical responsibilities as well.[26,27]

The training and ethical awareness programs are as follows:

The program of training and ethical awareness could be considered as one of the most effective strategies of ethical collaboration improvement. All these programs should be mandatory in the continuing professional development of all personnel in the healthcare facility regardless of their positions. The objective is to teach all the members of the team about the main ethical concepts such as beneficence, non-maleficence, autonomy, and justice and learn when it is possible to utilize them in group work. Ethical training programs should be enriched not only by the specification of ethical responsibilities of individuals but also by how those responsibilities can overlap. For instance, the nursing staff should be made aware of ethical dilemmas of laboratory technicians or pharmacists and the other way round. This awareness enables the professionals to respect their colleagues to ensure that they understand that they have vital contribution towards the team this aspect when dealing with ethical issues that affect patient care they are in a better position to arrive at a consensus. These programs should also provide scenarios and case studies that encourage critical thinking and discussions about how to address ethical conflicts in a multidisciplinary setting. Continuous education on evolving ethical standards, such as privacy laws, informed consent procedures, and new treatment protocols, is also crucial to ensure that healthcare teams remain up to date on best practices.[28]

Interdisciplinary Transport Protocol Recommendations

Another key strategy of developing proper ethical collaboration is concerned with an attempt to standardize protocols followed in the field of healthcare across various disciplines. This is especially important because confusion between different care givers can cause confusion about what kind of care a patient requires and in turn miscommunication can lead to grave consequences for the patient. Standardization also minimizes on role ambiguity because everyone involved will be conversant with the best practice so as to work effectively with the idea of ethical aspect. For example, in the pharmaceutical, laboratory as well as nursing roles of a healthcare setting, mapping of roles for testing results reporting, medications administration, and treatment interventions amongst others can reduce risks of errors and offer justified responses. Similarly, increasing the level of homogeneity regarding acceptable approaches to issues such as patient consent or confidentiality or distribution of resources could reduce the risk of conflict between team members regarding such questions.[29] Written rules dealing with ethical dilemmas like procedures for family involvement or rules for handling terminal illness cases refer to the fact that rules concerning ethical practices prescribed to all of the professionals are similar to the practice in case of ethical issues. Further, it leads to better accountability for the reason that, there are well defined rules and guidelines towards service delivery hence reducing cases of ethical dilemmas within the care delivering processes.[30]

Building capacity for a Culture of Transparency and Accountability

Those steps include creating the transparent and accountable environment in collaboration with business partners. Transparency helps the team members to share their concerns, decisions and reasons for management strategies within the team forming communication foundation that is essential in the health care team. For example, if a pharmacist identifies a contradiction between two medications, that person should be able to report to the nurse and the laboratory team and be protected from termination. Lack of discretion experienced in discussion of ethical issues, mistakes or even a simple disagreement is important since it does not contribute to the misunderstanding of the patient on any issue. Another benefit is when people work under clear circumstances, they can correct their error which is very vital in expounding advancement in heist industry. In addition, responsibility means that all those involved in a particular group take personal responsibility for their actions; be it on matters concerning patient safety.[31]creativity, efficiency, time management, risk taking, and or the ability to adhere to an agreed code of ethical practice. Accountability can be developed by having a feedback system on performers in the intuitions, feedback given, and how individuals can report unethical acts or lack of care. All team members should feel that they are charged with the responsibility of ensuring that the care they are offering is ethical in order to foster team approaches to ensuring that the best interests of the patients are met. Ethical working environment is also improved by transparency and accountability; this leads to the decreased rate of professional burn out and healthcare professionals are motivated to uphold the ethical benchmark. Thus, the present analysis supports the need for an ethical training program in collaboration with several avenues that will standardize healthcare collaborations and cultivate an ethical culture of responsibility.[32] By

training healthcare professionals on standard ethical bureaucracy across disciplines, creating an ethical culture work environment, healthcare institutions can enhance human interactions or relationships, lessen confusion, enhance communications, and ensure patient care is always the focus of the overall ethical framework. Such strategies do not only enhance health care, but also guarantee ethical standards are upheld in emergent and sensitive health care entities.[33]

Ethical Primary Research on the Role of IT The Role of Technology in Supporting Ethical Decision-Making

Information technology continued to assume a central part in the delivery of care as well as in addressing ethical dilemmas. In reflecting on the role of technology in ethical challenges as healthcare institutions become increasingly intricate, the paper outlines that technology offers a range of applications that create tools that facilitate improved structures in favor of honesty, coherence, and managing of different disciplinary systems. In laboratory, pharmacy, and nursing practices, the technological advancement may be useful in addressing the problems of ethical dilemma by providing enhanced communication means, strict adherence to recommended clinical protocols and improved accuracy in record keeping. However, as much as technology brings vast benefits, it also brings its own dark side particularly into the aspects of privacy, security and risks of overdependence of the technologically advanced systems. Hence, it becomes important to determine how exactly technology can facilitate ethical decisions while at the same time posing some challenges in the process.[32]

Thus, technology plays a vital role in ethical decision making in organizations in the following ways, Interconnection and shared information. HHS is widely used in a context of a multidisciplinary healthcare setting when professionals from nursing and pharmacy, and lab sciences embedded in interrelated workflows exchanging patient care information. For example, electronic health records (EHR) help to support information sharing across the patients because patients information are easily accessed and shared through EHR. This also fosters tractability since all stakeholders in the team work with correct and updated data since there is minimized chances of making wrong decisions due to passing of wrong information. For instance, if the team of the pharmacy prescribes a medicine that has adverse reactions to a patient's status or other medication, the HER systems will notify both the pharmacist and the nurse to effect the necessary corrective action without adversely affecting the health of the patient. This capability directly addresses the utilitarian aspects that promote beneficence and non-maleficence in the presence of the client, so that all understand the general social good of their work.[33] Technology also helps in the following conducting of procedures according to the clinical guidelines and best practice which as areole is significant in upholding the economic and ethical standard in the health sector. Real time DSS integrated within EHRs can offer decision makers, healthcare clinicians guidelines, protocols and decision support based on current research & knowledge to prevent deviation from research based medical practices. For instance at the laboratory level, there can be a way of making certain that tests such as ultrasound scans are conducted in congruence with the laid down procedures here, and the results as read can be correct. In pharmacy a computerized system can check for drug interactions, dosages, and the patient's

previous records to reduce the danger that prescribing involves. Such tools assist the healthcare professionals arrive at decisions that are not only technically correct, but also moral by minimizing on possibility of human errors and decision-making based on current evidence. This supports RR ethic of justice (doing the right thing based on facts) and respect for patient's self- autonomy. (empowering patients with reliable information).[34] However, for the last several years, data analysis and artificial intelligence also find application in the ethical decision making in the health sector. AI can process a lot of information and provide clinicians with clinically relevant and near-patient information that could be missed by human clinicians, for example, alerting the clinicians to certain adverse effects of a drug, or noticing that a patient's condition is getting worse and needs attention. Another way through which AI can help is in realizing that patients are receiving different treatments based on their SES or ethnicity. For instance, one might apply machine learning to point out that in a particular hospital, there is a disproportionate distribution of health care for some groups as against others, and this should be corrected. The present utilization of technology conforms to the principle of justice in that it does not matter what the patient's race, gender, age, or SES, he or she will be given the same care as every other patient.[35]

Lest be said that this a great advantage of technology but at the same time we need to understand that technology brings in new ethical issues. Among the several DCRs there prevail some concerns that can be listed as follows: the issue of patient privacy and their data security. In the modern world, many practices keep recording their patient's information by using electronic health records and this creates issues relating to the protection of information that could be considered as sensitive by the patients. Many organizations providing health care services have to make sure that they follow rules and regulations can be observed like Health Insurance Portability and Accountability Act (HIPAA) to protect the identity of the patient. Thus, more frequent practices of applying telemedicine and use of remote controlling tools can put into question the safety of data transfer, if the patients' vital and/or pathophysiological health information is obtained and/or disseminated without the patient's permission or permission of his/her legal representative. It is imperative that healthcare confined entities ensure adequate security of their systems and information and ensure that personnel understand the ethical IT aspect.[36,37]

The last problem is dual use, which could mean that the process is dependent on the use of automated systems excessively. Despite the fact that integrating technology can enhance the decision making processes, social media offers some concerns in a way that the healthcare professionals easily rely on the ideas provided by the technology without owning deeper scrutiny into them. , which stems from individual's freedom from both physical compulsion and influence control. because the patients are likely to be in convened by getting the impression that it is being made by computers and not physicians who are interested about patients' welfare and choices. Moreover, automated approaches are not immune to mistakes, deviations or biases, and all healthcare personnel need to be prudent enough to constantly seek to ensure that these mechanisms provide support within the healthcare decision-making avenues but not by substitutions. Thus, it can be stated that technology is a deciding factor in

making ethical decision in the frame of health care promoting communication, maintenance of proper ethical standards, and availability of elucidative means. However, it also poses new ethical questions that must be answered effectively, especially those connected with privacy and data protection and the separation of human control from decision-making procedures. Health care professionals need to take aware of the positive and negative impact that embracing advance technology brings along in relation to ethics as this does not harm the ethical way of addressing patient care. Therefore, the use of technology can be powerful in assisting health care teams provide better and more ethically sound care if proper awareness is encouraged and ethical practices are adopted into the core of handling these technologies.[38,39,40]

Legal and Institutionalization to Ethical Concerns

This is because laws and institutions are legal formalities and legal instruments that define the standards towards which healthcare has to be delivered. These frameworks not only protect patient's rights but also indicate the limits and scope of work and obligations of these clinicians. These frameworks are helpful in providing structures for decision-making as the ethical issues arising in healthcare elongate systematically because of developing technology, distributed patient populace, and transform health care practice these frameworks allow holding people ethically accountable and safeguarding vulnerable populations from abuses. For it is only with the support of the legal legalism that the institution of legal and institutional norms become an integral part of healthcare systems, it is possible to build ethical relations with patients, healthcare workers, and institutions. [1,2] Patient rights is one of the most crucial factors contained in legal systems for healthcare services. Autonomy and informed consent, patient rights for confidentiality and right to refuse treatment, safeguard the patient's legal rights. It is for this reason that the legal imperatives around informed consent for example require the person providing the care to explain the risks and benefits of carrying out a particular procedure and any other viable options, in order for the patient to be able to make choices that are consistent with their beliefs. Similarly, legal regulations regarding patient rights and patient privilege, especially the Health Insurance Portability and Accountability Act (HIPAA) in United States, also prevents the violation of patient's right to privacy through protection of confidentiality of patient details, thus preserving the ethical principle of 'do no harm'. These legal measures are crucial in promoting ethical operations in health care since the patients' rights are always protected, and their dignity upheld throughout their period of treatment.[3,4]

The second fundamental category constitutes professional ethics and legal requirements that form a part of the legal-institutional environment of ethical medical activities. From autonomous regulatory/legal perspective the professional standards and professional codes of conducts for the healthcare practitioners are defined and imposed by the related medical boards and pharmacy councils, nursing associations and laboratory accreditation organizations. Not only do they set fundamental requirements for health care providers, but they also outline standards, policies, principles, and procedures for professionalism, tolerance of unethical health care conduct, and sanctions for such standards. To be specific, the American Nurses Association offers the code of ethics for nurses as follows,

ethical standards that the Nurses' should embrace in their practice include; the Nurses promote health wellness of the society, access to information, protected information and confidentiality, and Users' health care Advocacy. Likewise Pharmacy Code of Ethics focus on guarantee the appropriate usage of medications and the health of patients as a result of appropriate ethical standards of pharmacists. [4,5]

Future Directions for Ethical Collaboration In Healthcare

Therefore, the fourth relevant direction for the ethical cooperation in future depends on the constant acquisition of new professional competencies and the carrying out of ethical training for all healthcare occupations. In this ever-evolving healthcare services environment, healthcare professionals have the professional imperative to update knowledge and competencies to not only their specialties but also to ethical integration of interdisciplinary teams. Learning and development professionals will also observe more organizations and institutions invest in training that foster intersect oral cooperation, ethical reasoning, cultural sensitivity, and interpersonal skills. For instance, simulation-based training can give the healthcare teams a chance to solve complex real-life cases where ethical issues appear, thus the teams members can practice how to make decision together in safe environment.[5,6] Such programs will assist in guaranteeing that the healthcare professionals within the system acquire skills in how to handle ethical dilemmas while having similar knowledge on the ethical values to observe in the field. Furthermore, the idea of embracing lifelong learning will keep the professionals abreast with new ethical concerns occasioned by technological development, including patients' demography and models of care delivery. In the future there will be an increase in a systematic structured training of all healthcare professionals focused on ethical issues: thus increasing the ability of the healthcare system to deliver healthcare services with an effective team of health care professional in a more ethical way in greatest demands for health care services.[6,7]

The future of ethical collaboration In healthcare will also necessitate the I development of international ethical norms and protocols. Increase healthcare internationalization, telemedicine use, and collaborative work in different countries favour the development of a global ethical code relevant for all states. This will assist in checking that practices prevailing in the area are unethical, or that the health care system in which care is delivered is unethical. [7,8]The WHO and regional and national health committees will have an indispensable role in the creation and dissemination of ethical principles introduced and tackling current global problems, including the access to and health equity in healthcare, and application of new breakthrough technologies in medicine, including gene editing, as well as, artificial intelligence. Interdisciplinary and the mechanisms of patient-centered care are also going to unite ethical collaboration in the future. Traditionally, care has also been pulled down in dept.

with personnel from different specializations providing care in isolation. However, the advancement of healthcare in the future makes it mandatory to embrace team work and patient center care system, where medical, nursing, pharmacy, laboratory and technology central care giver work together as a team in providing

care to patients. This transition will also mean developing structures that support cooperation and professionalism among individuals from various fields and soliciting their requisite respect. For instance, patient-clinician shared decision making involves decision-making where the patient sits in the middle of the decision making circle, and all decisions ought to be consistent with his or her desires, beliefs, and interests. Through patient centered approach, different scientists and practitioners can work together, providing complex and ethical patient care rather than addressing certain illness. In addition, this approach will make a direct way for hear and respect patient's opinions in all aspects of their care, which shows that the ethical principle of autonomy is highly valuable.[9] Last and relevantly, the issue of healthcare disparities will also remain one of the important elements in future ethical collaboration. A current and perhaps one of the worst affecting healthcare ethical dilemmas is that of the allocation of resources and services. Employees in the healthcare sector therefore have to strive in making sure that every patient regardless his or her status in society, origin, color, regional origin or origin in general gets the best treatment he/she deserves. The coordination between healthcare workers can ensure that the root of disparities with regards to health care provision is detected. As a result of encouraging a multidimensional approach to addressing health inequalities, healthcare organizations can come up with processes that support justice and equity and thus cannot forget about minorities. Also, the institutions need to work towards making the healthcare workforce diverse to ensure the many different experiences of various people are considered to come up with the best decisions for different people.[18,19]

Conclusion

Lastly, the ethical practices in the laboratory, pharmacies, nursing, and critical care emphasizes on interprofessional collaboration and the propulsive ethical issues that come up when working in a team. The two fields have different ethical background and implication for the solution of various ethical dilemmas in as far as delivery of quality patient care is concerned. With increasing advancement in the healthcare systems it has been realized that the promotion of ethical interprofessional collaboration is encouraged in addressing emerging issues. While fostering ethical consideration, developing procedural guidelines and, integrating technology for decision making processes, health care personnel will be able to improve their collaboration in the ways that patients will always remain a central point of concern. Finally, ethical collaboration will focus on the creation of an effective approach to remove barriers and enhance the quality of the delivery of healthcare in global institutions.

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الاعتبارات الأخلاقية في التعاون بين المختبر والصيدلة والتمريض: التحديات والحلول

الملخص

الخلفية: تعد الأخلاقيات في المختبر، والصيدلة، والتمريض من المكونات الأساسية في تقديم الرعاية الصحية والطب اليوم، حيث تتطلب التعاون بين مختلف مجالات الممارسة بما في ذلك المختبرات، والصيدلة، والتمريض، والطب. ومع ذلك، فإن المتطلبات الأخلاقية التي تنطبق على كل مهنة قد تكون صعبة التنفيذ في بعض الأحيان، خاصة مع تداخل مسؤوليات هذه المهن.

الهدف: يهدف هذا العمل إلى استكشاف المعايير الأخلاقية التي تستند إليها العمليات في المختبرات والصيدلة والتمريض، وتحديد المشكلات التي قد تنشأ عن الإطار متعدد التخصصات، واقتراح تدابير تعزز الأداء الأخلاقي السليم في بيئة الرعاية الصحية.

الطرق: تم تقديم القضايا الأخلاقية في مجال الرعاية الصحية، وعرض أمثلة على التحديات الأخلاقية، وتقييم الأساليب التي تعزز التواصل والتعاون بين التخصصات المختلفة، بالإضافة إلى تحليل القرارات المتخذة. كما تم مناقشة دور التكنولوجيا والحلول القانونية في تعزيز النهج الأخلاقي.

النتائج: أظهرت النتائج أن لوائح كل مهنة تعتمد على مجموعة محدودة من المبادئ، مثل الإحسان، وعدم الإيذاء، والاستقلالية، والعدالة، والسرية، وتشمل القضايا الأخلاقية المحتملة ارتباك الأدوار، وتناقض المسؤوليات والولاءات بين المهنيين المختلفين، ومشكلات في التواصل الفعال. أشارت بعض الحالات إلى التحديات التي تواجه النهج متعدد التخصصات في التعامل مع هذه المعضلات. كما تم اقتراح استخدام التكنولوجيا والإطار القانوني كعناصر أساسية في اتخاذ القرارات الأخلاقية.

الخلاصة: يجب أن يتبنى قادة وممارسو المختبرات والصيدلة والتمريض حلولاً أخلاقية تعزز جودة رعاية المرضى. وينبغي أن تعزز منظمات الرعاية الصحية أهمية اتخاذ القرارات الأخلاقية بين موظفيها من خلال تطوير طرق لمعالجة المشكلات بدقة، مثل غموض الأدوار، وعدم وضوح المعايير الأخلاقية، ونقص التدريب الأخلاقي، وتضارب المصالح، وغيرها من المشكلات التي قد تؤدي إلى تدهور القيم الأخلاقية في بيئة الرعاية الصحية، وذلك من خلال التوحيد القياسي، والتدريب، واستخدام الوسائل التكنولوجية، ويجب توجيه تطوير الجيل القادم من أنظمة الرعاية الصحية نحو تعزيز التعاون بين التخصصات المختلفة مع الحفاظ على مستوى عالٍ من القيم الأخلاقية.

الكلمات المفتاحية: الأخلاقيات، التعاون بين التخصصات، المختبرات، الصيدلة، التمريض، المبادئ الأخلاقية، اتخاذ القرارات الأخلاقية، التحديات الأخلاقية.