



CODEN [USA]: IAJPBB

ISSN : 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**SJIF Impact Factor: 7.187
<https://doi.org/10.5281/zenodo>Available online at: <http://www.iajps.com>

Research Article

**UTILIZATION OF COMPUTERS IN ENHANCING CLINICAL
PHARMACY & IT'S PRACTICE**

Sushma Desai*, Dr.Chandrasekhara Rao Baru, Adnan, Jaman, Azam, Vamshi, Raju, Teja.

*Gitam School of Pharmacy, Rudraram, Hyderabad, India.

Chilkur Balaji College of Pharmacy, Aziz Nagar, Hyderabad, India.

Abstract:

In this article first we try to understand the responsibilities dealt by clinical pharmacist and the role computers are playing in enhancing clinical pharmacy profession. Clinical pharmacists serving as reliable scientific information resource are trained & experienced professionals in patient care & medication management. They collect huge data for fulfilling various tasks such as drug optimization, information building on usage of medication & disease prevention and also maintaining health outcomes of patient's. With such a huge task requiring computers has become part of their profession & practice. In detail we discuss how advantageous proven on utilization of computers along with their area of applications.

Keywords: clinical pharmacy, computers, patient care, medication management.

Corresponding author:**Sushma Desai,**

*Gitam School of Pharmacy, Rudraram, Hyderabad, India.

E-Mail: d.sushmapharma@gmail.com

QR Code



Please cite this article in press Sushma Desai et al, *Utilization Of Computers In Enhancing Clinical Pharmacy & It's Practice*, Indo Am. J. P. Sci, 2023; 10 (09).

INTRODUCTION:

Clinical pharmacy one of pharmacy branch are the resource persons for the medications used in terms of its selection, safety and economic-friendly to patient for the entire treatment.

Qualification required for practicing this profession are

- Pharm.D.
- M. Pharm Along with hospital practice.
- M. Pharm Specialization in (Hospital and Clinical Pharmacy).

Key-Role played by clinical pharmacist:

- ❖ Complete data regarding patient.
- ❖ Problem identification.
- ❖ Preparation of good therapeutic plan establishes outcome goals.
- ❖ Continuous evaluation done by monitoring for treatment alteration and further modify therapeutic plan.
- ❖ Preparation of specialized patient drug regimen.
- ❖ Treatment outcomes of patient.
- ❖ Easy for professional & clinical auditing.

The various ways were computers come in handy to clinical pharmacist are as follows.

In therapeutic drug monitoring to variate drugs which are potent in nature, having narrow therapeutic range anticonvulsants, cardiac glycosides) they help calculating dose according to the needs of patient.

They take applications like MS-Excel in maintenance of the drug information & storage of numerical ad other data relating to patient and retrieval procedure.

Focusing on the advantages on its utilization are given below

Advantages:

- Reducing order cost.
- Inventory management
- Managing reports
- Efficient in order processing.
- Identification of drug allergies due to interactions.
- Cost reduced Bill preparation & insurance claims.
- Less or no transcription & medication error.
- Adverse drug reactions recording.
- Medical research.
- Building data base.

- Pharmacy automated drug interaction screening system.
- Teaching techniques to practice (education resources, practice sessions, virtual meetings, assessments, patient counseling assisting, case studies preparation, effective interactive learning connectivity sessions).
- Telepharmacy and Telemedicine.
- Medication barcode scanning.
- Computerized physician order entry helpful in easy retrieval of patient record & avoid duplication of prescription entry.

Patient record management includes Name, age, height, weight, attending physician/doctor, on-going treatment, diagnosis profile, allergies and ay special note regarding patient.

Medication order includes drug name, its generic name, physician/ doctor code, administration route, dosing strength and schedule.

Drug order entries help in filling the prescribers list and renewal it.

Interactions between drug-drug, drug-food easily detected and notified priorly.

Automated ambulatory medical record system maintained (bill generation, storage, accounting, personal patient record for reference).

Clinical research & practice software's used is as follows:

Abacus Pharmacy Software,
PioneerRX,
Backstage,
PROscript 2000,
McKesson EnterpriseRx,
Yardi eMar,
Cerner Retail Pharmacy,
PrimeCare LTC and FrameworkLTC,
WellSky CareTend.

Clinical data management system software applications include as follows:

Merative Clinical Development,
Bioclinica ICL,
Oracle Clinical One,
IQVIA Digital Site Suite
Dotmatics Enterprise Data Platform.
SPSS (statistical package for social sciences)
SAS (statistical analysis system)

In Literature retrieval computers extensively used for their

- ❖ Efficiency
- ❖ Timeliness
- ❖ Comprehensiveness
- ❖ Search precision.
- ❖ Access to full text.
- ❖ Decision support systems easy integration.
- ❖ Multimedia content.
- ❖ Customization.
- ❖ Collaboration.
- ❖ Analysizing data from given wide resources.
- ❖ Education
- ❖ Quality maintenance.

CONCLUSION:

With the evident information of computers usage and integration in clinical practice along with research have enhanced the efficiency, accuracy and timely submission of the analyzed data and statistical software application has revealed a wide scope of utilization and time to time updating its software technology has advanced the healthcare making it available to mass population at a time and quality based.

REFERENCES:

1. Yadav S, Yadav M (2009) Computer assisted pharmacy services [CAPS] - A step towards pharmacy automation. *Pharma buzz - A national pharma monthly magazine* 4: 24-29.
2. Jean-Pierre D, Jacques W (1997) *Computer Aided Molecular Design: Theory and Application*. Academic Press limited 1-10.
3. Thomas PJ Catherine P (2006) *Computer Assisted Drug Design: Methods and Applications* Marcel Dekker INC19-52.
4. Miller DD(2006) *Remington: The Science and practice of Pharmacy*. Lippincott Williams and Wilkins, 20th Indian edition 1: 477
5. Yadhav AV, Yadhav BV (2008) *Hospital and clinical pharmacy Second year diploma in pharmacy* published by Niraliprakashan fifteenth edition 153-154.
6. Richard F (2006) *Information Technology for Pharmacist* Published by Pharmaceutical Press 169-171
7. Udayakumar M, Hemavathi K, Shanmugapriya P, Seenivasagam R (2013) Receptor-Based Pharmacophore Tool for Design and Development of Next-Generation Drugs *International Int J Bioinform Res Appl* 9: 487-516.
8. Lexinwang (2001) computer-simulated pharmacology experiments for undergraduate pharmacy students: experience from an Australian university. *Indian journal of pharmacology* 33: 280-282.
9. Stein LI (2002) Creating a bioinformatics nation. *Nature* 417: 119-120.
10. Goodford PJ (1985) A computational procedure for determining energetically favorable binding sites on biologically important molecules. *J Med Chem* 28: 849-857.
11. Bohm HJ (1992) The computer program LUDI: a new method for the de novo design of enzyme inhibitors. *J Comput Aided Mol Des* 6: 61-78.
12. Seenivasagam R, Hemavathi K, Sivakumar G, Niranjan V (2013) Discovering novel carriers for oral insulin tablets: a pharmacoinformatics approach. *Int J Bioinform Res Appl* 9: 184-206.
13. Szarfman A, Tonning JM, Doraiswamy PM (2004) Pharmacovigilance in the 21st century: new systematic tools for an old problem. *Pharmacotherapy* 24: 1099-1104.
14. Mallick M, Odedra D, Vidyarthi AS, Shankaracharya (2013) Meropenem: a potent drug against superbug as unveiled through bioinformatics approaches, *Int J Bioinform Res Appl* 9: 109-120.
15. Etheredge LM (2007) A rapid-learning health system. *Health Aff (Millwood)* 26: w107-118.
16. Gohlke H, Hendlich M, Klebe G (2000) Knowledge-based scoring function to predict protein-ligand interactions. *J Mol Biol* 295: 337-356.
17. Gohlke H, Hendlich M, Klebe G (2000) Predicting binding modes, binding affinities and 'hot spots' for protein-ligand complexes using a knowledge-based scoring function. *Perspectives in Drug Discovery and Design* 20: 115-144.
18. Sotriffer CA, Gohlke H, Klebe G (2002) Docking into knowledge-based potential fields: a comparative evaluation of Drug Score. *J Med Chem* 45: 1967-1970.