



HMIS- USAGE AND SATISFACTION STUDY AMONG HEALTHCARE WORKERS THROUGH EUCS MODEL

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About the organization

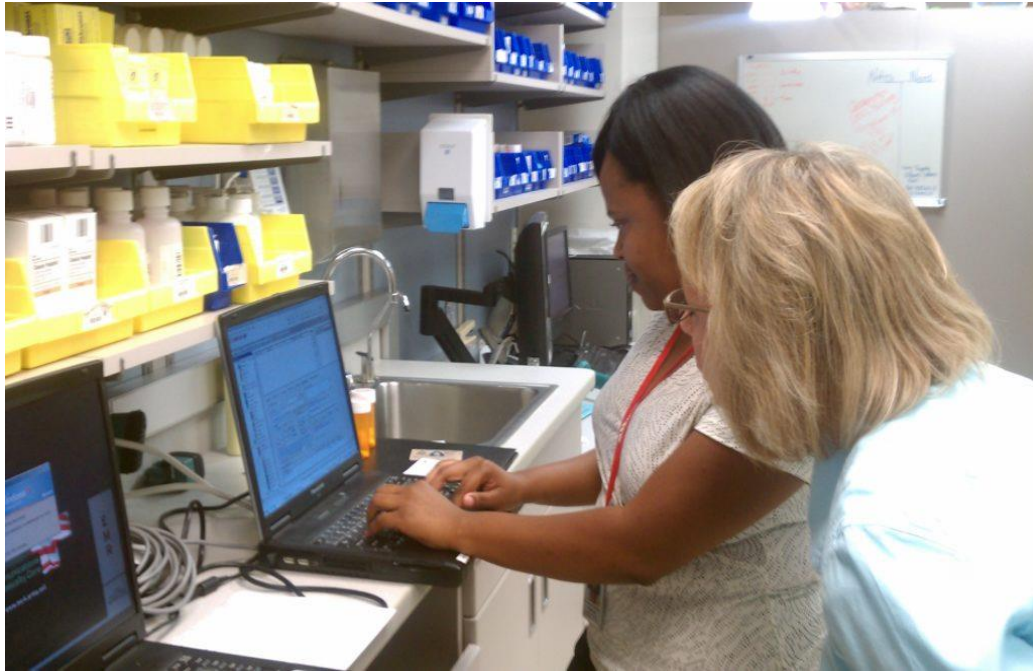
Bansal Hospital is a 300 bedded multispecialty hospital located in Bhopal, Madhya Pradesh, India. The hospital was established in 2002 and has since grown to become a prominent healthcare institution in the region. Bansal Hospital is known for its state-of-the-art facilities, advanced medical technologies, and highly qualified medical professionals.

Mission- Committed to serving diverse needs of young and old, rich and poor and those living in urban and rural communities. . Provision of services by qualified and dedicated nurses and paramedical staff. Maintaining highest ethical standards in patient care.

Vision- To deliver extraordinary care in all dimensions with our vision which is to provide, to develop as a centre of excellence in various medical specialities. A service experience supported by systems and processes that focus on the patients and families.



Introduction



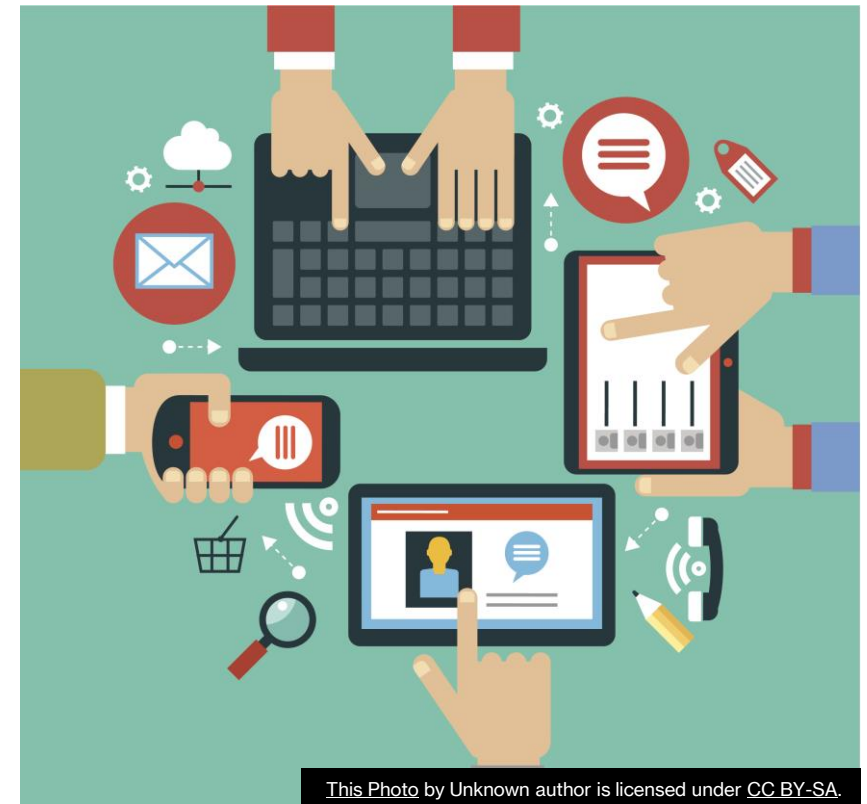
A "HMIS" is a complete, integrated information system that manages every facet of a hospital's operations, including dealing with administrative, financial, legal, and medical issues as well as processing associated services. In a broader sense, it increases the efficiency of the healthcare system as a whole.

HMIS is a tool used to manage the patient care operations of hospitals by automating transactions, capturing necessary data, and producing a wealth of insights. Continuous progress in the system and the areas of our emphasis would be aided by routine monitoring using the data produced by the system. Above all, HMIS guarantees hassle-free, thorough, unbiased, and accurate data collection.

Background

Technologies adoption faces a variety of difficulties that necessitate micro level research in order to comprehend the problems and implement solutions. A thorough strategy is required at this time since the use of HMIS encompasses both human and material (technological) components.

HMIS system is being used in Bansal Hospital to run the hospital and provide healthcare, so it is important to assess its impact and comprehend the difficulties associated with its adoption, usage and satisfaction. The study's goal is to ascertain how HMIS affects Bansal Hospital's healthcare services. Among healthcare professionals, a cross-sectional qualitative study will be conducted.



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Objective

Broad- Study of analysis on usage and satisfaction with HMIS among healthcare workers in Bansal Hospital Bhopal.

Specific- a) To access HMIS implementation process in the hospital.

b) To explore HMIS usage in different departments of the hospital.

c) To analyse HMIS satisfaction level among healthcare workers in the hospital.

METHODOLOGY



Study type - Descriptive cross-sectional study. The particular study is prospective and observational in nature.

Study period and area - The particular study is carried out for a period of three-month duration in Bansal Hospital Bhopal.

Sample size- A sample of 110 survey reports was taken up for the study.

Sampling method- Purposive and convenience sampling have been used in the study for collection of the data to analyse the HMIS adoption rate, satisfaction and HMIS utilization among the healthcare providers.

Data collection technique-

➤ Questionnaire form

For evaluation of HMIS satisfaction among healthcare workers, primary data was collected from 110 respondents through questionnaire using Excel sheets.

➤ Personal interview

- 1) Healthcare workers- For determination and analysis of HMIS usage
- 2) IT Department professionals- For the study of HMIS implementation in the hospital.

➤ Direct observation

- For determination and analysis of HMIS usage.

Data analysis methodology-

- MS Excel and graphical analysis through bar graphs and pie charts was done.
- EUCS (End User Computing Satisfaction Model) is used for data analysis and satisfaction evaluation.

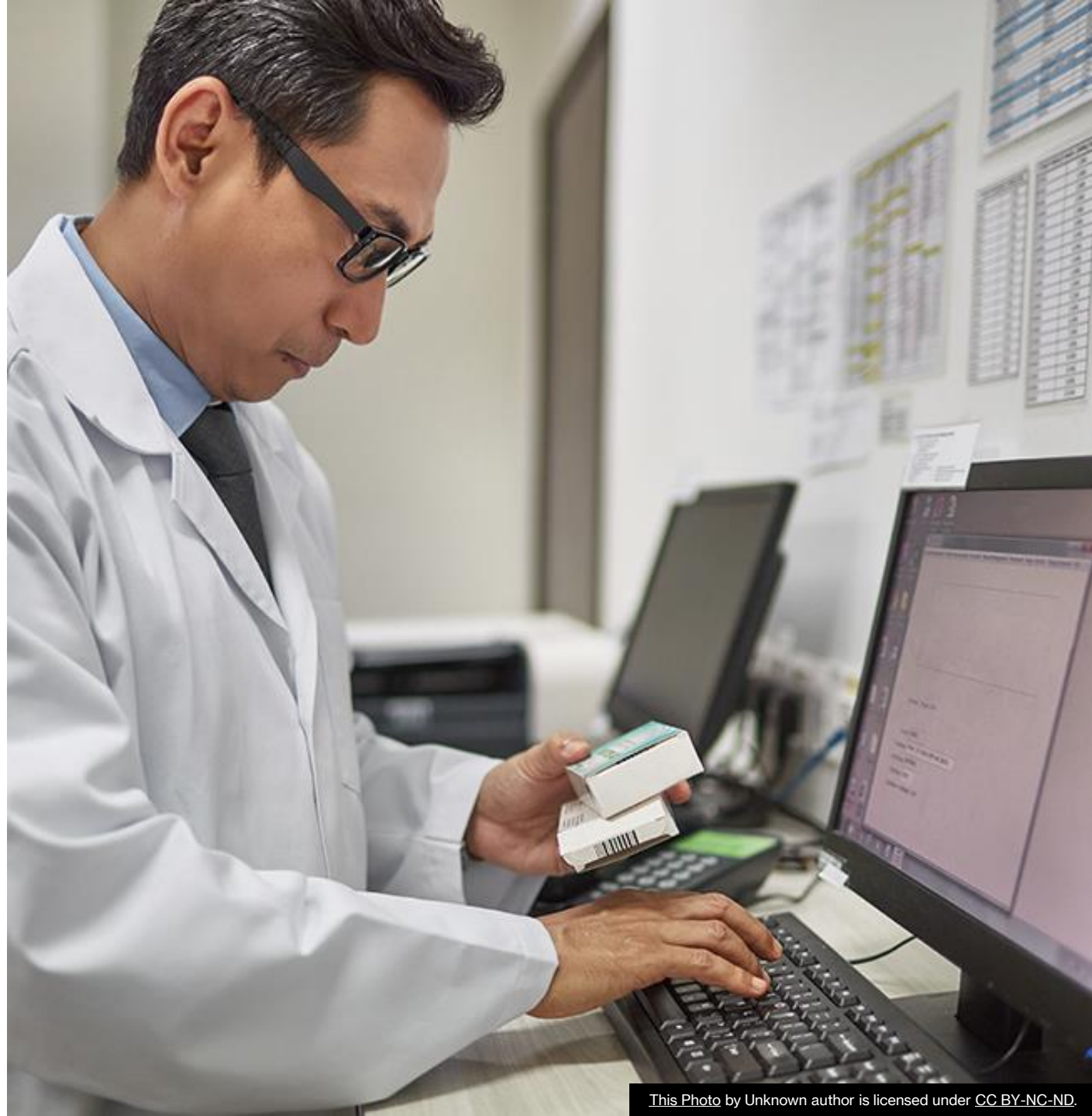


HMIS IMPLEMENTATION AND ITS STAGES

- 1) Planning
- 2) Analysis
- 3) Design
- 4) Development
- 5) Testing
- 6) Training
- 7) Deployment and go live
- 8) Maintenance

In Bansal Hospital Bhopal, HMIS was implemented in August 2013 and it went live on February 2014.

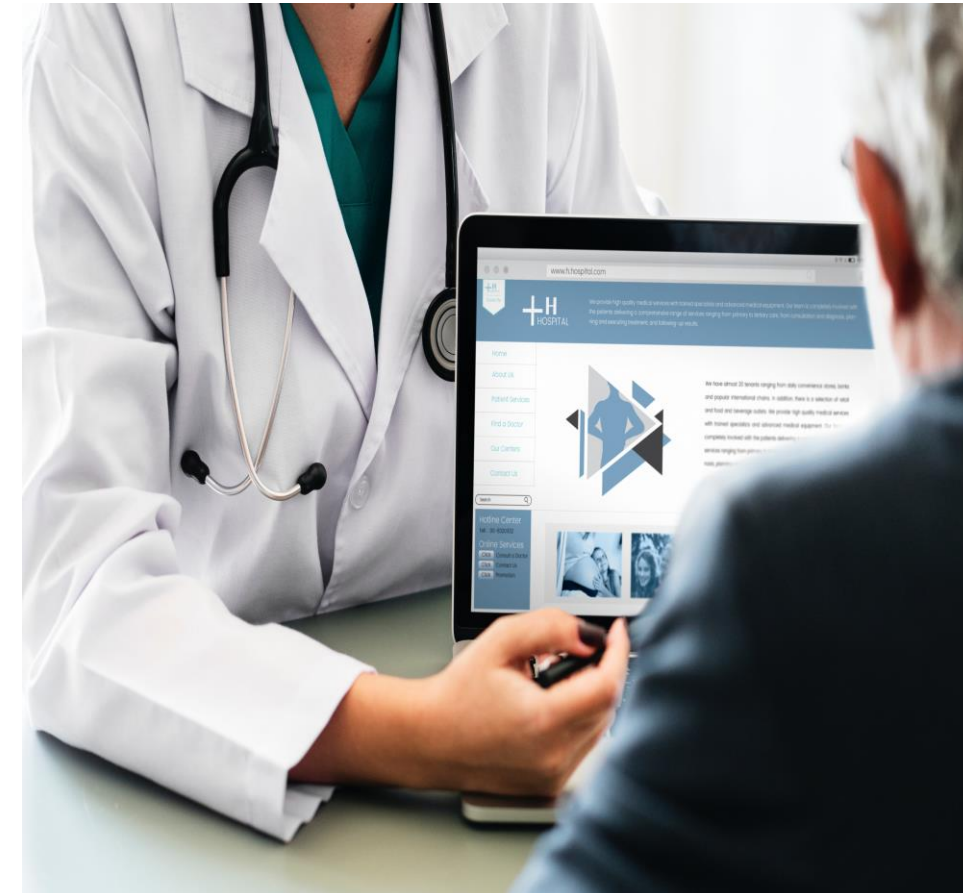
At present, there are in total 21 modules of HMIS in the hospital which are effective.



HMIS MODULES

There were in total 21 modules of HMIS in the hospital which were effective.

- | | |
|--------------------|---------------------------|
| 1) OP Flow | 12) IVF |
| 2) Registration | 13) Sales/ Issues |
| 3) IP flow | 14) Surgeries/ Procedures |
| 4) Billing | 15) Clinical data |
| 5) Search | 16) Insurance |
| 6) Medical records | 17) Scheduler |
| 7) Payments | 18) Procurement |
| 8) Laboratory | 19) Maint and contracts |
| 9) Patient | 20) Store management |
| 10) Radiology | 21) CSSD |
| 11) Services | |



HMIS APPLICATIONS



HMIS USAGE (IN DIFFERENT DEPARTMENTS)

IPD

- Insta
- Duty Roaster
- Doctor's availability
 - Telephone directory

OPD

- Insta
- Kiosk
- Duty Roaster
- Doctor's availability
- Pharmacy drug list
 - Telephone directory

RADIOLOGY

- Insta
- PACS
- Radiology TAT

PHARMACY

- Insta
- Zimbra
- Drug database
- Telephone directory

HMIS USAGE (IN DIFFERENT DEPARTMENTS)

TPA

- Insta (bill payment)
 - Separate TPA application (for TPA work processing)
- Telephone directory

HEALTH CHECK UP

- Insta
- Zimbra
- Telephone directory
- Patient test status
- Abbreviations
- Doctor's availability
- Complaint management
- Pathology database

HUMAN RESOURCES

- Admin (Accessed by IT for specifying policies and rights given)
- User (For adding new joiners, their ID creation, user configuration)
- Devices (biometric devices of the hospital connected)
 - Shift and schedule
- Designation department (For creating new designation department)
 - Time and attendance
- Leave (For leave approval, to view leave balance and leave policies)
 - Cafeteria (under process)
 - Report builder (under process)

DATA ANALYSIS

The questionnaire had two parts: the first component outlined the demographics and broad data.

The second component contained questions concerning five independent variables and one dependent variable of EUCS model. Each question was scored on a Likert scale with a range of 1 to 5.

Descriptive analysis-

EUCS model has 6 variables-

1. Content
2. Format
3. Accuracy
4. Ease of use
5. Timeliness
6. User Satisfaction

Categories-

Extremely Not Good 20-35%

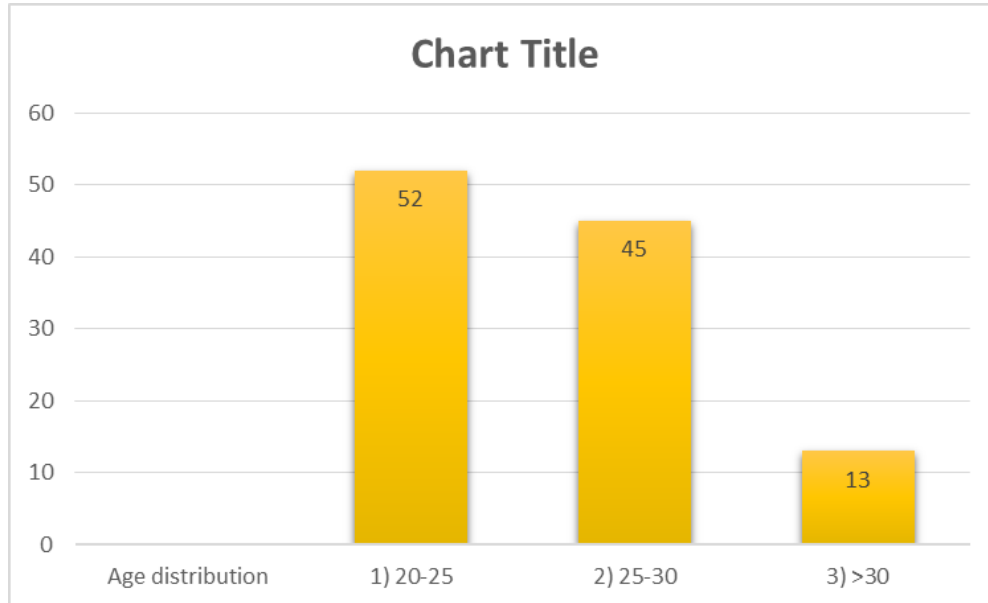
Not Good 36 – 51%

Fairly Good 52 – 67%

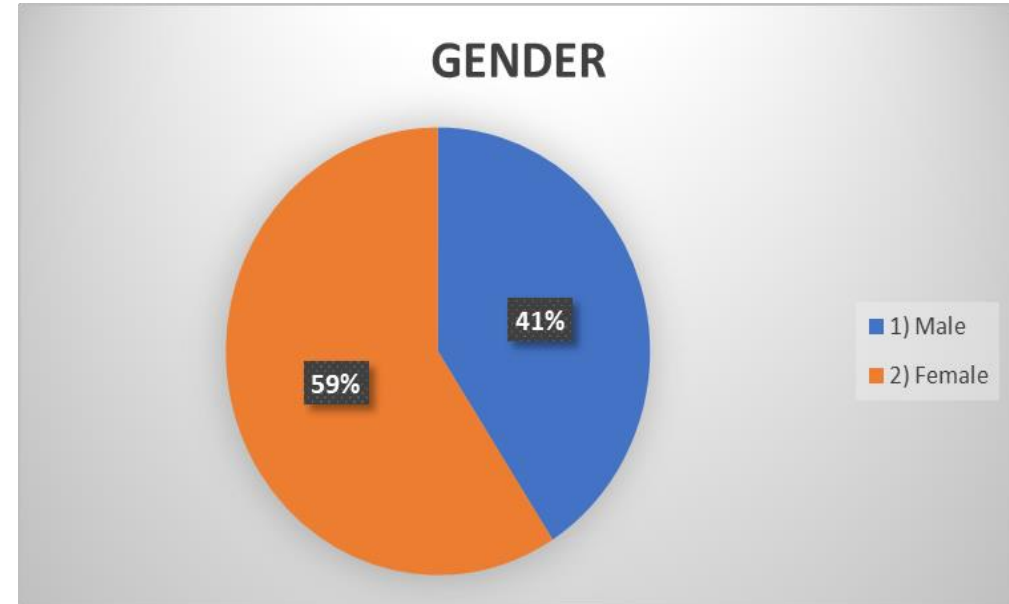
Good 68 – 83 %

Very Good 84 – 100%

AGE DISTRIBUTION AND GENDER OF RESPONDENTS

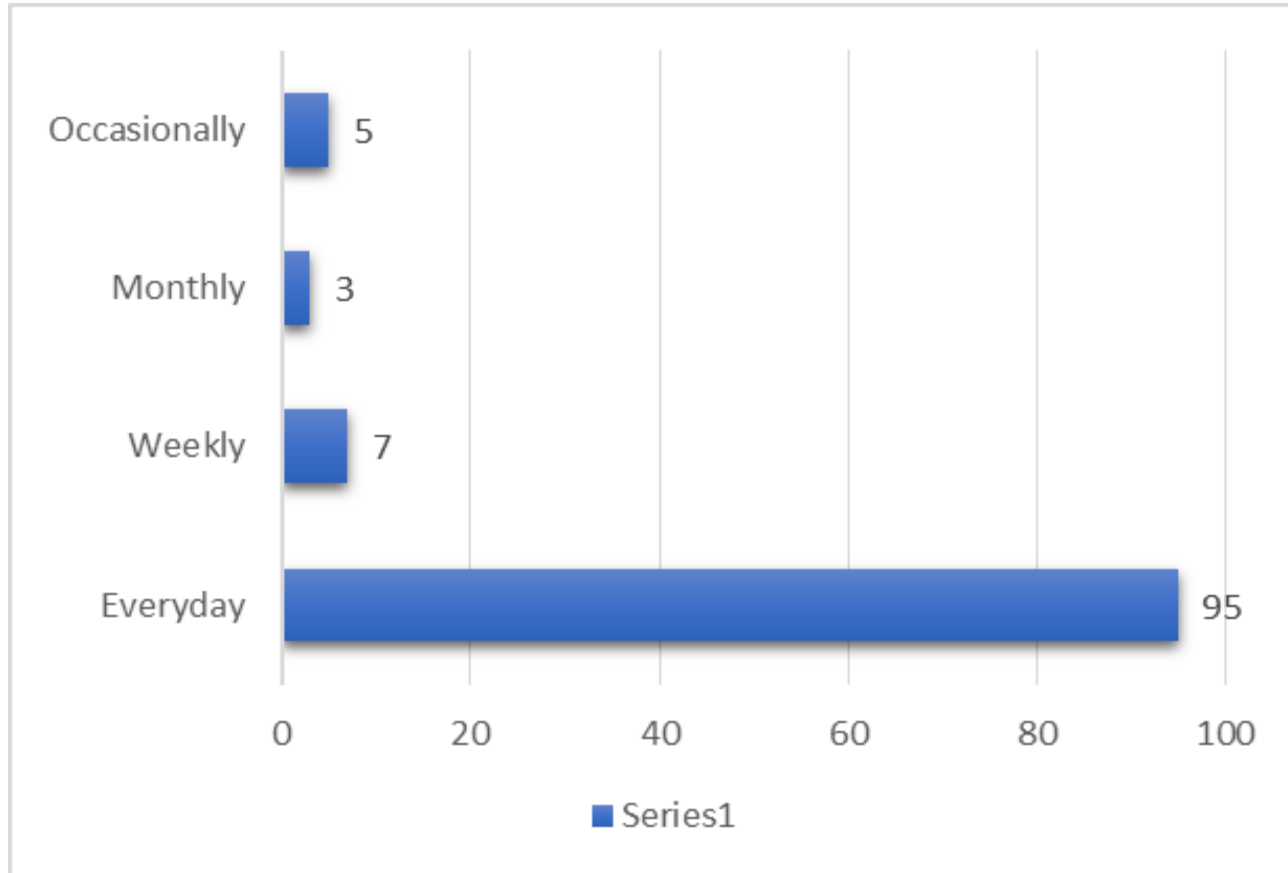


Out of 110 respondents, 47% respondents were of the age group between 20-25 years, 41% respondents were of the age group between 25-30 years, 12% respondents were of the age group greater than 30 years.



Out of 110 respondents, we have 45 male and 65 female respondents who were using HMIS.

FREQUENCY OF HMIS USAGE

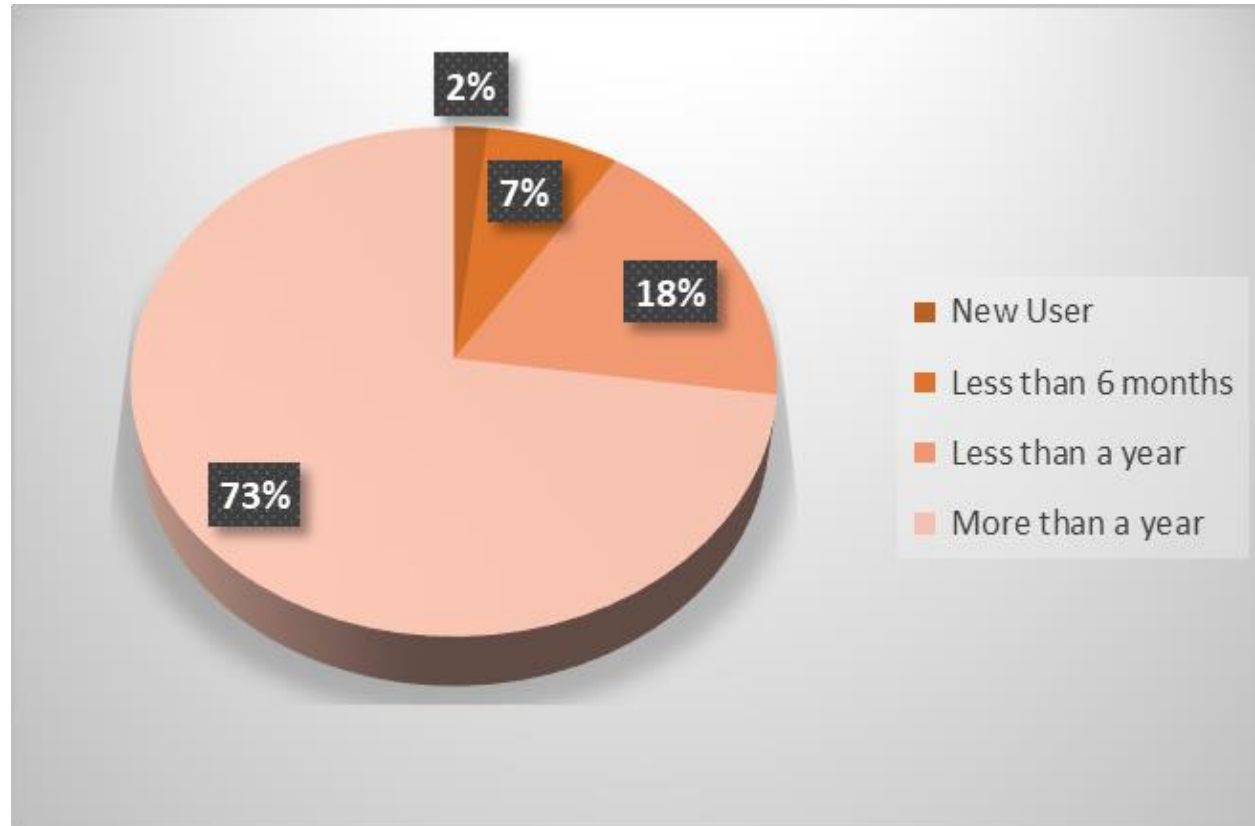


Out of 110 respondents,

86% respondents were daily HMIS users,
6% respondents were weekly HMIS users,
3% respondents were monthly HMIS users.

5% respondents were occasional HMIS users, that means they used HMIS only when other staff was not available.

TIME PERIOD OF HMIS USAGE

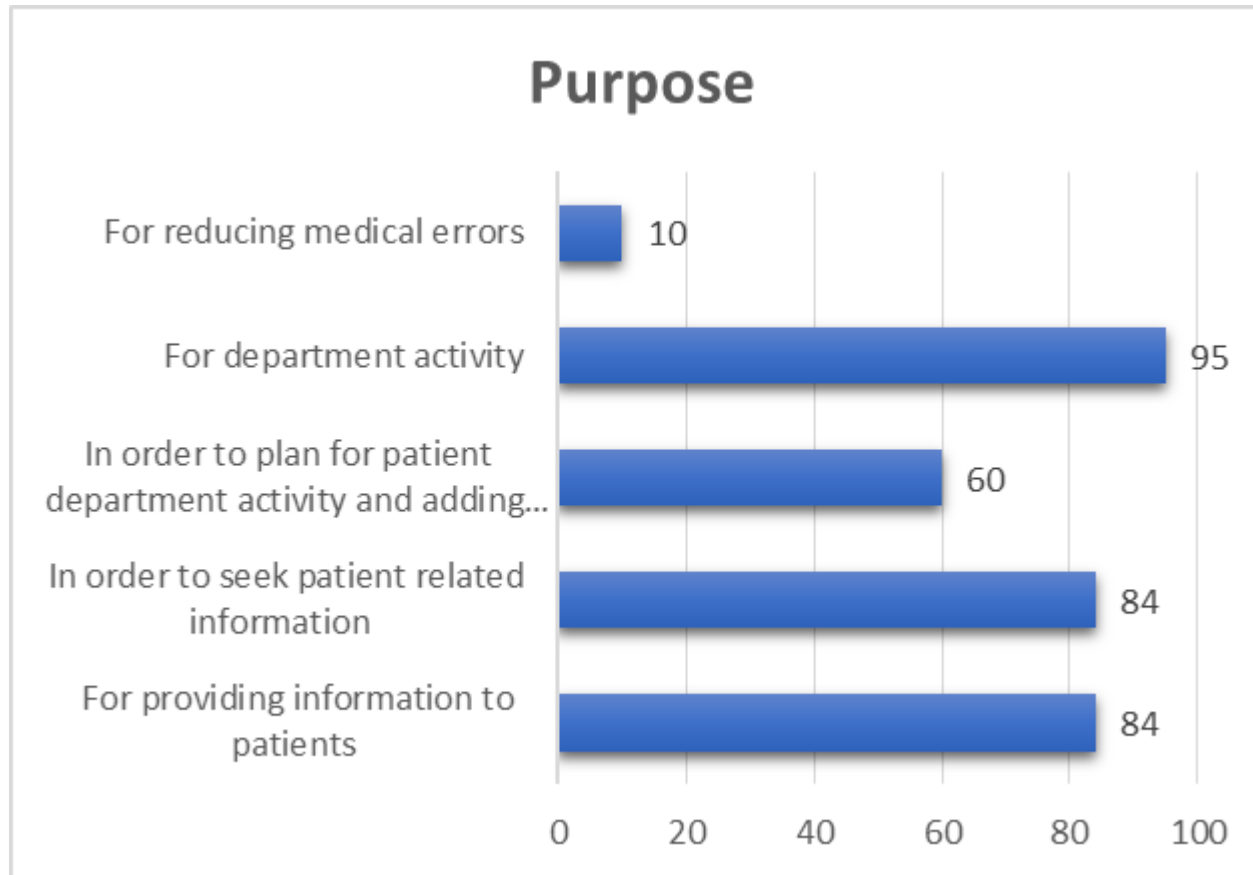


2% respondents were new users and were getting adapted with the HMIS usage in the hospital,

7% respondents were using HMIS for less than 6 months, reason for their short usage is their new recruitment in the hospital.

18% respondents were using HMIS for less than a year.

Majority of the respondents, that is, 73% respondents were using HMIS for more than a year.

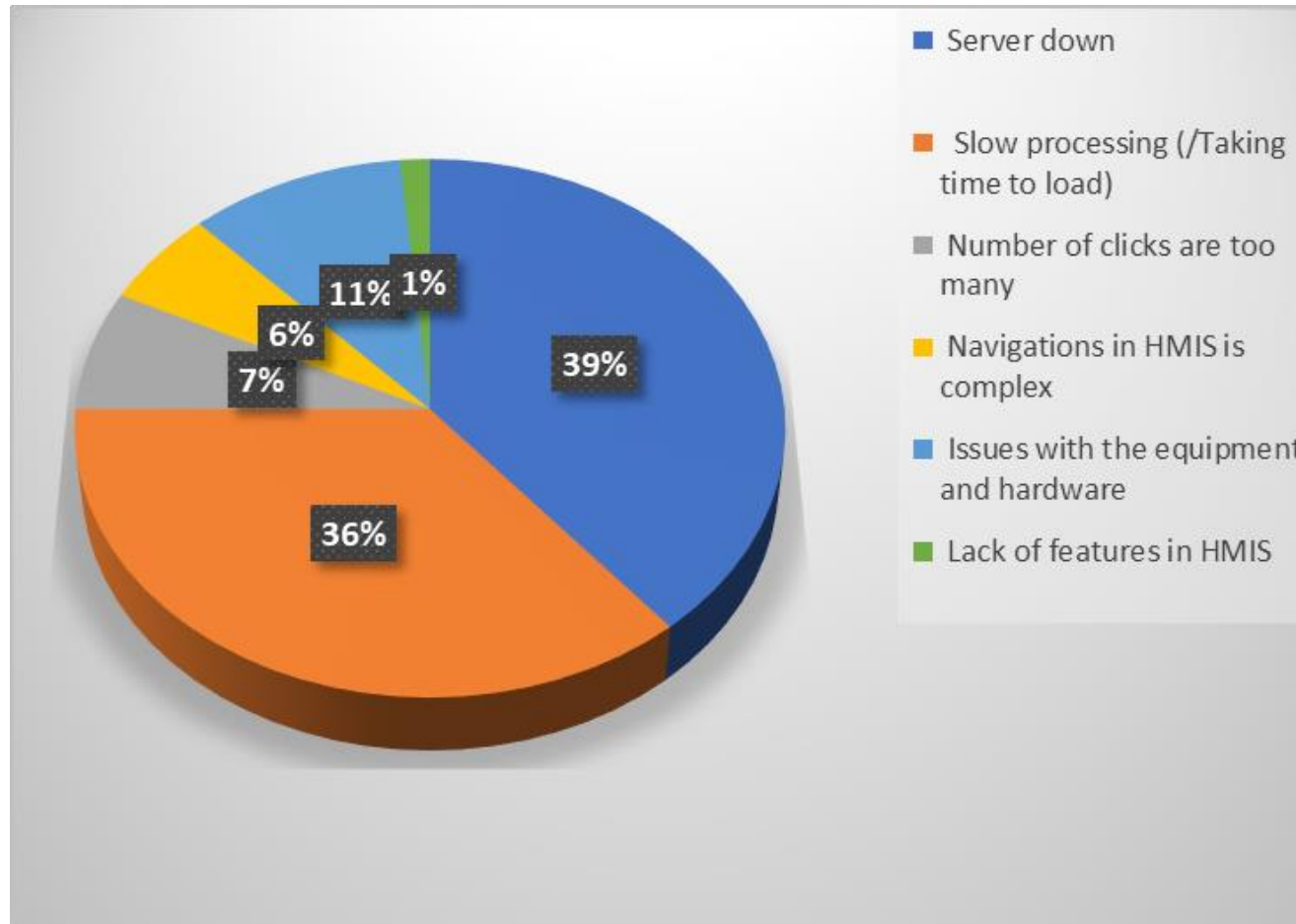


HMIS was mostly used for the departmental activity, that corresponded to 86% respondents' usage.

Second purpose for which HMIS was used the most was for providing information to patients and in order to seek patient related information, that corresponded to 76% of respondents' usage.

Apart from these, HMIS was also being used planning for patient department activity and adding orders and that corresponded to 55% of respondents' usage. 9% of HMIS respondents' usage was for serving the purpose of reducing medical errors.

ISSUE FACED WHILE USING HMIS



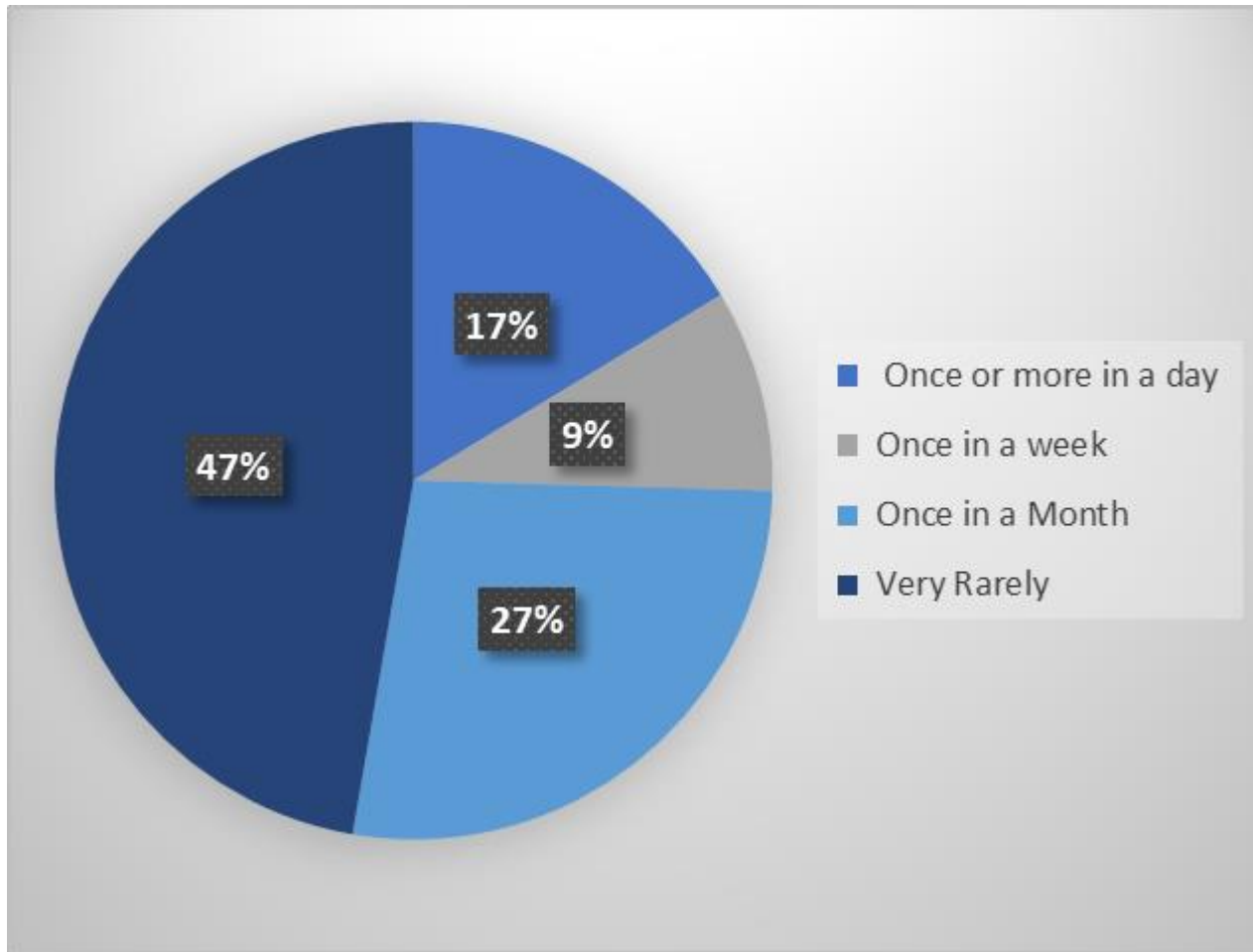
Major issue detected with the HMIS system of the hospital was of server down which was faced by 39% of the respondents.

Slow processing and taking time to load data was another major issue faced with HMIS by 38% of the respondents.

Issues with the equipments and hardware connected with the HMIS and aids in the normal functioning of departments was another hindrance faced by 11% of the respondents.

Other issues faced while using HMIS includes, complex HMIS navigation, lack of features in HMIS, too many steps and clicks for undergoing HMIS radiology department function making it time consuming.

FREQUENCY OF DIFFICULTIES FACED WHILE USING HMIS

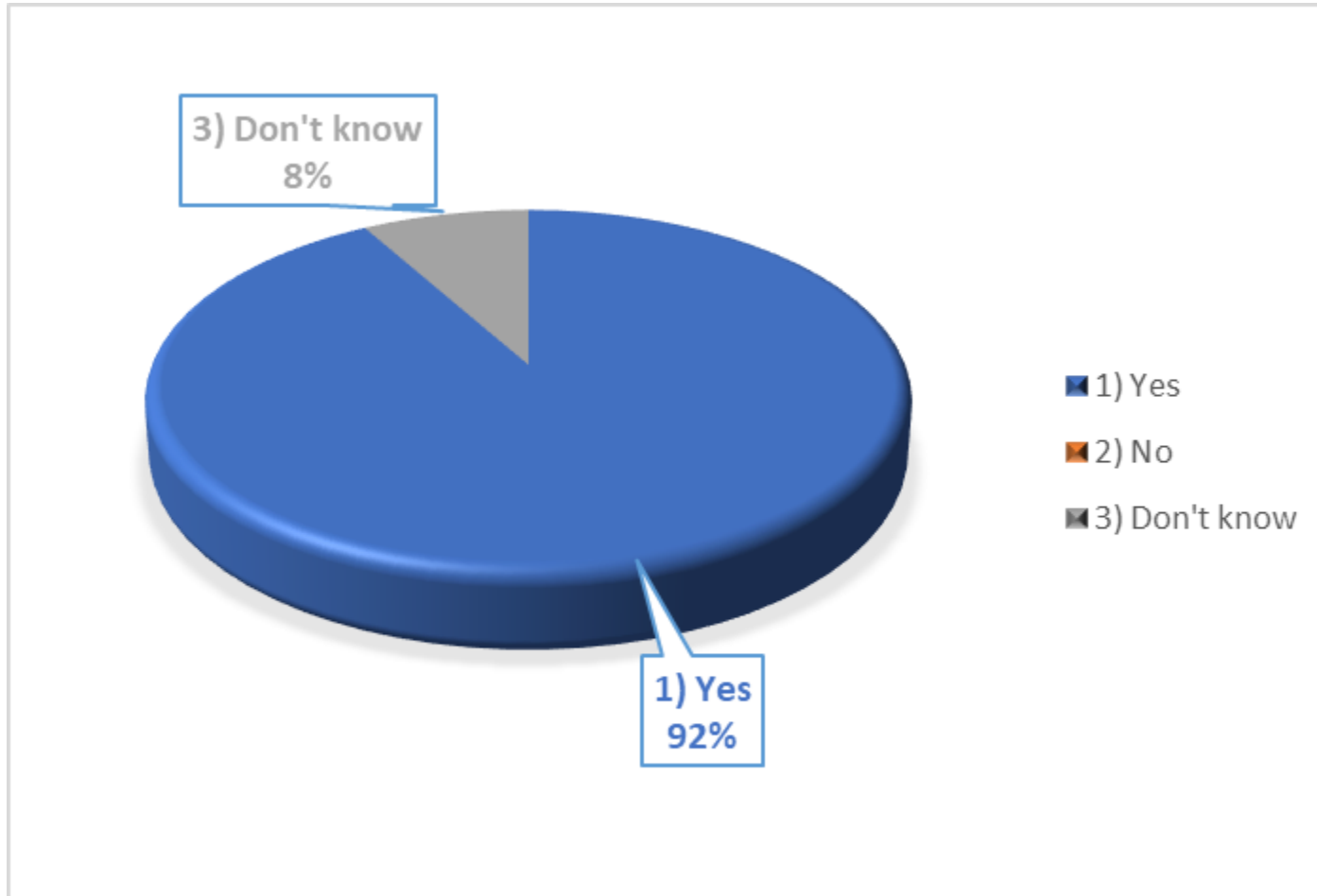


Out of 110 respondents, 47% respondents rarely faced difficulties while using HMIS.

27% respondents faced HMIS issues once in a month, 9% respondents faced HMIS issues once in a week and 17% respondents faced HMIS issues once or more in a day.

Majority of the respondents were rarely facing issues with HMIS was concluded to be a good sign for technology adoption and HMIS satisfaction part of the hospital.

AWARENESS ABOUT CONNECTION WITH OTHER DEPARTMENTS

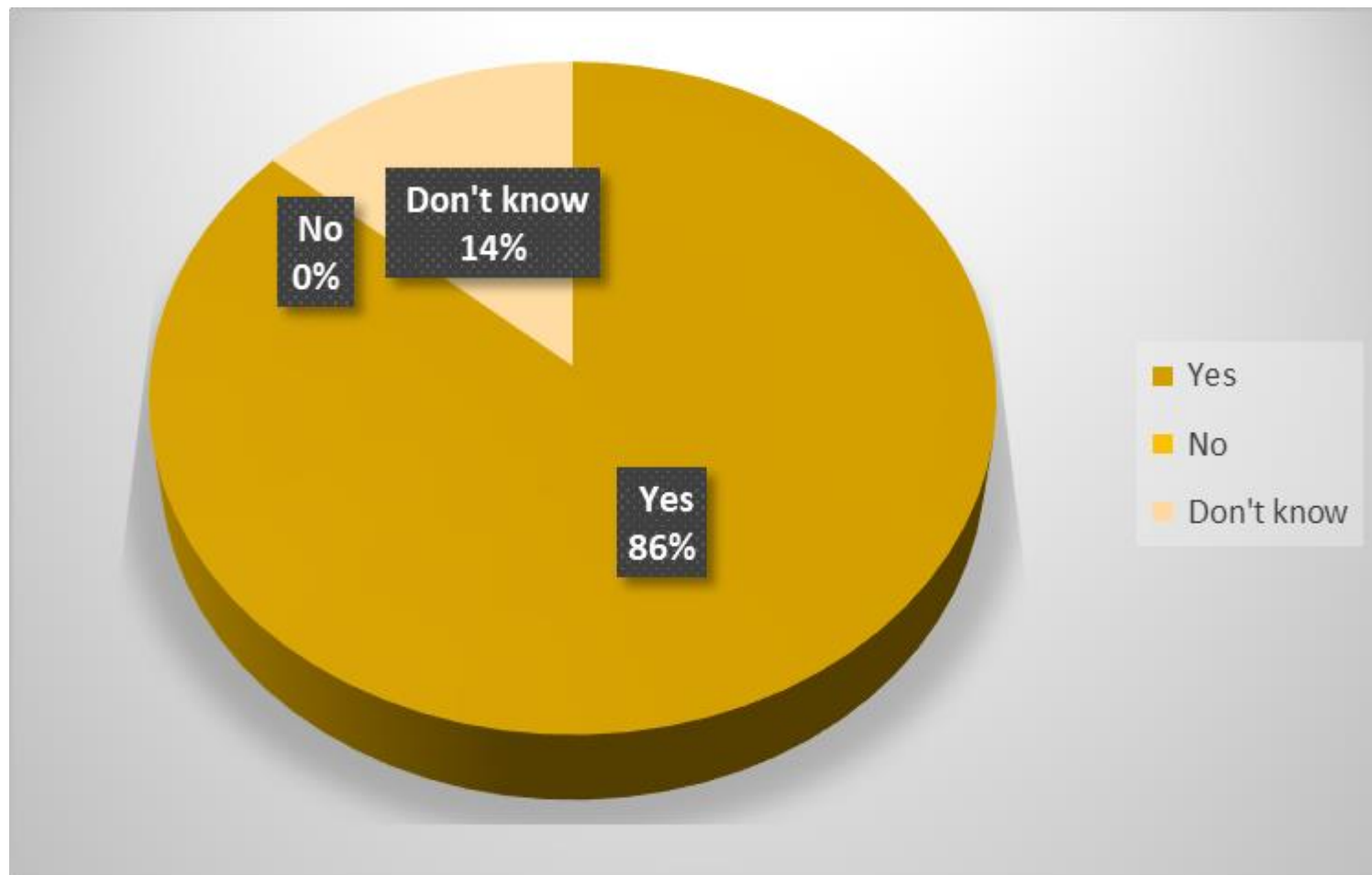


8% of the respondents were unaware that HMIS system of the hospital is interconnected with other relevant departments as well.

They are just aware about it being used to complete their assigned task for their job in that department.

92% of the respondents were aware about HMIS being a comprehensive system and how different components of the hospital are interconnected to give a holistic care to the patients and efficiently manage different departmental activities.

AWARENESS ABOUT MAINTAINING THE CONFIDENTIALITY OF PATIENT INFORMATION



Around 86% of respondents out of total of 110 respondents, believed that HMIS did maintain confidentiality of patient information, while 14% were unaware about this information.

RESULTS

The Content (A1), Accuracy (A2), Format (A3), Ease of use (A4), and Timeliness (A5) are in a fairly good and good category, with an average percentage of 69.05%, 72.0%, 66.90%, 66.70%, and 77.30%.

The variable User Satisfaction (B) on HMIS according to each question is in the Good category with an average value of 70.4%.

- 86% indicated that the HMIS was maintaining the confidentiality of patient information
- 92% of the respondents were aware about HMIS being a comprehensive system and is interconnected with the different departments of the hospital.
- 86% respondents were daily HMIS users and only 5% were occasional users.
- Majority of the respondents, that is, 73% respondents were using HMIS for more than a year and were well adapted with the HMIS of the hospital.
- Overall user satisfaction with HMIS of Bansal hospital was 70.4% which is appreciably good.
- 17% of participants were experiencing problems while using HMIS on a regular basis and 47% rarely faces any issues while working with HMIS.
- The most common problems experienced: 1. Server down and slow processing 2. System hanging 3. Not enough training providing to users.

LIMITATIONS

The major limitation of our study was its small sample size, thus if we need to generalize the results, we will be needing to conduct a subsequent study with a larger sample size.

RECOMMENDATIONS

Training and Support

All healthcare workers should be given an equal opportunity to handle HIMS on a rotational basis, to empower them with technology.

Standardization

Clear Communication

User-Friendly Interface

Modern features (such as hyperlinking, offline help for Windows, software, hardware, etc.) may be added to the HIMS system.

Integration with Other Systems

Rewarding and recognizing healthcare professionals who successfully use the HMIS and contribute to its success.

Continuous Improvement



CONCLUSION

- The overall end user acceptance for HIMS was good, although there was an appreciable scope for improvement.
- The findings of the study provided insights into the effectiveness of HMIS in enhancing the quality of hospital services and patient outcomes through :-
 - Improved employee retention.
 - Increased efficiency and productivity.
 - Improved patient care.
 - Monitoring collective/individual performance of hospitals across the administrative channel.
 - Cost savings
 - Gaining competitive advantage over other hospitals



THANK YOU!

**It has become appallingly
obvious that our technology
has exceeded our humanity.**

- Albert Einstein

