Prisma Sains: Jurnal Pengkajian Ilmu dan Pembelajaran Matematika dan IPA IKIP Mataram
https://e-journal.undikma.ac.id/index.php/prismasains/index
e-mail: prismasains.pkpsm@gmail.com

April 2023. Vol. 11, No. 2
p-ISSN: 2338-4530
e-ISSN: 2540-7899
pp. 368-375

Comparison of Clinical Codes with Standards of Genitourinary Disease in Public Hospital of Sidoarjo

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Received: March 2022; Revised: March 2023; Published: April 2023

Abstract

The accuracy of data diagnosis is important for clinical data management, reimbursement, and issues related to healthcare and services. Based on preliminary observations, it was found that the inaccuracy of the diagnosis code maker with the genitourinary disease standard at the Sidarjo District Hospital. The purpose of this study was to find out the comparison of coder clinical codes with genitourinary disease standards at the sidoarjo district hospital. The method used was quantitative with random sampling techniques presented in the form of frequency tables and cross tabulations and tested using the chi-square test. This study used medical records for inpatient genitourinary cases in 2022, with a total sample of 80 medical records. The results showed that completeness, timeliness, and accuracy had a significant influence on coding accuracy. Completness (completeness of supporting information) obtained 58,8% complete medical record documents and 51.3% incomplete medical record documents (p=0.012). Accuracy (coding accuracy):52.5% of medical record documents were accurate and 47.5% of medical record documents were inaccurate (p=0,0001). This study suggests improving the quality of coding by conducting coding training and evaluating coding audits to support coding speed.

Keywords: Code cmparison, Coder, Genitourinary

How to Cite: Fauzia, V., Nisak, U., & Cholifah, C. (2023). Comparison of Clinical Codes with Standards of Genitourinary Disease in Public Hospital of Sidoarjo. *Prisma Sains : Jurnal Pengkajian Ilmu dan Pembelajaran Matematika dan IPA IKIP Mataram, 11*(2), 368-375. doi:https://doi.org/10.33394/j-ps.v11i2.7494

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INTRODUCTION

Medical records are a measure of the quality of health services, and are compiled and completed after receiving the patient so that the recording information is not forgotten and facilitates accountability. Each medical record included the name and signature of the medical officer. If an error occurs in a medical record, it can be corrected. Correction of medical record recording errors is regulated in PERMENKES RI No. 269 of 2008 concerning the administration of medical records where the initials of the doctor or officer concerned can be added and crossed out without deleting the corrected medical record (Juniati, 2020).

With regard to medical records, there is competence in a medical recorder that makes medical records of high quality. Based on the KEPMENKES RI Number. HK.01.07/Menkes/312/2020 concerning professional standards for medical records and health information. Chapter III Competency component No.5 namely Clinical Grouping skills (World Health Organization, 2015) Coding of diseases and other health problems as well as clinical procedures in accordance with applicable regulations in Indonesia (KEPMENKES RI, 2018). With this, there is activity as a medical recorder to carry out coding to diagnose a disease and determine disease codes and action codes based on ICD-10 grouping rules (Imam et al., 2022). A clinical coding audit is a procedure that involves reviewing medical record

documentation to ensure that the coding process, results, and actions are accurate, appropriate, and carried out in a timely manner according to rules, laws, and regulations (Mathar, 2018). Examining and analyzing errors found and trying to determine their causes, comparing data generated by clinical coders with data presented in patient records, and determining areas of coding practice that require a clinical audit process. to be upgraded. The four criteria of good coding include*validity, realibility, completness dan timeliness* (Abdelhak, 2007).

Diagnostic coding, which is accurate, complex, and consistent, provides valuable data. Reporting accuracy on the codened to be considered by the medical record officer. The accuracy of diagnostic data is very important in the field of clinical data management, cost turnover, and other problems related to health services. because if found inaccurate, it will have an impact on the cost reimbursement process and cause a decrease in the quality of service in hospitals and affect data, report information, and the accuracy of INA CBG's rates (Indriyani et al., 2021). The results of the study (Loren et al., 2020). Regarding the completeness of supporting information in the accuracy of the diagnosis code contained in 10 outpatient medical record documents showed that the level of accuracy of the coding was 6 medical records (60%) and the error rate in coding was 4 medical records (40 %), 13 medical record files had several incorrectly accepted codes (29.5%), and 31 medical record files had correct codes (70.5%) . Medical record documents that were not coded accurately were old cases, amounting to 11 medical record files (84.6%) and two medical records for new cases (15.4%). It can be concluded that incomplete coding is caused by the type of case the patient is diagnosed with(Loren et al., 2020).

Research according to (Erawantini et al., 2022) in a hospital that carried out the coding process using the electronic ICD 10 that was installed on the hospital information system found that the results of 59 NIDDM medical record files in 2016 contained 58 NIDDM codes that were incorrect (98.31%) and 1 NIDDM code. right (1.98%) (Erawantini et al., 2022). In addition, according to Ostanda's research, the results showed that 29% of the 20 codes were accurate, this rating was low compared to 71% of the inaccurate codes, which showed a high rating due to errors in the 5th digit and inappropriate external factors (Oashttamadea SM, 2019). Based on the initial data that the researchers did, the researchers took 10 samples of medical record files for genitourinary cases to compare clinical codes in coding inpatients. The results obtained for the *reliability* readability of the unreadable diagnosis code were 10 medical record files (10%) and 9 medical record files (90%). Element *Definition* in writing diagnoses: Of the 10 medical records, 7 (70%) used abbreviations and 3 (30%) did not. Out of 10 medical record files, 10 (100%) medical record files were not coded on time because hospitalization files were not returned 2x 24 after the patient was discharged from the hospital. Element *Accuracy* accuracy of appropriate coding 6 inpatient medical record documents (60%) and 4 (40%) medical record documents that are not appropriate.Sidoarjo researchers identified the accuracy of the coding of genitourinary cases of inpatients.

Based on a preliminary study at the Sidoarjo district hospital, it was found that coding inaccuracies were caused by several factors. The factors related to coding inaccuracies are completeness, timeliness, and accuracy. There is a relationship between the completeness of medical information and the accuracy of the diabetes mellitus diagnosis code where p-value = 0.001 and a high significant level results from research conducted by (Maryati et al., 2018). The completeness of medical information and the accuracy of medical record documentation is very important, if the medical information in the medical record document is incomplete, then the code generated will be inaccurate according to research conducted by (Utami & Rosmalina, 2019). The purpose of this study was to compare the coder's clinical code with genitourinary disease standards in the Sidoarjo district hospital.

METHOD

Quantitative research is used to support a process and technique that is appropriate for conducting analysis and collection. This study was conducted at the Sidoarjo Regency

Hospital between September and December 2022. This study uses quantitative research methods to examine certain populations or tests by gathering information using research instruments and quantitative or statistical information investigations to test the hypotheses set. Data collection in this study used the coding audit instrument with an assessment sheet contained in excel form and then processed using SPSS.

The total population of this study comprised 100 medical records for inpatient cases of genitourinary disease. The research sample used the Slovin formula calculation of 80 inpatient medical record documents at the Public Hospital of Sidoarjo, with random sampling presented in the frequency table and cross tabulation. They were then tested using the chi-square test. The chi-square test was used to determine the relationship between differences in clinical codes.

RESULTS AND DISCUSSION

Based on the results of research conducted in September - December 2022 at the medical records unit of Sidoarjo Regency Hospital, researchers identified the accuracy of the coding of genitourinary cases for inpatients.

Distribution of Coding Accuracy in Genitourinary Inpatient Medical Record Files at Public Hospital of Sidoarjo.

Table 1 *Timeliness Frequency*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Correct	7	8,8	8,8	8,8
	Incorrect	73	91,3	91,3	100,0
	Total	80	100,0	100,0	

Table 2 *Completness Frequency*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Complete	47	58,8	58,8	58,8
	Incomplete	33	41,3	41,3	100,0
	Total	80	100,0	100,0	

Table 3 *Definition Frequency*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Correct	56	70,0	70,0	70,0
	Incorrect	24	30,0	30,0	100,0
	Total	80	100,0	100,0	

Table 4 *Accurancy Frequency*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Correct	42	52,5	52,5	52,5
	Incorrect	38	47,5	47,5	100,0
	Total	80	100,0	100,0	

From the above data, it can be concluded that the accuracy of coding that affects the accuracy of the code is timeliness*(timeliness)* in coding, which was carried out 2 × 24 hours after the patient received as many as seven inpatient medical record files (8.8%) and on time coding that was not carried out 2 × 24 hours after receiving as many as 73 medical record files (91.3%). Completeness of supporting information*(completeness)*, which was missing as many as 47 bundles of medical records (58.8%) and 33 bundles of medical designs with incomplete equipment (51.3%). The use of abbreviations in accordance with the guidelines included as many as 77 appropriate medical record files (96.3%) and the use of abbreviations that did not comply with the guidelines included as many as 38 medical record files (47.5%). The combination code, Dangger Asterisk*(Accuracy), and* 42 medical record files (52.2%) were correct, and 38 medical record files were incorrect (47.5%).

Relationship of Factors Affecting Coding Accuracy

Table 1. The relationship of factors that affect the accuracy of the coding

Variabel	Coding Accuracy				Total	Asymtotic Significance (2-sided)
	Correct		Incorrect			
	N	%	N	%		
Timeliness	7	8,8%	73	91,3%	80	0,0001
Completness	47	58,8%	33	41,3%	80	0,0001
Definition	77	96,3%	38	47,5%	80	0,846
Accuracy	42	52,5%	38	47,5%	80	0,0001

From the results of calculations performed with Test*Who Square*factors that affect the accuracy of the coding is*Timeliness (* Coding timeliness) value (p <0.05) p=0.001, then Ho is rejected, meaning there is a relationship between coding timeliness and coding accuracy, completeness (complete supporting information) p value <0.05 (p=0.0001) then Ho is rejected, meaning that there is a relationship between the completeness of supporting information and the accuracy of coding. Definition (Use of abbreviations) p value > 0.05 p = 0.846 then H0 is accepted meaning that there is no relationship between the use of abbreviations and the accuracy of the coding.*Accuracy* (Adding the combination code, (*Dagger Asterisk)* p value > 0.05 p = 0.0001 then Ho is rejected meaning there is. In this study, the discussion will describe some of the results of the data obtained from the previous data collection, from the results of observing data in medical record files at the Public Hospital of Sidoarjo. This discussion also provides some conclusions from the results of the recapitulation of the calculations performed in the statistical tests.

Connection *Accurancy* (Add Combination Code, Dagger Asterisk And Add Digits 3 & 4) With Encoding Accuracy

Based on the research conducted, it was found that 42 files (52.5%) were accurate and 38 files (47.5%) were inaccurate due to coding errors combined with a diagnosis of CKD (*Chronic Kidney Disease*) with*hypertension*, Lack of additional code combinations, dangerous asteix and the addition of digits 3 & 4 (Budiyani et al., 2021). The results of calculations on the Chi Square Test found that there was a significant relationship between the addition of the combination code, Dagger Asterisk, and the addition of digits 3 and 4 with the accuracy of the coding with a p-value of 0.0001, p <0.05, so that the addition of the combination code, danger asterisk, and addition digits 3 and 4 with coding accuracy one of the elements that contributed to coding accuracy. The addition of the combination code, danger asterisk, and digits 3 and 4 need to be added according to the written diagnostic

conditions. This is very important for the coder to be able to determine whether it needs to be added or not so that it can produce the right code (Fatimah, 2022). According to (Kasim, 2011), accurate coding is also significantly influenced by the existence of various categorization systems (danger = sign brackets, asterisk = asterisk). The inclusion, exclusion, punctuation periods, dots, and parentheses are varied. When hypertension is diagnosed together with hypertensive kidney disease/renal failure, but not N18.0, and I10. Therefore, the generated code will be incorrect if the coding officer did not study ICD-10 volume 3 well and opened volume 1 (Angelina & Yendri, 2022). This contradicts the theory of Hatta Kasim and Ekardius, as stated in(Kasim, 2011) because of the coding procedure, officers only memorize and rely on memory during the coding/codification procedure.

Connection *Definition* (Use of Abbreviation) With Coding Accuracy

Based on the research conducted, the results obtained element *definitions* (use of abbreviations), which is a factor that can support the correctness of coding. This was related to the use of abbreviations, which are rules for hospital abbreviations. This abbreviation is used to simplify the process of classifying diseases so that medical personnel do not experience difficulties in coding (Rahmawati & Utami, 2020). Based on the results of research on the elements *Definition* the suitability of the use of abbreviations with hospital guidelines was 77 medical record files (96.3%) and the incompatibility of using abbreviations with hospital guidelines was 38 medical record files (47.5%). According to the Hospital Accreditation Standard Edition 1.1 and established by the 2019 Hospital Accreditation Commission (KARS), which took effect January 1, 2020 to avoid misunderstandings and mis-anticipations, hospitals choose standard codes, procedure codes, symbols, abbreviations, and relevant meanings (Rahmadiliyani & Chia, 2020). From the results of statistical calculations using the Chi-square test regarding the use of abbreviations with coding accuracy, the value of $p = 0.846$, $p > 0.05$, then Ho is accepted, meaning that there is no relationship between the use of abbreviations and the accuracy of coding. According to these results, the use of abbreviations is one of the factors that does not cause coding accuracy. This means that Public Hospital of Sidoarjo already has guidelines and SOPs related to symbols and abbreviations that support medical record officers in assigning disease codes.

Connection *Completness* (Complete Supporting Information) With Coding Accuracy

Based on the results of the research, Completness (Completeness of Supporting Information) greatly influences the accuracy of coding where coding requires supporting information to enforce disease codes (Sulistyo & Wariyanti, 2020). Completeness of supporting information obtained 33 incomplete medical record files 51.3% and 47 (58.8%) complete medical record files obtained complete results in complete supporting information. According to (Hatta, 2013), writing and actions often occur when writing is incomplete when filling it with a coder. Paying attention to the completeness of supporting information, in this case regarding conditions, treatment, and various kinds of medical procedures intended for diagnosis and treatment in disease-coding terms. The results of calculations performed on Test *Who Square*it showed that there was a relationship between the completeness of supporting information and the accuracy of coding, where the value of p 0.0001 and $p < 0.05$ Ho was rejected, meaning that there was a relationship between the completeness of supporting information and the accuracy of coding. The completeness of very important supporting data is in the medical record file where the medical record file is a written record of the process of serving doctors and other medical personnel so that in this case it greatly influences the factor of completeness of supporting data with coding accuracy (Hatta, 2008).

This is consistent with research (Maryati, 2016), which shows a relationship between the completeness of medical information and the accuracy of the diabetes mellitus diagnosis code, where the p-value = 0.001 and a high significance level. This is also in line with research (Utami & Rosmalina, 2019) that the completeness of medical information and the

accuracy of medicalrecord documentationn are veryimportant if the medical information in the medical record document is incomplete, then the generated code will be inaccurate.

Connection *Timeliness* (Coding Timekeeping) With Coding Accuracy

Based on the results of research on elements*Timeliness* (Timely Encoding) is a component for monitoring action codes that tracks whether the code is being encoded on time. The action is coded after the document is sent back to the medical record section according to the research findings at the Public Hospital of Sidoarjo. The action code is given as soon as possible after the document is compiled however, for a maximum of 2 × 24 h, the medical record document has been coded. No time period was specified to provide code. Based on punctuality, the results obtained were seven inpatient medical record files (8.8%) and 73 2 × 24 h punctuality inpatient medical record files (91.3%). According to (Yaasiintha, 2021), if relevant agencies do not want to be financially harmed, code accuracy and timely data entry are non-negotiable for service purposes. Therefore, the timing of coding must be considered to prevent losses. The calculation results of the test results *showed* that there is a relationship between the timeliness of coding and the accuracy of coding, where the p-value is 0.012, p <0.05, and Ho is rejected, meaning that there is a relationship between the timeliness of coding and the accuracy of coding. coding time and accuracy.

CONCLUSION

From the results of research at the Sidoarjo Regency Hospital, a significant relationship was found between coding punctuality and code accuracy (p value = 0.012 < 0.05), with seven medical record files (8.8%) being accurate on time and 73 medical record files being untimely (91.3%). There is a relationship between adding combination code, dangger asterisk, and adding digits 3 and 4 with significant coding accuracy p value = 0.0001 <0.05, with accurate coding accuracy in 42 files (52.5%) and inaccurate coding accuracy in 38 files (47.5%) . There was a significant relationship between the completeness of supporting information and the accuracy of coding, which was significant (p value = 0.0001 < 0.05) with the results of complete supporting information in 47 medical record files (41.3%) and incomplete supporting information in 33 medical record files (41.3%). There is no relationship between the use of abbreviations and the accuracy of coding p value = 0.012 > 0.05 with the results of discrepancies in the use of abbreviations in 3 medical record files (3.8%) and suitability use of abbreviations 77 medical record files (96.3%)

RECOMMENDATION

Conduct coding training to increase medical recorders' knowledge of the accuracy of coding, Evaluate the implementation of coding or coding audits to check the accuracy of the coding given Socialization is carried out regarding the method of coding diseases in accordance with the provisions of the latest version of ICD 10 to improve the accuracy of disease coding Creation of time norms for the implementation of time coding.

ACKNOWLEDGMENT

We thank the respondents of this study and the HIM Proffesional at the Public Hospital of Sidoarjo and Muhammadiyah Sidoarjo University who have also supported this research.

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