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SUPPORTING FACTORS FOR EXTERNAL CODE ACCURACY CAUSES OF TRAFFIC ACCIDEN INJURY CASES IN THE HOSPITAL X

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ABSTRACT

Problem: The implementation of external cause coding of traffic accident injury cases is very important to be carried out accurately, because the results of external cause coding can be said to be accurate if they have the 4th and 5th characters. The inaccuracy of the code that occurs is because the coder does not understand how important the use of the 4th and 5th characters is in traffic accident injury cases and incomplete medical information. If the coding is not carried out accurately, it will have an impact on errors in the recording index of diseases and actions, inaccurate report information data and inaccurate INA-CBG's rates. **Objective:** To find out the supporting factors for the accuracy of external cause codes in traffic accident cases at Hospital X. **Method:** This type of research is observation with a descriptive design. The subjects of this study were 2 coders and the objects were 71 medical record files of traffic accident injury cases. The data used in this study were primary data and secondary data using questionnaires and observation sheets that were processed and analyzed univariately using frequency distribution. **Results:** As many as 1 (55%) coder had sufficient knowledge and 1 (45%) had insufficient knowledge about the knowledge of coding external causes of traffic accident injury cases. Of the 71 medical record files of the main diagnosis of traffic accident injuries, 30 (40.3%) had complete medical information, and 41 files (57.7%) were incomplete. The accuracy of the external cause coding based on ICD-10 was a small portion of 30 files (42.3%) accurate and the majority of 41 files (57.7%) were inaccurate. It is advisable to conduct socialization regarding the importance of using the 4th and 5th character codes for external causes to all officers involved in providing external cause coding and it is expected that the head of the medical records unit will pay attention to the completeness of filling in the medical information filled in by doctors and nurses, as well as socialize other medical officers about the completeness of medical information.

Keywords : Anamnesis; Physical Examination; Supporting Examination; Diagnosis Code; Childhood Pneumonia

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1. INTRODUCTION

Regulation of the Minister of Health of the Republic of Indonesia Number 24/Menkes/Per/III/2022 Chapter 1 Article 1 Medical Records are documents containing patient identity data, examinations, treatments, actions, and other

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services that have been provided to patients. Medical records play a very important role in the smooth running of the health service process for patients. The professional standards for medical recorders and health information state that medical recorders must meet competency standards, one of which is understanding and using the concept of clinical classification and codification of diseases and other health problems, as well as clinical procedures (Ministry of Health of the Republic of Indonesia, 2020).

Coding of disease diagnoses must be done accurately so that it can produce quality data. If the coding of the diagnosis is not done accurately, it will affect clinical data management, rebilling of costs, hospital statistics, and even affect the quality of services provided by the hospital. In carrying out coding, what must be done is to review the entire contents of the patient's medical record and provide an accurate code that is in accordance with ICD-10. In coding a patient's medical record, the coder uses the ICD-10 rules to determine the diagnosis code as a reference for the coding process with various diseases that are divided into 22 chapters, especially chapter XX which discusses external causes of traffic accident cases (WHO, 2016).

External cause or external cause in ICD-10 is an additional classification that classifies possible environmental events and circumstances as causes of injury, poisoning and other adverse effects. External cause codes (V01-Y89) should be used as the primary code for single conditions and tabulation of Cause of Death and in morbidity conditions that can be classified into CHAPTER XIX (injury, poisoning, and certain other consequences of external causes). External cause is a classification or classification of the cause of disease (illness), injury, poisoning or death due to external factors such as accidents, drug use, fire, natural disasters, etc. (Oktamianiza, et al. 2023).

Based on ICD-10, injury case codes are divided into two, namely traffic accident injuries and non-traffic accident injuries. In terms of determining and providing codes for traffic accident and non-traffic accident injury cases, external cause codes must be included, because external causes of this injury are the reason or cause of why the patient was injured. Therefore, completeness and accuracy in determining and providing disease codes are a must (WHO, 2016). Traffic accident injuries are the third largest cause of death in Indonesia after HIV/AIDS and TB. Based on WHO data (2015), traffic accident injuries are the leading cause of death and disability worldwide, deaths from traffic accidents worldwide amounted to 1.25 million in 2013. In Indonesia, traffic accident injuries and deaths that occur have become a very serious problem (Djaja et al., 2016). Based on data from the Traffic Accident Unit of the Bengkulu Police Traffic Unit, in 2019 the number of traffic accidents recorded was 33 cases of serious injuries and 173 minor injuries (Munte et al., 2022).

The diagnosis of injury cases is different from other diagnosis codes because the medical record must be equipped with an external cause accompanied by the 4th character code of the place of the incident and the 5th character code of the incident activity. Which category of 3 characters shows how the accident occurred, the 4th character shows the location of the accident, and the 5th character shows the patient's activity when the accident occurred (WHO, 2010). The impact of incomplete external causes information, as a result, the coding of external causes becomes inaccurate so that the disease index report has many codes that are not inputted and RL 4a (Inpatient Morbidity Report) is not filled in completely and specifically for accidents, the external cause code can help the police to find out the number of accidents in a certain period of time (Herman & Erma, 2018).

Based on the results of Suparyanta's research (2018) at Sleman Regional Hospital, the process of documenting medical record files for KLL case patients found that many external causes were still not filled in. According to the results of the analysis, it was found that external causes were filled in on the resume sheet as

many as 32 sheets or 55.17% of the total files of 58 files. Meanwhile, none of the external causes were filled in on the entry and exit summary sheets. In this case, the knowledge/understanding of medical record officers is very important because education is a factor that reflects a person's ability to complete a job. Education is used to improve or enhance the knowledge, skills and attitudes of officers so that officers are more skilled in carrying out their duties. In implementing the diagnostic code, a coder officer is required to complete formal education in medical records and health information. According to the Minister of Health Regulation No. 55 of 2013 concerning the implementation of medical record work, the Diploma III in Medical Records and Health Information is taken for 6 semesters with an associate degree. High knowledge and understanding related to the implementation of coding activities so that accurate codes are obtained.

This is in line with Rahmawati (2018) in her research, the factors that influence the incompleteness of filling in the diagnosis are the absence of an SOP for filling in the diagnosis and the writing sequence that is not in accordance with ICD-10 by doctors, and the factors that cause inaccuracy of the diagnosis code are the absence of an SOP, writing the diagnosis and coding that is not in accordance with ICD-10 rules and coding audits.

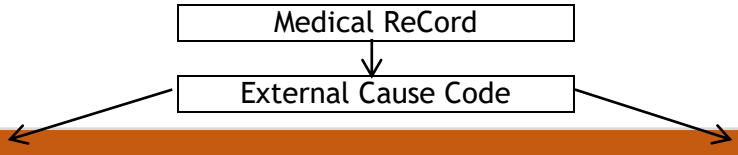
Based on an initial survey at hospital X, it is known that visits to traffic accident injury cases in 2022 amounted to 205 patients and there was an increase in 2023, namely 246 patients with traffic accident injuries and included in the list of the top 10 diseases. Of the 10 accident cases, it is known that 70 (70%) of the diagnostic codes are inaccurate due to the 4th and 5th character codes being external causes, one example of which is in the case of "a traffic accident when a patient riding a motorbike collided with another motorbike from the side on the way home from work" The correct external cause code according to ICD-10 in this case is V12.42 while what is written in the BRM V12 and 3 (30%) BRMs are accurately filled in with the complete external cause code.

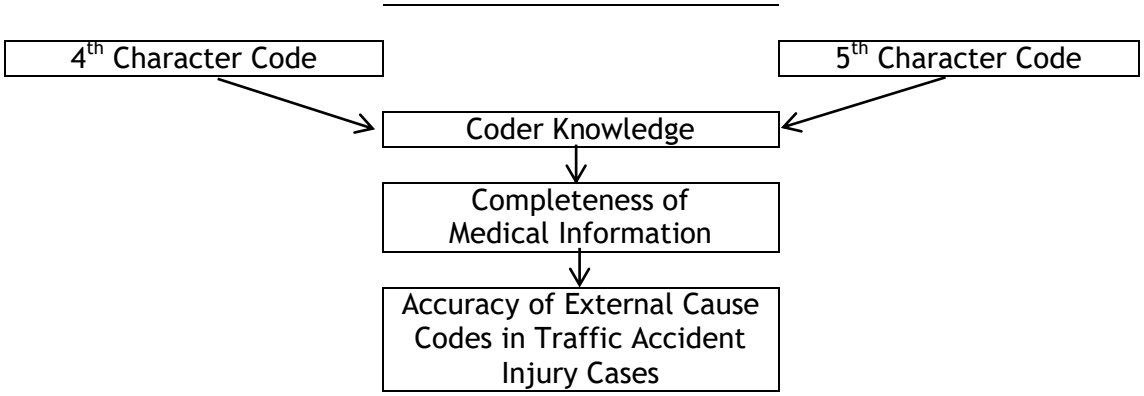
Interview results with one of the coder officers who influenced the inaccuracy of the external cause code because the officer did not understand the external cause code and the officer had never attended training/workshops. Based on the research results of Manalu, et al. (2022) at RSPAD Gatot Soebroto, the accuracy of the external cause code without the 5th digit from 60 samples of medical records of traffic accident injury patients, there were 8 medical records (13%) with the 5th digit external cause injury code accurate, while 52 medical records (86%) with the 5th digit external cause injury code were inaccurate. This is because the coding officer only relies on memorization and does not consider this external cause code important. In this case, based on the results of the external cause coding carried out by RSPAD Gatot Soebroto, it still cannot be said to be accurate because in coding the external cause, the coder officer gave the same code repeatedly in different external cause cases.

The impact of inaccurate external cause codes in traffic accident cases will cause a decrease in the quality of services in hospitals and affect data, report information, and the accuracy of INA-CBG's rates. Low service rates will certainly be detrimental to the hospital, conversely, high health service rates give the impression that the hospital benefits from the difference in rates, thus harming both health insurance providers and patients (Zebua, 2022).

This study aims to determine the supporting factors for the accuracy of external cause codes for traffic accident cases at Hospital X.

2. THEORETICAL FRAMEWORK





3. METHODOLOGY

This type of research is observation with a descriptive design. The subjects of this study were 2 coders and the objects were 71 medical record files of traffic accident injury cases. The data used in this study were primary data and secondary data using questionnaires and observation sheets that were processed and analyzed univariately using frequency distribution.

4. RESULTS AND DISCUSSIONS

a. Coder Knowledge of External Cause Code Accuracy in Traffic Accident Injury Cases

Tabel 1. Coder Knowledge of External Cause Code Accuracy in Traffic Accident Injury Cases

Coder Knowledge	Amount	Percentage (%)
Good	0	
Enough	1	55
Not Enough	1	45
Amount	**2**	**100**

Source : Processed Secondary Data, 2024

Knowledge is the result of human knowledge and this occurs after people sense a particular object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste, and touch. Most human knowledge is obtained through the eyes and ears (Notoatmojo, 2014).

Based on table 1 of the questionnaire sheets that have been distributed to 2 coders, it is known that 0(0%) coders have good knowledge, 1(55%) coders have sufficient knowledge, and 1(45%) coders have insufficient knowledge, based on the questionnaire of 20 questions asked, the officers could not answer all questions correctly, one of which is question number 1 about "implementation of traffic accident injury case coding" implementation of traffic accident injury case coding classified in chapter XIX and external cause chapter XX. The next question that was not able to be answered correctly by the officers was question number 14 about "in implementing the external cause code, a coder must see the completeness of the information on?" the officer's answer to the doctor's consultation sheet, the correct answer should be on the patient's anamnesis sheet when entering the ER because in ICD 10 in chapter XX explains that the external cause coding of traffic accident cases is said to be complete if there is a type of patient who had an accident, means of transportation, activity and place of occurrence. External causes information is used to determine the classification of external cause codes.

External cause information is analyzed by the coder to determine the complete external cause code up to the 5th character, including the three-character category indicating how the accident occurred, the 4th character indicating the location of the accident, and the 5th character indicating the patient's activity when the accident occurred (Kartika, 2016). The next question that the officer was unable to answer correctly was question number 16 about "which activity code indicates that the victim had a traffic accident?" The officer's answer was while resting, sleeping, eating, or involved in other vital activities, the correct answer should be while working to earn a living which explains the patient's activity because the 5th character code in the external cause codification classification explains the patient's accident activity.

Based on the results of interviews with coders with less knowledge, it is known that officers can assign accurate codes because the cases are often found or old cases so that officers can provide accurate codes and are supported by complete medical information.

In line with the results of Utami's research (2015) which states that the main key in implementing coding is the coder or coding officer. The role of the coder in the coding process is central, because it greatly determines the level of accuracy of the disease diagnosis code or medical procedure. knowledge of coding procedures and provisions in ICD-10 will enable the coder to determine the code more accurately. This is in accordance with that stated in the Ministry of Health (2006) that one of the causes of inaccurate diagnosis codes is the medical records officer (coder) who is responsible for providing the patient's diagnosis code that has been determined by the doctor. One of the factors that causes the coder to make mistakes in providing the diagnosis code is the lack of knowledge of the coder about the procedures for using ICD-10 and the provisions contained therein as well as other supporting knowledge related to coding and which supports accuracy in providing the code.

The impact of the lack of knowledge of code officers on code accuracy will affect the occurrence of coding errors according to ICD-10 in addition to having an impact on patients and affecting internal and external reporting of the hospital and indirectly affecting the quality of the hospital. Efforts to minimize the accuracy of external cause codes for traffic accident injuries in medical record documents are that code officers should attend seminars/workshops/training on the importance of filling in external cause codes for traffic accident injury cases in medical record documents.

b. Completeness of Medical Information Regarding the Accuracy of External Cause Code in Traffic Accident Injury Cases

Tabel 2. Completeness of Medical Information Regarding the Accuracy of External Cause Code in Traffic Accident Injury Cases

Medical Information	Amount	Percentage (%)
Complete	30	42
Incomplete	41	58
Amount	**71**	**100**

Source : Processed Secondary Data, 2024

Medical information in this study is the IGD triage sheet, anamnesis and medical resume. Completeness of medical information is very important in establishing a diagnosis and determining the code, this medical information includes a summary of admission and discharge, anamnesis, laboratory examination, supporting examination, and physical examination. If one of them is not filled in, it will affect the determination of the morbidity code (Ernawati et al., 2020)

Based on Table 2, it shows that the completeness of medical information in traffic accident injury cases at Hospital X is not optimal, where the IGD Triage sheet is complete 38(53.5%) and incomplete 33(46.5%), anamnesis 35(49.3%) complete and 36(50.7%) incomplete and medical resume 30(42.3%) complete and 41(57.7%) incomplete. From the results of interviews with medical record officers, it was stated that the cause of incomplete filling in the medical information form was the doctor's limited time and many patients. According to Rustiyanto (2012), the cause of incomplete medical information is the lack of socialization and personal awareness of the importance of completing medical record files so that many doctors and health workers ignore the completeness of medical information. The completeness of medical information greatly influences and hinders coders because they have to find the patient's responsible doctor (DPJP) and confirm medical information to get an accurate code.

Based on the results of the researcher's observations, one of the causes of inaccurate external cause codes is the completeness of medical information written by doctors or nurses briefly, for example "Post KLL" which should be written by officers in a complete chronology of patient events. The information contained in the IGD triage and anamnesis will support coders in coding accurately based on ICD-10. This is in accordance with the results of Wariyanti's research (2014), the completeness of writing medical information on each medical record form has an important role in determining accurate codes through the diagnosis determined by the doctor. Completeness of medical information and accuracy of medical record documents are very important and related, if the medical information in a medical record document is incomplete, then the resulting code will be inaccurate.

In line with Maryati's research (2019), the completeness of medical information from 90 medical record documents studied contained 14(15.56%) documents with accurate codes while the inaccurate codes were 76(84.44%). Strengthened by Hatta's statement (2013) an important thing that must be considered by medical record personnel in maintaining the quality of medical record documents is the completeness of medical information related to the patient's medical history starting from the beginning of treatment until discharge from the hospital, containing physical examinations and other supporting examinations.

Incompleteness of filling in the IGD triage, anamnesis and medical resume can affect the accuracy of the diagnosis code set by the coder as a supporting tool in producing accurate codes, in addition to affecting the quality of service such as patient satisfaction, making it difficult for officers to input data in INA-CBGs and hindering the BPJS claim process which causes a party to be harmed and has an impact on communication facilities between health workers (Nurhayati, 2013). Efforts to prevent incomplete medical information should be for medical record officers when assembling if there are incomplete medical record files, they should return the medical record files to the relevant unit. If there are still incomplete files, counseling should be carried out regarding the importance of complete medical information to the relevant officers.

c. Accuracy of External Cause Codes for Traffic Accident Injury Cases

Tabel 3. Accuracy of External Cause Codes for Traffic Accident Injury Cases

Code Accuracy	Amount	Percentage (%)
Accurate	63	75
Not Accurate	21	25
Amount	**84**	**100**

Source : Processed Secondary Data, 2024

Accuracy of diagnosis code is the writing of disease diagnosis code according to the classification in ICD-10. The code is considered right and accurate if it is in accordance with the patient's condition with all actions that occur, complete according to the classification rules used. The relationship between disease classification code and health-related problems can cause errors in determining a code.

Based on the research results, it can be seen from 71 medical record files of external cause codes for traffic accident injury cases at Hospital X, 30(42.3%) were accurate and most of the 41(57.7%) external cause codes for traffic accident injury cases were inaccurate. This is due to several things, namely incomplete medical information and coder officers who were less careful in determining the 4th and 5th character codes for the external cause of traffic accident injury cases. One example is the diagnosis of Fracture temporal Post KLL motorcycle hitting a truck which should have explained the location of the incident and the patient's activities at the time of the accident and there is a special note in block V20-V28 that the 4th character code explains the condition of the driver, passenger or motorcycle driver who is not explained injured in traffic accidents and non-traffic accidents and the 5th character explains the patient's activity code.

Based on the results of the researcher's observations, there are still many inaccuracies in the code at the Bhayangkara Bengkulu Hospital. The use of external cause codes only up to the 3rd character is one of the causes of code inaccuracy because it does not comply with the regulations based on ICD-10. Where the external cause code for traffic accident injury cases when referred back to the use of ICD-10 volume 1, the external cause code has a code up to the 5th character. The use of the 4th character can explain the place of the incident and the 5th character of the patient's activity.

In line with Defa and Rita's research (2017), that out of 360 outpatient BRMs, there were 127(35.3%) accurate external cause codes and 233(64.7%) inaccurate outpatient external cause codes. Many inaccurate codes were found because 45 four or five-character diagnosis codes were only coded up to the third character, five-character codes were only coded up to the fourth character, and codes that differed in the third, fourth, and/or fifth characters. According to WHO (2010), each chapter in ICD-10 is divided into blocks. Each block consists of a list of three-character categories. Each category is divided into four-character subcategories. The four-character subcategories are most appropriate for identification, such as variations of different places in the three-character category or stand-alone diseases in the three-character category for grouped conditions.

The accuracy of coding in medical record files is very much needed in health services in hospitals. Coding is a fairly important function in health information services, in the implementation of INA-CBG's casemix, the role of the coder greatly determines the size of the rates that appear in the INA-CBG's software determined by the diagnosis and procedure. If the diagnosis is inaccurate, it will affect the cost of health services that have been provided so that it can cause losses for the hospital because the payment of claims based on INA-CBG's is seen from the coding results determined by the coding officer (Adipura et al., 2020). According to Maryani (2016), an important thing that coders must pay attention to in determining the diagnosis code is the completeness and accuracy of writing the diagnosis in order to produce accurate diagnosis codes. Accurate coding requires writing a diagnosis that is in accordance with the correct medical terminology so that it helps the coding officer in choosing lead terms and coding the disease according to ICD-10. A diagnosis that is written completely and correctly by a doctor greatly affects the accuracy of disease coding. The accuracy of the diagnosis code has an important role as a basis for making hospital statistics to find out morbidity and mortality reports.

The impact of inaccurate external cause codes in traffic accident cases will cause a decrease in the quality of services in hospitals and affect data, report information, and the accuracy of INA-CBG's rates. Low service rates will certainly be detrimental to the hospital, conversely, high health service rates give the impression that the hospital benefits from the difference in rates, thereby harming both health insurance providers and patients (Zebua, 2022). Efforts to minimize inaccuracy of external cause codes should be for coders to improve their knowledge and skills through coding training according to ICD-10, in coding it should be done up to the 5th character for traffic accident injury cases based on ICD-10 and before determining the external cause code, it is better to pay attention to medical information first to find out whether the traffic accident injury case is or is not a traffic accident. coordinate with each other during the implementation of coding, officers must go through, determine and provide stages of finding the right medical term for the diagnosis, then determine the lead term, modifier, qualifier in ICD volume 3, then match the code found with the one in volume 1 to reduce the inaccuracy of external cause codes and create specific procedural policies regarding the accuracy of external cause codes as a guideline for coders so that they can carry out coding consistently.

5. CONCLUSION

The completeness of medical information in a traffic accident case affects the correct diagnosis determined by the doctor. The correct diagnosis affects the accuracy of the code written by the coder which is accompanied by good knowledge possessed by the coder.

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