

Emergency Room Nurses Practice Related to Management of Upper Gi Bleeding Among Chronic Liver Disease Patients: An Observational Study

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Abstract:

Introduction: Emergency handling is philosophy, which is 'Time saving is Live Saving'. This is vital of the condition that patients can lose their lives just in minutes. One indicator of the success for managing medicinal emergency patients is the speed of providing adequate assistance to emergency patients in emergency room. Upper gastrointestinal bleeding (UGIB) is potentially life-threatening abdominal emergency that remains a common cause of hospitalization and is defined as haemorrhage that involves the mouth to the duodenum proximal to the ligament of teritz.

Method: A structured observation checklist was used in the study. This phase used a nonparticipant observer role to observe emergency room nurses in their natural setting undertaking emergency care and responsibilities. One observer, using a tool and reflective journal, collected data on participant interactions, processes and practices on emergency room nurses over 14 days including 35 events of observation (total 334 hr.: 50 min) in emergency room. Data analysis used descriptive statistics.

Result: 8.57% had satisfactory, 91.43% non-satisfactory practice. Emergency room nurses had a varied and unpredictable workload, including Shortage of nursing staff and high number of patients visiting the emergency room.

Conclusion: The nurses had poor to average practice. Shortage of nursing staff and high number of patients visiting the emergency room were identified as factors affecting the practice. Further research into this role is required, including linking efficacy with experience of nurses, impact the role has on patient safety, and patient and family perceptions of the role.

Key words: emergency room; management of upper GI bleeding; practice; chronic liver disease; nurses

Highlights:

- Upper gastrointestinal bleeding (UGIB) is a common medical emergency and includes self-limiting bleeding to life-threatening hemorrhagic emergencies.
- Emergency management of UGIB requires nurses' knowledge and their effective and fast performance
- The experiences of nurses in managing upper GI bleeding highlight the importance of their expertise, adaptability, patient-centered approach, and advocacy in delivering high-quality care despite the challenges they may face.

Plain Language Summary

Nurses indeed play a crucial role in managing upper gastrointestinal (GI) emergency bleeding. Their prompt assessment and intervention can be life-saving for patients in such critical situations. Here's why their role is so vital:

Initial Assessment: Nurses are often the first healthcare professionals to encounter patients with upper GI bleeding. Their ability to quickly and accurately assess the severity of bleeding, including vital signs, hemodynamic stability, and symptoms, is essential for timely intervention.

Monitoring and Observation: Nurses continuously monitor patients with upper GI bleeding, keeping a close eye on their vital signs, level of consciousness, and the volume and characteristics of bleeding. This monitoring helps in early detection of any deterioration or complications.

Intervention and Management: Nurses are trained to perform immediate interventions to stabilize patients with upper GI bleeding. This may include administering intravenous fluids, blood transfusions, and medications to control bleeding and maintain hemodynamic stability.

Communication and Collaboration: Nurses act as crucial liaisons between patients, families, and other members of the healthcare team. Clear communication and collaboration ensure that all team members are aware of the patient's condition and can work together to provide optimal care.

Education and Support: Nurses also play a significant role in educating patients and their families about the condition, treatment options, and preventive measures. Empowering patients with knowledge can improve compliance with treatment plans and reduce the risk of recurrence.

To fulfill these responsibilities effectively, nurses require proper knowledge, skills, and training in managing upper GI bleeding emergencies. Continuous education and professional development programs can help nurses stay updated on the latest evidence-based practices and advancements in this field.

Introduction

The philosophy of emergency handling, encapsulated in the phrase "Time saving is Lifesaving", underscores the critical importance of swift action in emergency situations. This principle recognizes that in emergencies, every moment counts, as patients' lives can be at stake, and delays in treatment can have severe consequences.

In the context of emergency room care, one key indicator of success is the speed at which adequate assistance is provided to patients. This emphasis on rapid response reflects the urgent nature of medical emergencies, where timely intervention can make the difference between life and death.

Upper gastrointestinal bleeding (UGIB) exemplifies a potentially life-threatening abdominal emergency where prompt medical attention is paramount. UGIB refers to hemorrhage occurring from the mouth to the duodenum proximal to the ligament of Treitz. Given its severity, timely diagnosis and intervention are crucial to prevent complications and save lives. (Tielleman et al., 2015).

Nurses play a critical role in managing patients with upper gastrointestinal bleeding (UGIB), especially in the initial stages when patients may present with hypovolemic shock. Here's how nurses can contribute to patient care in this situation:

Assisting in Hypovolemic Shock: When patients present with UGIB, they may experience significant blood loss leading to hypovolemic shock. Nurses are trained to recognize the signs and symptoms of shock and initiate immediate interventions to stabilize the patient. This may include administering intravenous fluids to restore circulating volume and maintain adequate tissue perfusion.

Assessing the Need for Analgesia: Patients with UGIB may experience abdominal pain or discomfort. Nurses assess the severity of pain and determine the need for analgesia to provide comfort and alleviate distress. Pain management is essential for promoting patient well-being and facilitating cooperation with further assessments and interventions.

Expertise in ABC Resuscitation: Nurses are proficient in airway, breathing, and circulation (ABC) resuscitation techniques, which are crucial in managing patients with UGIB, especially those who are hemodynamically unstable. They ensure the patency of the patient's airway, support adequate breathing, and initiate chest compressions if necessary to maintain circulation.

Assessment of Fluid and Electrolyte Status: Nurses closely monitor the patient's fluid and electrolyte balance, which can be disrupted due to blood loss and fluid resuscitation efforts. They assess vital signs, urine output, and laboratory values to evaluate the patient's hydration status, electrolyte levels, and response to treatment. Adjustments in fluid and electrolyte replacement therapy may be made based on ongoing assessments and clinical findings.

By providing timely and comprehensive care, nurses play a crucial role in stabilizing patients with UGIB, addressing their immediate needs, and laying the foundation for further diagnostic and therapeutic interventions. Their expertise in managing acute medical emergencies contributes significantly to improving patient

outcomes in this challenging clinical scenario. (Bayumi, 2016; Smith, 2012).

Based on what was said, the current study was conducted to assess the emergency room nurses practice regarding management of upper gastrointestinal bleeding.

Materials and Methods:

Study design, setting, and sample

Structured observation approach with a nonparticipant observer role was used to facilitate the systematic collection of data on emergency room nurses' behaviors and practices, providing valuable insights into their clinical performance and contributing to a better understanding of nursing care delivery in emergency settings. The study setting was the Emergency Room of the Institute of Liver and Biliary Sciences (ILBS), New Delhi, India. All available nurses (20 nurses) providing care for patients with UGIB at the above-mentioned setting were recruited through a total enumeration sampling. Also, 35 events were observed during the data collection period. Nurses with at least three months of experience in the Emergency Room of ILBS and consent to participate in the study were included. There was no sample attrition until the end of the study

Instruments

The data were collected using a demographic questionnaire, an observation checklist and rating scale.

Demographic characteristics of the nurses were collected using closed-ended questions about their age, gender, and marital status.

Observation Checklist to assess the nurses practice regarding management of upper GI bleeding management This tool was designed after thorough review of relevant literature. The tool was intended to observe nurses' practices while management of UGIB among chronic liver disease patients. This was composed of 34 items including: Primary Assessment, Resuscitation and stabilization, History collection and health assessment, Supportive Treatment, and Transfer Out. The Nurses Practice was observed by the researcher. Performance of the activity by the Nurses, as mentioned in the item, is marked by the researcher in the 'Done' column. If the nursing team does not perform the activity correctly, the observer records in the 'Not Done' column. The performance of activity is awarded a score of 'One' and non-performance is awarded a score of 'Zero'. The maximum possible score is 34 and minimum possible score is 0. The level of practice is categorized

as: satisfactory practice, 27-34 (>80%); and non-satisfactory practice, 0-26 (<80%).

Rating Scale to assess the nurse's perception regarding factors influencing Nurses Practices related to management of UGIB among Chronic Liver Disease patients. Based upon review literature and the guidance from experts, the nine items were constructed, namely:

- ✓ High number of patients visiting at a time in Emergency room.
- ✓ Shortage of nursing staff.
- ✓ Lack of knowledge regarding clinical guidelines for management of upper GI bleeding.
- ✓ Adequate beds were available for the patients.
- ✓ Adequate supplies were available.
- ✓ Poor communication between physicians and nurses related to management of patients.
- ✓ Delay in confirmation of areas for transfer out of patients.
- ✓ Delay in administration due to delay of procurement of drugs.
- ✓ Lack of time for nurses or/and physicians to manage patients visiting emergency room with complaints of upper GI bleeding.

Validity and reliability

To assess the content validity index, criteria to evaluate the instruments were given to seven experts from the field of medical-surgical nursing and hepatologists to check the instruments and confirm these items for relevance, representativeness, comprehensiveness, clarity, ambiguity, and simplicity. Comments and suggestions were incorporated, and suggested modifications for the items were made to prepare the final draft of the tools and the teaching program. The content validity index of the tools ranged between 0.82 and 0.87. Inter-rater reliability was calculated to determine the reliability of the observation checklist. For this purpose, the performance of the nursing team in the management of three chronic liver patients with UGIB referring to the Emergency Room of the Pushpawati Singhanian Hospital and Research Institute (PSRI) was simultaneously observed and recorded by the researcher and the Emergency Room sister incharge. The Kappa coefficient was calculated as 0.87.

Data Collection Procedure

After obtaining official permissions, data were collected over a period of 14 days. One observer, using a tool and reflective

journal, collected data on participant interactions, processes and practices on emergency room nurses over 14 days including 35 events of observation (total 334 hr.: 50 min) in emergency room. The Emergency Room were visited on daily basis and nurses were approached during morning, evening and night shifts. After detailed information regarding purpose and benefits of the study, a written consent was taken from all the nurses. Participant nurses' direct observation was carried out utilizing data collection tool; Observational Check list.

Data analysis

All collected data were organized, categorized, tabulated, and analyzed using descriptive statistics.

Results:

Figure 1 Distribution of the Studied Nurses According to their sociodemographic characteristics (n=20) which portrays that about 50% of the studied nurses were in age group of 31–40. Regarding designation of the studied nurse, 75% of them were worked as an executive nurse. Concerning years of experience, it was found that 95% of the studied nurses had more than 1 years of experience. Relating to previous teaching program about nursing care for patient with upper GI bleeding, it was found that none of the studied nurses did not have previous teaching program.

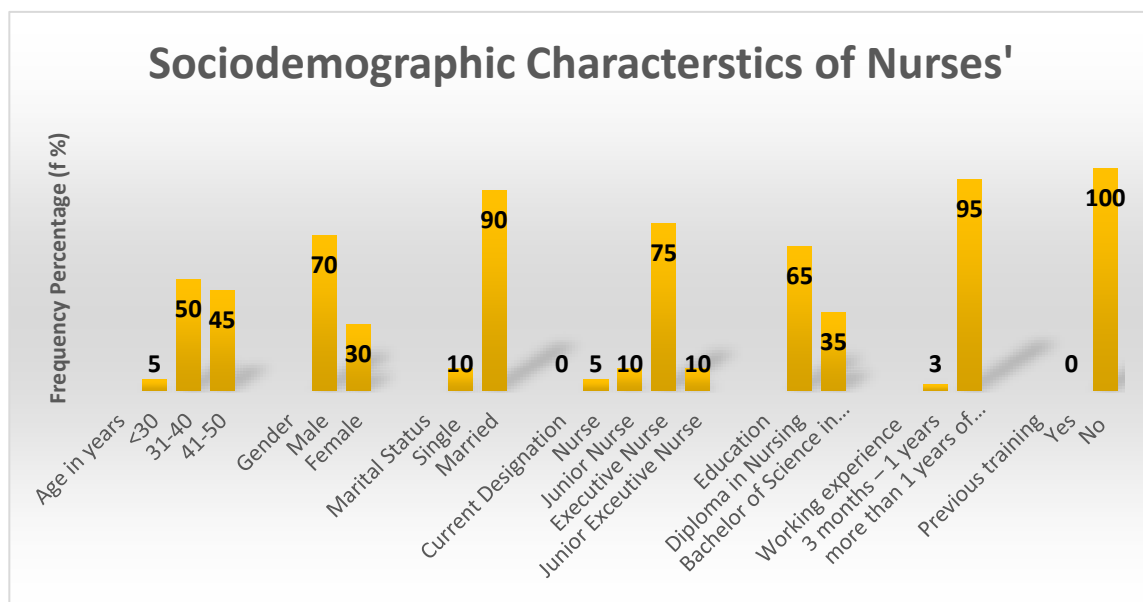


Figure 1: Sociodemographic characteristics of the studied nurses (n=20)

Level	Score (%)	Events	Percentage (%)
Satisfactory	27-34 (>80%)	03	8.57
Non-Satisfactory	0-26 (<80%)	32	91.43

Table 1: depicts that 8.57% had satisfactory practice and 91.43% non-satisfactory practice.

Note: Events- In this study, it refers to the visit made by a chronic liver disease patient with upper GI bleeding to the emergency room of ILBS during the data collection period and involves the management of the patient by the nursing team, from the time of arrival to emergency room and till the patient is transferred out.

Table 2 shows the nurses perception regarding factors influencing Nurses Practices related to management of UGIB patient. Most of the nurses i.e., 15 (75 percent) reported that their

practice was sometimes affected due to high number of patients visiting at a given time in Emergency Room. Nearly half the number of the nurses i.e., 9 (45 percent) reported that sometimes there is shortage of nursing staff. All the nurses reported that they were aware of the clinical guidelines and adequate supplies are available. Two (10 percent) of nurses reported that sometimes there occurs delay in administration due to delay of procurement of drugs.

	Never	Sometimes	Always
	f (%)	f (%)	f (%)
High number of patients visiting at a time in Emergency Room.	05(25)	15(75)	-
Shortage of nursing staff.	11(55)	09(45)	-

<i>Lack of knowledge regarding clinical guidelines for management of upper GI bleeding.</i>	20(100)	-	-
<i>Adequate beds were available for the patients.</i>	-	05(25)	15(75)
<i>Adequate supplies were available.</i>	-	-	20(100)
<i>Poor communication between physicians and nurses related to management of patients.</i>	20(100)	-	-
<i>Delay in confirmation of areas as for transfer out of patients.</i>	20(100)	-	-
<i>Delay in administration due to delay of procurement of drugs.</i>	18(90)	02(10)	-
<i>Lack of time for nurses or/and physicians to manage patients visiting emergency room with complaints of upper GI bleeding.</i>	20(100)	-	-

Table 2: Nurses' perception regarding Factors influencing Nurses Practices related to management of UGIB among chronic liver disease patients. N=20

Table 3 Researcher observed factors influencing Nurses Practices related to management of UGIB patient. The most frequently mentioned factor in this case was the excessive workload due to high number of patients visiting at a given time in Emergency Room, shortage of nursing staff, lack of knowledge regarding the clinical guidelines and adequate supplies are available and sometimes delay in administration due to delay of procurement of drugs.

<i>Factors</i>	<i>Never</i>	<i>Sometimes</i>	<i>Always</i>
	<i>f (%)</i>	<i>f (%)</i>	<i>f (%)</i>
<i>High number of patients visiting at a time in Emergency Room.</i>	7(20)	18(51.43)	10(28.57)
<i>Shortage of nursing staff.</i>	21(60)	14(40)	-
<i>Lack of knowledge regarding clinical guidelines for management of upper GI bleeding.</i>	7(20)	28(80)	-
<i>Adequate beds were available for the patients.</i>	-	10(28.57)	25(71.43)
<i>Adequate supplies were available.</i>	-	7(20)	28(80)
<i>Poor communication between physicians and nurses related to management of patients.</i>	35(100)	-	-
<i>Delay in confirmation of areas as for transfer out of patients.</i>	35(100)	-	-
<i>Delay in administration due to delay of procurement of drugs.</i>	28(80)	7(20)	-
<i>Lack of time for nurses or/and physicians to manage patients visiting emergency room with complaints of upper GI bleeding.</i>	35(100)	-	-

Table 3: Researcher observed Factors influencing Nurses Practices related to management of UGIB among chronic liver disease patients.

Discussion

Acute upper gastrointestinal bleeding is common, costly, and potentially life - threatening medical emergency and requires prompt assessment and aggressive medical management. Elderly patients and those with chronic medical diseases as liver cell failure, chronic renal failure and ischemic heart disease withstand AUGIB less well than younger, fitter patients, and have a higher risk of death (Reda et al., 2015).

The finding of present study revealed that, half of the nurses' age ranged from 31 to 40 years old. More than two third of them are male s and two third of them have technical institute level of education. These findings are in accordance with Mohamad et al., 2014 who found that, the majority of nurses in GI endoscopy unit their age ranged from 20 to 30 years old, all of them were females and less than two third of them had diploma of nursing.

Concerning years of experience, the present study revealed that less than half of the study nurses have more than 1 years of experience. This finding goes in the same line with Mohamad et al., 2014 who report that more than half of the study group of nurses dealing with hematemesis patients had experience more than five years. Also, this finding is in agreement with Sayed et al., 2018, who reported that about half of nurses working with hematemesis patients their experiences were mostly more than five years.

Unfortunately, no study was found regarding the impact of training on nurses' performance and response time in managing patients with UGIB.

Conclusions:

The findings indicating poor to average practice among emergency room nurses highlight the significant impact of factors such as staff shortages and high patient volumes on the quality

of care provided. These challenges can strain resources, increase workload, and potentially compromise patient safety and outcomes.

Further research into this role is crucial for understanding how various factors influence nursing practice in the emergency room setting. Exploring the link between efficacy and nurses' experience can shed light on the importance of training, skill development, and support systems in improving performance. Additionally, investigating the impact of the nursing role on patient safety can help identify areas for improvement and inform strategies to enhance care delivery.

Examining patient and family perceptions of the nursing role is also essential for gaining insights into the effectiveness of emergency care from the perspective of those receiving it. Understanding patient satisfaction, trust in nursing staff, and perceptions of communication and support can provide valuable feedback for healthcare organizations to tailor their services to better meet the needs of patients and their families.

By addressing these research areas, healthcare professionals and policymakers can work towards implementing evidence-based strategies to improve emergency nursing practice, enhance patient safety, and ensure high-quality care for all individuals seeking emergency medical treatment.

Among the limitations of this study, we can point to the lack of standardized tools; hence, we had to develop tools for the study. Also, no evidence was found regarding the title of this research. This shortcoming can affect the discussion and comparison of findings.

Recommendations:

To fulfill these responsibilities effectively, nurses require proper knowledge, skills, and training in managing upper GI bleeding emergencies. Continuous education and professional development programs can help nurses stay updated on the latest evidence-based practices and advancements in this field.

Ethical Considerations

Compliance with ethical guidelines Before the study, official permission was granted by the Institutional Ethics Committee, ILBS. The protocol, NCT05207410, was registered with ClinicalTrials.gov and received ethical approval from the Institutional Review Board Services (IRB) as F15(2/2.25)/2017/HO(M)/ILBS, College of Nursing Ethics Committee, ILBS, New Delhi. Written consent was obtained from the nurses, and they were assured of the confidentiality of their information.

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Authors' contributions

Data collection: Shashi Prakash; Writing the original draft, review, and editing: Shashi Prakash; Conceptualization, study design, data analysis, data interpretation and final approval: All authors.

Conflict of interest

The authors declared no conflict of interest.

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References:

1. Amer, W. M., Taha, N. M. & Zaton, H. K., (2015). Nurses' knowledge and practice regarding gastrointestinal endoscopy and suggested nursing guidelines. *Afro-Egyptian Journal of Infectious and Endemic Diseases*, 5(2):115–130.
2. Bayumi, H., (2016). Clinical outcomes and patient satisfaction assessment among upper gastrointestinal bleeding at qena university hospital at upper Egypt. *Journal of Nursing and Health Science*, 5 (6):130-139.
3. Mohamad, A., Mohamad, Z. & Sayed, Z., (2014). "Esophagogastroduodenoscopy": Impact of designed nursing teaching protocol on nurse's performance and patient's outcome. *Journal of American Science*, 10(10):56.
4. Lewis, S.L., Heitkemper, M.M., Dirksen, S.R., Camera, L.M., & Bucher, L. (2016). *Medical-surgical nursing assessment and management of clinical problems: Upper gastrointestinal problems* (10th ed.). St. Louis: Mosby Elsevier.
5. Mohamad, A., Mohamad, Z., & Sayed, Z. (2014). "Esophagogastroduodenoscopy": Impact of a designed nursing teaching protocol on nurse's performance and patient's outcome. *Journal of American Science*, 10(10):56-65.
6. Mohammed, G. (2011). *Infection control: Effect of a designed teaching protocol on nurses' knowledge and practice regarding to hematemesis patients* (Master's Thesis), Assiut University.
7. Smith, G. D., (2004). The management of upper gastrointestinal bleeding. *Nursing Times*, 100(26):40-43.
8. Reda, M., et al., (2015). Prospective assessment of the rockall risk scoring system in Egyptian patients with upper gastrointestinal Bleeding. *Open Journal of Gastroenterology*, 5(6):66-76.
9. Sayed, S., (2018). Infection control: Effect of a structured nursing protocol on practice scores of nurses working with hematemesis patients. *Journal of Nursing and Health Science*, 7(4):38-45.
10. Suleiman, A. (2018). *Nurses' performance regarding emergency management of patient with acute upper gastrointestinal bleeding in ibinsinaa hospital* (Master's Thesis, Neelain Repository). Retrieved from
11. Tielleman, T., Bujanda, D. & Cryer, B., (2015). Epidemiology and risk factors for upper gastrointestinal bleeding. *Gastrointestinal Endoscopy Clinics of North America*, 25(3):415-428.

Supplement Material:**APPENDIX 1. PROTOCOL (OBSERVATION CHECKLIST)****OBSERVATION CHECKLIST TO ASSESS THE PRACTICE OF NURSES REGARDING MANAGEMENT OF UPPER GI BLEEDING****Instructions:-**

The purpose of this section is to assess the practice of Nurses related to management of Upper GI bleeding. The observer completes by placing a tick (✓) in the appropriate space and in Time and Response Time write duration in minutes.

S. No.	Nurses' Practice	Done correct /Complete	Done incorrect / Incomplete	Not Done	N/A	Time	Response Time
I	Receive the patient						
II	Primary Assessment						
1.	Assesses for patency of Airway						
2.	Assesses Breathing: resp. rate, accessory muscle use, air entry, SpO ₂						
3.	Check's pulse						
4.	Checks BP						
5.	Checks for the Temperature						
6.	Identifies emergency signs and symptoms (hypotension, bradycardia, tachycardia, dyspnoea, weak and thready pulse. Shock, altered level of consciousness) and documents						
7.	Assesses GCS						
III	Resuscitation/Stabilisation						
8.	Establishes two large bore IV cannula						
9.	Collect blood specimen						
10.	Arranges blood for grouping and crossmatching						
11.	Arranges fresh frozen plasma if bleeding coagulopathies						
12.	Infuses I/V fluids as prescribed						
13.	Initiates continuous cardiac monitoring						
14.	Initiate's oxygen therapy						
IV	History collection & health assessment						
15.	Asks for if patient has previous hospitalization and past major illness.						
16.	Vital sign monitoring 15-minutes or 2 hourly.						
17.	Gathers appropriate patient history						
	Alcohol intake						
	Complementary alternative medicine						
	Antitubercular drugs						
	Mental confusion						

	Pain abdomen						
	Gall bladder stones						
	Any known medical history like, cirrhosis, Hepatitis, CLD, peptic ulcer disease, Ascites, malena, hematochezia, bleeding coagulopathies.						
18.	Assesses and documents vomitus for: Bright red or coffee colour ground granules						
	Amount of vomitus						
19.	Assesses and documents skin for icterus/cyanosis						
20.	Assesses and documents for presence of ecchymosis/petechiae						
21.	Assesses bowel sounds						
22.	Assesses abdominal mass						
V	Supportive Treatment						
23.	Ensures Nil by Mouth (NBM)						
24.	Monitors vital signs two hourly (BP, HR, RR, T, SpO2)						
25.	Monitors neurological status GCS						
26.	Assesses pain						
27.	Maintains good oral hygiene						
28.	Monitor's hourly intake output						
29.	Insert nasogastric tube for decompression						
30.	Conduct lavage if prescribed (ensure left lateral position)						
31.	Checks blood glucose level						
32.	Takes 12 lead ECG tracing						
33.	Documents nursing interventions and condition of the patient						
VI	Transfer out						
34.	Ward ICU Endoscopy						

Scoring

- Total possible item is 34
- Total possible score is 34

∴ Therefore, the scoring would be

Percentage of Total score

 34-Not applicable

Minimum possible score is zero.

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