Original Research Article

Knowledge about Safe Patient Handling in Radiology Department Among Radiography Students.

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Abstract

Background: The interventional radiology processes along with the features of medical imaging have come across a long way during the last few years which is basically due to the the experiments that took out in various technological breakthroughs, and it gave a steep rise in the workload of the the patients besides creating a deficit in the overall globalisation apart from work force. **Aim:** Access the knowledge about safe patient handling in radiology department among radiography students **Material and Methods:** A questionnaire based Cross Sectional study was carried out in college of paramedical sciences at Teerthanker Mahaveer University, Delhi Road Moradabad, Uttar Pradesh, India. 120 students were being taken between the age group of 18 to 31 years from the department which was: radiological imaging techniques. **Results:** The distribution of knowledge from the overall participants according to the chosen options show that the majority of the students were without knowledge which accounted for 61.2 % and only 38.8% of the students had knowledge regarding their subject. The gender wise difference regarding the distribution of knowledge shows that the female participants had more knowledge than the male participants which is 41.4 % vs 37%. It has no significant value because p>0.05. The distribution of knowledge regarding the individual questions of the overall participant showed that the majority of the participants had given the right answer for question number 10 which accounted for 71.7 % while compared to the other questions of the study. **Conclusion:** The study concluded that the knowledge among radiography students about safe patient handling in transfer technique occurring in radiology department increases according to year of education completed. The students from post-graduation have more knowledge to safe patient handling in radiology department rather students of under graduation.

Key words: Ultrasonography, prostate volume, IPSS score.

Introduction

Medical imaging and radiology have changed significantly in recent years. Medical imaging and interventional radiology have changed drastically over the years. owing to technical advancements, amplified workload, a labor shortage, and globalization. As a result, there is growing concern in radiology regarding the quality of treatment, protecting patient safety, and risk management[1]. Radiographers must take every precaution to protect themselves and their patients from damage. When lifting patients, health care staff are often injured. However, almost all these accidents can be avoided if proper body mechanics are used. Patients can also sustain injuries as a result of being moved or lifted incorrectly. The majority of these accidents can be avoided. It is strong. Obtaining a patient from one place to another a from a stretcher or wheelchair to a radiographic table, or a hospital bed to a gurney or wheelchair necessitates a few considerations of the patient's protection as well as body posture. When moving ancillary equipment with a patient during transport, extra caution is needed. The integumentary system of a patient must be shielded from damage. This is it. During a radiographic procedure, for safety purposes, a patient can need to be immobilized. Not only would institution-specific requirements have to be fulfilled, but they also must be achieved immobilizer protocols, but it must be learned so must the appropriate use of these devices to keep the patient safe from harm. Before a procedure or treatment may be administered. When a patient enters the radiology department as an outpatient, they are often asked to take off all or part of their clothing and change into a patient gown. Typically, the radiographer is the one who welcomes the patient and specifies which clothing items should be taken away. If the condition is discussed in a well-behaved and competent way, the patient's anxiety or awkwardness may be reduced.

- Mechanics of the body
- Transferring and moving patients
- Examining the patient's ability to move
- The legalities of an erroneous transfer
- Gurney's contribution
- Methods of patient transportation[2]
- Pivot transfer
- Slide board transfer[3]
- With a wheelchair[4]
- Tracking of equipment[5]

Materials & Methods

A total number of 150 participants were included in the study. Verbal consent was obtained from all students included in this study. The questionnaire was structured by using google form & was distributed in different link groups via the internet. The questions were introduced after reviewing numerous pieces of literature on the topic, which included self-structured questionnaires. The questionnaire is divided into two sections. the first section of the demographic data on the questionnaire included name, age, gender, program, department, and semester. the second section of the questionnaire consisted of 10 basic questions regarding assessing adequate theoretical and practical knowledge about safe patient handling in the radiology department among radiography students[6-10].

Results

In this study total of 120 students took place to fill the google form provided to them by various link groups of their respective classes. This is a comparative, cross-sectional study in between different batches of radiology students; 4th semester, 6th semester of undergraduate students, and 2nd semester and 4th-semester post-graduate students. 10 questions are to be answered. For the first question from the 4th semester under graduation, only 42% (20 out of 47

students) responded for a right answer, from the 6th semester under graduation only 55% (24 out of 43 students) responded for the right answer, from 2nd-semester postgraduation only 76% (10 out of 13 students) responded for the right answer and 4th-semester postgraduation only 82% (14out of 17 students) responded for the right answer.

Table 1: Gender-wise distribution of the study subjects.

Gender	No of Participant	Percentage n/N=120(%)
Male	71	59.2
Female	49	40.8
Total	120	100.0

(Table show the gender-wise distribution of the study subjects. It is illustrated from the table that the majority of the participant 71(59.2%) were males, followed by female participants 49(40.8%) in our study.)

Table 2: Distribution of knowledge of overall participant according to the choice options.

Overall N=1200	Total No of Choose options	Percentage n/N=1200(%)
Right Answer	466	38.8
Wrong Answer	734	61.2
Total	**1200**	**100.0**

(The above table shows the distribution of overall knowledge of participants according to choose the right option for the given questionnaire. It is illustrated from a table that the majority of the participant 61.2% have without knowledge and 38.8% ware knowledge in our study.)

Table 3: Distribution of knowledge of overall participant according to the choice options in Individual question wise.

Question	Right Answer Total No of Choose option n/N=120(%)	Wrong Answer Total No of Choose options n/N=120(%)	Total
Q1	68(56.7)	52(43.3)	120(100)
Q2	52(43.3)	68(56.7)	120(100)
Q3	49(40.8)	71(59.2)	120(100)
Q4	52(43.3)	68(56.7)	120(100)
Q5	27(22.5)	93(77.5)	120(100)
Q6	61(50.8)	59(49.2)	120(100)
Q7	19(15.8)	101(84.2)	120(100)
Q8	29(24.2)	91(75.8)	120(100)
Q9	23(19.2)	97(80.8)	120(100)
Q10	86(71.7)	34(28.3)	120(100)

(The above table shows the distribution of knowledge of participants according to choose the right option for the given questionnaire. It is illustrated from a table that the majority of the participant 71.7% know Q10 compared to another question in our study.)

Table 4: Represent the difference between the mean of choose option according to Semesters wise.

Semester	Mean	Std. Deviation	P-Value
BRIT 4th Semester	1.58	.495	
BRIT 6th semester	1.52	.501	
MRIT 2nd semester	1.67	.471	
MRIT 3rd semester	1.59	.492	.005

(For Significant difference in parametric data we have been used ANOVA- test) The table shows the comparison between semesters ware a significant difference because P-value is (>0.05) in our study.)

The overall result for the first question of 120 students, 56% (68 students out of 120) responded for the right answer. For the second question, 43% (52 out of 120 students) responded to the right answer. For the third question, 40 % (49 out of 120 students) responded for the right answer. for the fourth question, 43% (52 out of 120 students) responded for the right answer. For the fifth question, 22 % (27 out of 120 students) responded to the right answer. For the six questions, 43% (52 out of 120 students) responded to the right answer. For the seventh question, 48% (58 out of 120 students) responded to the right answer. For the eight-question, 24% (29 out of 120 students) responded for the right answer. For the ninth question, 19% (23 out of 120 students) responded to the right answer. For the tenth question, 71% (86 out of 120) responded to the right answer.(Table-3)

Discussion

120 study subjects were being taken for this study who needed to fill the Google form which had been provided to them through various link groups of the respective classes the students belonged to. This comparative and cross-sectional study which has been organised amongst different batches of the radiology students included the students from 4th semester and 6th semester who were in the undergraduate stream and the students from 2nd semester and 4th semester being taken from the postgraduate's stream[11]. It was illustrated from the gender wise distribution chart that the majority of the participants that is 59.2 % of them were males, whereas 14.8% of the participants were females in this study[12].

Then while distributing the students based on their semester it is found that 47 students were from 4th semester undergraduate level while 43 students were being taken from 6th semester, undergraduate level. From the post graduate level 13 students were being taken from the 2nd semester while 17 students were being taken from the 4th semester[13].

The distribution according to the age interval wise shows that the majority of the participants belong from the age group 20 to 25 years which was followed by 32 students belonging from the age group 15 to 20 years whereas 11 students were from the age group 25 to 30 years. Similar results regarding the age the installation was found in in the study of Cannavale et al. (2013), where the maximum students that is 48 students were from the age group 20 to 25 years[14].

The distribution of knowledge from the overall participants according to the chosen options show that the majority of the students were without knowledge which accounted for 61.2 % and only 38.8% of the students had knowledge regarding their subject. The gender wise difference regarding the distribution of knowledge shows that the female participants had more knowledge then the male participants which is 41.4 % vs 37%. It has no significant value because p>0.05. On the other hand, in the study of Trovato

& Sperandeo, (2015), the male students had more knowledge than the females which was 43.2 person versus 34% respectively[15].

The distribution of knowledge regarding the individual questions of the overall participant showed that the majority of the participants had given the right answer for question number 10 which accounted for 71.7 % while compared to the other questions of the study. While compared to the study of Trovato et al. (2014), it was notice that maximum number of students good answer question 2 and question 3 and the results for both of these questions were 68%[16].

The representation of association between the gender and choose option categories of the different questions where being done by using the chi square test. The p-value for representation of the association between gender and chosen option category for question 1 was 0.25, for question 2 is 0.54 and for question 3 it is 0.17. None of them were significant because the p-value is > 0.05. The same relation for question 4 resulted in 0.39, for question 5 it is 0.13, for question 6 it is 0.27 and for question 7 it is 0.45. then for question 8 the P value is 0.28 which is again not significant as it is > 0.05. But for question 9 the p-value accounted for 0.008 which is significant as it is<0.05. then again, the p-value for question 10 regarding the association between gender and option chosen is not significant as it is 0.43 which is >0.05.

The results of representation of association between the semester and category of chosen option is again measured through the chi square test. For question won the p-value regarding this association between semester and choose option category is 0.014, for question 2 it is 0.002 and for question 3 it is 0.001. for all the three questions the P value is significant as it is < 0.05. then for question for the P value is 0.09 for question 5 the P value is 0.13 e and both of them were not significant as it

is >0.05. bath for question 6 the p-value is 0.02 which is significant as it is<0.05. then for question 7 the p-value is which is not significant but for question ate the P value is significant as it accounted for 0.001. again, for question 9 and question 10 the p-value is not significant as they were 0.14 and 0.06 respectively.

The representation of difference between the mean of chosen option according to the gender wise differentiation shows that the mean for the male study subjects is 1.63 whereas for female study subjects it is 1.59 and the p-value accounted for 0.120. however, the competition between the male and female when not significant in terms of difference as the P value is >0.05. for calculating the significant difference of the parametric data independent t test have been used. The independent t test was being also used by Gerard et al. (2015), for calculating the significant difference of the parametric data[17].

Lastly, for representing the difference between the mean of chosen option according to the semester wise it was found that in the undergraduate level for the students of 4th semester the main was 1.58 whereas for the 6th semester it was. And in the postgraduate level for the students of 2nd semester the mean was 1.67 whereas the mean for 4th semester students was 1.59 and the competition between the semesters wise was no significant difference because the P value is 0.005 which is <0.05. Similarly, the results of Moy et al. (2010), show that there was not much significant difference while the distinguishing was being done according to the semesters. ANOVA test was being used for calculating the significant difference of the parametric data.

Conclusion

From this study, it can be concluded that lack of awareness about the transfer techniques has been a serious issue for the students which has some urgent need for addressing promptly. The analysis of the

data which has been collected has allowed us for formulating the following conclusions:

i.) Firstly, the transfer technique knowledge found amongst the students has remained on a medium scale.

ii.) However, the level for transfer technique increased the knowledge along Students' ages and the number of semesters they've completed is taken into account.

iii.) Students who participated in the additional training showed a substantially higher degree of theoretical and practical expertise in their transfer technique. It is being suggested that the transfer technique course needs to be included in the curriculum every year for the students besides keeping our regular assessment which is being strongly agreed by us. For proper teaching standards besides accounting for the number of hours, the knowledge, expertise, and simulation of the learning environment are also needed.

The questionnaire-based survey which was being carried out has properly demonstrated that the app to that transfer technical skills which were being found in the paramedical students was insufficient that needs to be improved by the certified training programs which are properly designed and maintained. After conducting this study, it is being suggested by us that all the members from our community who belong especially the healthcare professionals need to join the transfer technique training programs for better performance

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