

A Study on the Knowledge and Attitudes on Examination of Patients for Drunkenness among Doctors involved in such Examinations

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Abstract

Introduction: Driving after consumption of alcohol is an offence in Sri Lanka according to the Motor Traffic Act. When a police officer suspects that the driver of a motor vehicle on the highway has consumed alcohol, he may request such person to submit himself immediately to a breath test for alcohol or to an examination by a government medical officer. Hence, the knowledge and attitude of doctors who perform examinations for drunkenness play a crucial role in the administration of justice. The objectives were to study knowledge and attitudes on examination of patients for drunkenness among doctors with different levels of expertise/experience who are engaging in such examinations.

Study design: A cross-sectional descriptive study was performed using an interviewer-administered questionnaire, on doctors who engage in an examination of people for drunkenness. The knowledge was assessed by 8 comprehensive questions on the procedures and subjects scoring $\geq 75\%$ were considered as having 'satisfactory' knowledge on the matter.

Results: Out of the 306 doctors who participated in the study, 80% (n=246) were ordinary medical officers while there were 9.5% (n= 29) postgraduate trainees in Forensic Medicine and 10% (n = 30) specialists. One-third 34% (n=105) believed that their knowledge on examination procedures is poor. The procedure to be followed in the finger nose test was correctly identified by a majority 95% (n= 290) while only 35% (n= 107) were aware of the procedure to be followed in the one-leg stand test.

Conclusions: According to this study, ordinary medical officers who perform a majority of medico-legal examinations for drunkenness in Sri Lanka were found to have poor knowledge on examination procedures. This can adversely affect the results of the tests in the examination of drunk and hence can lead to wrongful convictions. Thus, it is high time to fill the gaps in their knowledge through special professional training programs and by introducing a guideline.

Keywords: Alcohol, medico-legal examination, knowledge, attitude, postgraduate qualifications

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Introduction

Road traffic trauma is on the rise in the recent past in Sri Lanka. Police headquarters reports 2721 fatalities

for the year 2010, which approximately accounts for 7 to 8 deaths per day. There were 26874 victims who were injured following road trauma during the same

year.[1] Driving under the influence of alcohol has been identified as a major contributor to road accidents worldwide. [2,3,4] A similar picture has been observed according to a study done in Teaching Hospital, Anuradhapura Sri Lanka.[5]

According to the Sri Lankan motor traffic act, no person shall drive a motor vehicle on the highway after consuming alcohol or any drug abuse.[6] When a police officer suspects that the driver of a motor vehicle on the highway has consumed alcohol, he may request such person to submit himself immediately to a breath test for alcohol or to an examination by a government medical officer in order to ascertain whether such person has consumed alcohol. According to the current legislation, there is no provision to carry out blood testing for alcohol in suspected drivers under the influence of alcohol. Therefore, medico legal examination of people brought for drunkenness plays a major role in the administration of justice as well as in the prevention of road traffic accidents through proper penalty.

According to the Criminal Procedure Code of Sri Lanka, a doctor who has an undergraduate qualification in medicine is considered an expert in performing medico-legal duties including examination of drunkenness.[7] In the undergraduate curriculum, a medical student has to successfully complete a medico-legal module which includes a considerable number of notional hours on examination of drunkenness. However, the majority of them are not exposed to the actual medico-legal examination of drunkenness due to practical difficulties.

Knowledge and attitude of doctors on the examination of drunkenness play a crucial role in the administration of justice in Sri Lanka. Considering the seriousness of the final outcome, it is essential that the basic facts of law and examination procedures related to drunkenness are well known by all doctors engaged in either general practice or accident and emergency medicine. Since a significant amount of clinical examinations of drunkenness are done by the medical officers with no special training, comparison of the knowledge is important in taking corrective measures. Therefore, this study was planned to assess the knowledge and attitude with regards to the examination of drunkenness among the medical offices involve in the medico-legal examination of drunkenness.

This will give us an understanding of the current status of knowledge and attitudes towards the examination of drunkenness and enable us to make suggestions to improve the knowledge leading

ultimately to better administration of justice in the country.

The objectives of this study are to study knowledge and attitudes on the examination of victims of drunkenness among doctors with different levels of expertise/experience who are engaged in such examinations.

Methodology

This was a cross-sectional descriptive study conducted in selected hospitals in the Gampaha and Colombo districts of which two were teaching hospitals and one was a District General of Sri Lanka from December 2016 to February 2017. All doctors who consented for the study of Medico legal units, outpatient departments, emergency treatment units, and primary care units who were engaged in the examination for drunkenness in the selected hospitals were recruited in the study.

Quantitative data were collected through an interviewer-administered questionnaire. Individual interviews were conducted among the doctors. The knowledge was assessed by 8 comprehensive questions on the procedures and inference of 4 tests used in the examination for drunkenness and subjects scoring $\geq 75\%$ were considered as having 'satisfactory' knowledge on the matter.

The anonymity of the participants and the hospitals that they belong to were protected as was proposed in the project proposal. The data that has been collected using the questionnaire were analysed by SPSS software programme version 16. Ethical clearance to carryout the study was obtained by The Ethics Review Committee of the Faculty of Medicine of the University of Kelaniya.

The above hospitals were selected in our study because the interview was conducted by the judicial medical officers of the above hospitals.

Results

Data was collected from 306 medical officers. The majority (47%, n=143) of the participants were having service experience of 1-5 years including the internship. Service experience including the internship are shown in Table 1.

Table 1. Service experience including the internship

Service in years	N=306 n (%)
1-5 years	143 (47)
6-10 years	58 (19)
11-15 years	70 (23)
16-20 years	15 (05)
>20 years	20 (07)

There were 166 male doctors and 140 female doctors. 80% (n=246) were having only a basic medical degree while there were 07% (n=20) qualified with a Diploma in Legal Medicine and 13% (n=40) doctors with qualification of Doctor of Medicine, Forensic Medicine. The majority, 48% (n= 146) were holding the post of Medical Officer Emergency Treatment Unit (MO ETU) during the period of study. The posts currently held by the doctor are shown in Table 2.

Table 2. Posts currently held by the doctor

Current post	N=306 n (%)
House officer	51 (17)
MO/OPD	36 (12)
MO/ETU	134 (44)
MO/ML	26 (09)
Registrar FM	19 (06)
Senior registrar FM	10 (03)
Consultant JMO	22 (07)
Senior lecturer	08 (03)

Majority had encountered instances where they had to conduct examination for drunkenness during their day to day practice. The encounter of examination of drunkenness in the medical practice by the doctor are shown in table 3.

Table 3. Encounter of examination of drunkenness in the following areas (either government or private practice)

Instance of encounter	Examination of victims following assaults N=306 n (%)	Examination of victims following RTA N=306 n (%)	Examination of drunkenness (referred by police or court) N=306 n (%)
Frequently encountered	282 (91)	274 (89)	85 (28)
Rarely encountered	23 (08)	20 (07)	14 (04)
Not encountered	01 (01)	12 (04)	207 (68)

The importance of having a sound knowledge on examination of drunkenness for their routine practice was recognized by 95% (n=290) of the doctors. The opinion of the doctors of the importance of having a sound knowledge on examination of the drunkenness for their practice are shown in Table 4.

Table 4. Opinion of the doctors of the importance of having a sound knowledge on examination of drunkenness for their practice

Opinion on importance	N=306 n (%)
A little	14 (05)
Important	68 (22)
Very important	141 (46)
Extremely important	83 (27)

One-third 34%, (n=105) believed that their knowledge on examination procedures was poor. The perception of the doctor regarding his or her knowledge on examination of the drunkenness are shown in Table 5.

Table 5. Perception of the doctor regarding his/her knowledge on examination of drunkenness

Perception regarding knowledge	N=306 n (%)
Very poor	40 (13)
Poor	65 (21)
Satisfactory	114 (37)
Good	68 (22)
Very good	19 (06)

Satisfactory awareness of important historical details and examination procedures was observed only among 27% (n=82) to 40% (n= 122) of the participants. Awareness of the doctors of the important components in the history taking and examination procedure for the diagnosis of drunkenness are shown in Table 6.

Table 6. Awareness of important historical details and examination procedures

Historical and examination procedures	Awareness of conditions mimicking N=306 n (%)	Tests of coordination N=306 n (%)	Tests of reaction time N=306 n (%)	Awareness of the importance of systemic examination N=306 n (%)
Satisfactory Awareness	121(40)	121 (40)	100 (33)	82 (27)
Poor knowledge	185 (60)	185 (60)	206 (57)	224 (73)

Out of the main examination procedures that are to be performed by the medical officers a majority could not perform the ‘ruler drop test’ (70%, n=214) and ‘one leg stand test’ (65%, n=198) while awareness on steps of the other main tests were satisfactory among the majority Ability of the doctor to perform the clinical tests to arrive at the diagnosis of drunkenness are shown in Table 7.

Table 7. Ability to follow proper examination procedure

Procedure	Examination for breath smell N=306 n (%)	Romberg balance test N=306 n (%)	One-leg stand test N=306 n (%)	Walk and turn test N=306 n (%)	Finger nose test N=306 n (%)	Ruler drop test N=306 n (%)
Satisfactory awareness	36 (12)	238 (78)	108 (35)	256 (84)	287 (94)	92 (30)
Poor awareness	270 (88)	68 (22)	198 (65)	50 (16)	19 (06)	214 (70)

83% (n=254) of the doctors could not express a correct opinion if the examinee was under the influence of alcohol. The ability of the doctor to form a reasonable opinion after examination of drunkenness is shown in Table 8.

Table 8. Ability to make a reasonable opinion

Opinion	Correct opinion on breath smelling of alcohol N=306 n (%)	Correct opinion on under the influence of alcohol N=306 n (%)	Opinion on detention N=306 n (%)
Satisfactory	193 (63)	52 (17)	198 (65)
Poor	113 (37)	254 (83)	108 (35)

Awareness of ethico-legal issues associated with the examination of victims for drunkenness other than documentation was not satisfactory among a significant proportion. Awareness of the doctor ethical, legal issues in the examination of the drunkenness are shown in Table 9.

Table 9. Awareness of ethical and legal considerations regarding alcohol

Ethico-legal issues	Consent and related issues N = 306 n (%)	Documentation N = 306 n (%)	Chaperone N = 306 n (%)
Satisfactory	174 (57)	276 (90)	164 (54)
Poor	132 (43)	30 (10)	142 (46)

99% (n= 302) of the doctors had a positive attitude towards further training on examination for drunkenness. However, 95% (n=290) thought that there should be a separate doctor who is specially trained in this aspect to carry out the examinations of drunken. The majority (99%, n=302) believed having a guideline to improve their knowledge would improve their skills while 98% (n= 299) wanted continuous medical education programmes in improving their knowledge and skills.

There was a significant difference in the ability to perform each test between the doctors with and without training in Forensic Medicine. A comparison of the awareness of each test with the postgraduate qualification is shown in Table 10.

Table 10. Comparison of the awareness of each test among the medical officers with and without postgraduate qualifications.

Test	Response	With no training in FM	Having FM training	N=306 n (%)	P value
Tests of coordination	Not satisfactory	177 (96)	08 (05)	185 (60)	0.000
	Satisfactory	70 (58)	51 (42)	121 (40)	
	Total			306 (100)	
Tests of reaction time	Not satisfactory	198 (96)	08 (04)	206 (67)	0.000
	Satisfactory	49 (49)	51 (51)	100 (33)	
	Total			306 (100)	
Breath smelling	Not satisfactory	230 (85)	40 (15)	270 (88)	0.000
	Satisfactory	17 (47)	19 (53)	36 (12)	
	Total			306 (100)	
Romberg balance test	Not satisfactory	65 (96)	03 (05)	68 (22)	0.000
	Satisfactory	182 (76)	56 (24)	238 (78)	
	Total			306 (100)	
One leg stand test	Not satisfactory	190 (96)	08 (04)	198 (65)	0.000
	Satisfactory	57 (53)	51 (47)	108 (35)	
	Total			306 (100)	
Ruler drop test	Not satisfactory	210 (98)	04 (02)	214 (70)	0.000
	Satisfactory	37 (40)	55 (60)	92 (30)	
	Total			306 (100)	

There was a significant association between the correct opinion on ethanol intoxication with the postgraduate qualifications. The comparison of the reasonable opinion given regarding the drunkenness with the postgraduate qualifications are shown in Table 11.

Table 11. Comparison of the opinion given regarding ethanol intoxication by the medical officers with and without postgraduate qualifications.

Opinion	Response	No FM training	With FM training	N=306 n (%)	P value
Opinion on breath smelling	Not satisfactory	205 (96)	09 (04)	214 (70)	0.000
	Satisfactory	42 (46)	50 (54)	92 (30)	
	Total			306 (100)	
Opinion on under the influence	Not satisfactory	210 (96)	08 (04)	218 (71)	0.000
	Satisfactory	37 (73)	51 (29)	88 (29)	
	Total			306 (100)	
Opinion on detention	Not satisfactory	108 (100)	00 (00)	108 (35)	0.000
	Satisfactory	139 (70)	59 (30)	198 (65)	
	Total			306 (100)	

Knowledge and attitude on ethico-legal considerations with regard to examination for ethanol intoxication were significantly poor among the ordinary medical officers compared to the postgraduates. A comparison of the knowledge on ethico-legal issues in the examination of drunkenness with the postgraduate qualifications is shown in table 12.

Table 12 comparison of the knowledge on ethico-legal issues regarding examination for ethanol intoxication by the medical officers with and without postgraduate qualifications.

Ethico-legal issue	Response	No FM postgraduate training	FM postgraduate training	N= 306 n (%)	P value
Consent related issue	Not satisfactory	130 (98)	02 (02)	132 (43)	0.000
	Satisfactory	117 (67)	57 (23)	174 (56)	
	Total			306 (100)	
Chaperon related issue	Not satisfactory	124 (87)	18 (13)	142 (46)	0.007
	Satisfactory	123 (75)	41 (25)	164 (54)	
	Total			306 (100)	
Documentation	Not satisfactory	30 (100)	00 (00)	30 (10)	0.002
	Satisfactory	217 (79)	59 (21)	276 (90)	
	Total			306 (100)	

Discussion

Medico-legal duties including examination for drunkenness are conducted by the medical officers attached to the Ministry of Health which include Consultant Judicial Medical Officers and Medical Officers Medico-legal working in teaching, general, and base hospitals, and District Medical Officers working in the peripheral government hospitals, Professors, Senior Lecturers and Lecturers attached to the Departments of Forensic Medicine in faculties of Medicine in all state universities.

Doctors with postgraduate qualifications in Forensic Medicine and those who have undergone special training in Forensic Medicine organized by the Ministry of Health are considered competent in carrying out the examination for drunkenness without losing the pertinent evidence and without misdiagnosing the conditions simulating drunkenness leading to wrongful convictions.

However, there may be occasions when the examination of the drunken driver is carried out by doctors other than Judicial medical officers such as doctors attached to outpatient and emergency departments, who do not have a post-graduate qualification or special training in forensic medicine. Similarly, the findings on ethanol intoxication documented on the Bed Head Ticket by the doctors other than for medico-legal purposes may sometimes be considered by the courts in convicting suspects.

This study clearly showed that medical officers working in units other than the offices of Judicial Medical Officers are encountering examinations of patients for drunkenness in their routine practice. Further, a majority believed that sound knowledge of examination of drunkenness is important. Examination and correct documentation of drunkenness is crucially important and have important medico-legal implications.

This study showed that only around 40% (n=122) had a satisfactory awareness regarding importance of historical details to be obtained to exclude the conditions mimicking ethanol intoxication and only 27% (n = 82) were having a satisfactory awareness of proper systemic examination. Before concluding that a man is under the influence of alcohol it is essential to rule out the possibility of medical conditions and disabilities that cause symptoms similar to intoxication. Poor knowledge of this and the bad attitude of the medical officers can lead to wrongful convictions.

Correct awareness on the special tests to be performed at the clinical examination for drunkenness was satisfactory only among 33-40%. Motor incoordination, staggering gait and cognitive impairment are described as signs of acute ethanol intoxication.[8]

Procedures to be followed and the observations to be made in the examination of breath smelling for alcohol was known only to 11% (n= 33). Though this is a non-specific finding, it indicates that the patient has consumed alcohol unless there is a condition mimicking such smell.[9] The alcohol smell on the breath usually comes directly from the stomach. Therefore, it is extremely important to get the smell excluding that is coming directly due to leftovers in the mouth.

Out of the tests that are performed to assess the motor and cerebellar incoordination, the majority were having a poor knowledge with regards to one leg stand test. This test is one of the best tests to conclude ethanol intoxication once the consumption of cannabis is excluded.[10]

Only 30% (n= 91) could give a correct opinion with regards to ethanol intoxication. The Final opinion on ethanol intoxication is crucially important in the administration of justice. Erroneous conclusions made about the degrees of intoxication on the basis of test results are the major drawbacks in clinical examination. In a study done in Finland, it was found that the most important reason for this has been the lack of knowledge of the exact value of various test performances and the inadequacy of the directions determining the estimation of the degree of intoxication.[11] This was further highlighted in our study where it was clearly shown among the ordinary medical officers compared to medical officers with postgraduate qualifications in forensic medicine, among whom knowledge on procedures to follow as well as the opinion on ethanol intoxication was unsatisfactory. Awareness of ethico-legal issues related to the examination of drunkenness was also

poor among a majority doctors and there was a significant association of satisfactory knowledge on this with postgraduate qualifications. There was no similar study done on this subject was noted with extensive literature review

Conclusions

Ordinary medical officers in Sri Lanka perform a majority of the medico-legal examinations including examination of victims or suspects for drunkenness and the study revealed that their knowledge is poor. This can adversely affect the results of the tests in the examination of drunk and hence can lead to wrongful convictions. However, the attitude of the majority of the medical officers with regard to the need for further training was satisfactory. Thus, it is high time to fill the gaps in their knowledge through special professional training programs and by introducing a guideline as suggested by them.

Disclosure statement

Conflicts of Interest: The authors declare that they have no conflicts of interest.

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