

# Use of Humour in Orthopaedic Teaching

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## ABSTRACT

**Background:** The attention span of a lecture is roughly 15 minutes. After this time, it has been observed that the number of students who pay attention begins to drop dramatically, leading to loss in the retention of lecture material.

**Aims:** The present study was undertaken with the aim of examining the effectiveness of humour when it was used as an intervention to prolong the attention span.

**Methods and Material:** This interventional, randomized, control trial was undertaken among a total of 90 medical students who were in their 4th semester. Based on the roll number, the students of the whole class were equally divided into group A and group B by using a lottery method. Group A was the control group and group B was the experimental group. For both the groups, four lectures were delivered on the same topic, with the difference that in the group A classes, no intervention was used, while in group B, humour was used as an intervention.

The outcome of this study was measured by using 'Class re-

sponse' and 'Observations'. For the class response, a pre-tested, 5 point 'Likert' scale questionnaire was used. For the 'observations', two clinical psychologists were involved. Data was collected from both the groups A and B in the first and last lectures. Statistical analysis used: SPSS for Windows (version 10.0) by the Chi-Square test.

**Results:** The students agreed that they could better understand the concept of the lecture (68.17%), feel more comfortable in class (74.99%), have increased attention power (74.99%) and have the perception that the teacher was friendlier to them (74.99%).

In the lecture four, it was observed that behaviour that implied negative attitudes such as turning up late and yawning were frequent in group A, whereas behaviour which indicated positive attitudes such as writing notes and eye contact were noted more frequently in group B.

**Conclusion:** Humour, when used as a teaching aid, has a positive impact on the students' perceptions and behaviour towards teaching.

**Key Words:** Humour, Teaching aids, Attention span.

## KEY MESSAGE

- Reaching out to their students and maintaining their attention is one of the biggest challenges that teachers face. Humour in the classroom is their ally.
- The traditional lectures often suppress critical thinking and the students are passive recipients. This is a time for teachers to understand that lectures have to be interactive.
- Humour is an easily available, economical and effective tool. The teachers have to just develop their sense of humour.

## INTRODUCTION

The way that medicine is taught and learnt, has undergone tremendous metamorphoses over the past few decades [1]. It has been observed that interventions are necessary to maintain student attentiveness. The attention span in a lecture is roughly 15 minutes. After this time, it is observed that the number of students who pay attention begins to drop dramatically, leading to loss in the retention of lecture material. The author thought of introducing humour as an intervention to improve the attentiveness for two reasons: 1-Amongst the students, there was a lack of interest, lack of self motivation and also poor attendance. 2-Amongst the faculty, though they were aware about humour and its benefits, they seldom used this and also were unaware that humour could be used to tackle the negative attitudes also of students, like gossiping.

The present study was undertaken with the aim of examining the effectiveness of humour when it was used as an intervention to prolong the attention span.

## METHODS

**Study design :** The present interventional, randomized, control trial [2] was undertaken among a total of 90 medical students who were in their 4th semester. Based on their roll numbers, all the students were divided into two groups, group A and group B, each consisting of 45 students, by simple random sampling by using a lottery method. Group A was used as the control group and group B as the experimental group. For both the groups, four lectures were delivered on the same topic, with the only difference that in the group A classes, no intervention was used while in group B, humour was used as an intervention.

**Tools:** The outcome of this study was measured by using 'Class response' and 'Observations'. For the class response, a pretested, 5 point, 'Likert' scale questionnaire (Strongly disagree-Disagree-Neither agree or disagree-Agree-Strongly agree) was used and the answers from the students were kept anonymous. For the observations, two clinical psychologists were involved. Data was collected from both the groups A and B in the first and last lectures.

**Setting and participants :** The study was undertaken after approval from the institutional ethics committee and after getting the written consent of the participating students, by the Department of Orthopaedics of our medical college, which is a private institution. Here, the students come from diverse cultural, socio-economic and educational backgrounds but a majority of the students belong to affluent families.

For the four lectures, there were four different topics. Each lecture on one topic was delivered on same day by the main author to the students of group A (control group) and also to group B (humour intervention group) and it was presented by using power point. The lecture topics were: (a) - Outline of Injuries and fracture classification (b)- Complication of fractures (c)- Clavicle fracture and (d)-Shoulder dislocation. For this study, the 4th semester medical students were chosen because they had not been previously exposed to the author or to the subject of orthopaedics.

For the observations, two clinical psychologists were included as single blind [3] in the study. To minimize the observer bias, the seating arrangement in the lecture theatre was done separately for both of them in a way that they were facing the students to note their observations on a structured checklist. They were also kept unaware about the aim of the study. A mean of the inputs was calculated later.

The lectures to group A were delivered without intervention, while in group B, humour was used as an intervention to break the monotony. Humour was taken up as any event that elicits laughter. Body language was used to deliver the message that they can enjoy as well as learn. The benefits of edutainment [4] were enumerated in the first lecture as set induction. Though humour of the formal type like the use of images and mnemonics was incorporated in slides, the author preferred storytelling [5], which was relevant to the topic as well as the most convenient one. The use of humour of the spontaneous type was done to deter gossiping and mischief among the students. An article -teacher tip: humour in the classroom [6] proved to be beneficial.

**Data analysis :** The data were analyzed by using SPSS for Windows (version 10.0) by applying the Chi-Square test and p values of 0.05 and less were considered as significant.

## RESULTS

**A-Questionnaire:** The students of both the groups A and B were given questionnaires to assess their experience in lectures 1 and 4 and the results were graded by using Likert's scale.

It was observed that the nearly half of the students of group-A disagreed about understanding the concept of lecture-1 and their % remained somewhat the same in lecture-4 also (48.64 and 47.22% respectively), whereas in group-B, the % of the students who agreed (both agreed and strongly agreed) about understanding the concept of the lecture, increased from 52.62% in lecture one to 68.17% in lecture four. However, this difference was found to be statistically insignificant [Table/Fig-1].

When the students were asked about their comfort in the class, it was observed that in group A, more than half of the students disagreed (54.05%) with respect to lecture-1 and their numbers remained nearly the same in lecture-4 also (49.99%). In group B, the % of the students who agreed to this question increased in lecture-4 as compared to lecture-1 (74.99 and 57.88% resp.). The difference was found to be statistically insignificant [Table/Fig-2].

It was found that the percentage of students of group A who disagreed about the maintenance of attention in lecture-1 somewhat remained the same in lecture-4 (54.04 and 52.77%), where as in group B, there was a drastic fall from lecture- 1 to lecture-4 in the % of students who disagreed to this question (42.10% and 13.63%). The difference was found to be statistically significant [Table/Fig-3].

It was observed that in group A, the percentage of students who were afraid of the teacher almost remained the same in lectures-1 to 4 (54.04% and 52.77%). In contrast to it, in group B, the number of students who were not afraid of the teacher increased from 39.47% in lecture-1 to 59.08% in lecture-4. However, the difference was found to be statistically insignificant [Table/Fig-4].

The percentage of students of group A who disagreed with the question that the teacher was friendly, remained somewhat the same in lectures 1 and 4 (62.15% and 63.88%), where as in group B, the number of students who agreed to this question increased from nearly half (47.36%) to three fourth (74.99%) and the difference was found to be statistically significant [Table/Fig-5].

**B-Observations:** When students attitude or behaviour was observed in both the groups in lecture-1 it was found that the negative attitude like late comers, yawning, napping, sleeping, whispering and gossiping all were more in group A in which humour was not used as a teaching aid. where as in the same lecture-1 positive attitude like good posture, smiling face, eye contact, nodding, writing notes and asking questions were observed more in group B in which humour was used as a teaching aid, however the difference in both the negative and positive attitude in lecture-1 between group A & B was not found to be statistically significant. [Table/Fig-6].

In a similar pattern to lecture-1 in lecture-4 also, negative attitude was more in group A and positive attitude was more in group B but here in lecture-4 difference in both attitude was much more as compare to lecture-1. Difference in positive attitude of both the groups in lecture-4 was found to be statistically significant [Table/Fig-7].

## DISCUSSION

Wankat [7] cites numerous studies that suggest that student attention span during lecture are roughly fifteen minutes. After that, Hartley and Davies [8] found that the number of students paying attention begins to drop dramatically with a resulting loss in retention of lecture material. The same authors found that immediately after the lecture students remembered 70 % of information presented in first ten minutes of the lecture and 20 % of information presented in last ten minutes. Breaking up the lecture might work because students' minds start to wander and activities provide the opportunity to start fresh again, keeping students engaged.

Study done by Rajeev et al [9], aims to provide information to help teachers to mend their attitudes for better. This states that an ardent desire of every student is to have a resourceful, motivated, interactive, inspiring teacher. Obviously, a good teacher makes

way for sustainable, self-stimulating productive learning. Students adore such teachers. The rationale for this remains variable and obscure. Do students have any paradigm of characteristics of teachers? There is an imperative need to discern what students like/dislike and how they recognize good teachers. Can these trends be explored? This direct study is an attempt to understand attitude and attributes of students' assessment of a good teacher. Certainly, this will enable the teaching fraternity to adopt conciliatory measures wherever necessary. It is believed that students' opinions on effective teaching will bring sea of changes in teachers' attitudes. Significantly, all teachers are not same in creating excellent classroom climate. The innate personal traits and teaching methodology differ in decisive way among teachers.

According to Borcard [10] there are Nine ways that humour heals: -combats fear, comforts, relaxes, reduces pain, boosts the immune system, reduces stress, spreads happiness, cultivates optimism, helps communication.

Humour appears to be widely used in medical teaching. At the Sydney Children's Hospital, a recent survey of senior staff showed that almost all used humour in their teaching (personal unpublished data). Almost 80% included humour in their teaching sessions, and regularly elicited laughter from their students. Most found it difficult to use humour and would like to use it more. Although they do not see humour as essential to good teaching, they believe that too little use of humour is made in teaching and that humour in teaching reduces stress; increases motivation; improves morale, enjoyment, comprehension, interest and rapport; and facilitates socialization into the profession. They did not think humour trivialized, distracted, encouraged dogmatism, or demeaned patients (if used in bedside teaching) or that its use was unprofessional. They thus attributed to the use of humour in education those qualities which are claimed for it in the educational literature [11]. They stressed that humour should be appropriate to the topic and should be in context. The importance of using humour that is relevant to the subject is stressed by Ziv [12].

Although humour is used regularly by medical (and other) teachers, there is almost no literature on the use of humour in medical education; indeed, there is a paucity of research on its use in education generally. There have been few published controlled studies of the use of humour in learning, and only about half of these have demonstrated improved learning outcomes [11,12]. There is almost no literature on the use of humour in medical teaching. For example, in a bibliography of almost 200 citations related to humour, health and medicine maintained by the International Society for Humour Studies, only 13 articles related to the education of health professionals, and most of these were in nursing journals [13, 14].

Ziv studied the effects of humour during a 14-week statistics course for college students. The subject matter and teacher for both the control and experimental groups were identical, except that the teacher included the use of humour in the experimental group. At the end of the course, on the final examination, the students who were exposed to humour performed significantly better than the group with which humour was not used. Ziv emphasized that humour works best in small doses—usually four or five jokes or

cartoons per lecture and that the humour should be relevant to the material taught [12].

This is in congruence with present study, as humour was found to be very effective intervention in improving not only the attendance of the students in the class but also a very good way to increase their interest in the lecture as observed by increase in positive attitude and decrease in negative attitude of the students of group B, the lecture with humour. More over when asked by the students of both the groups, the students of lecture with humour found them more comfortable, more attentive and friendlier with the teacher as compared to the students of lecture without humour

Potential bias in the results of our study could be due to different number of students attending the lectures. Anonymity and confidentiality of the respondents was ensured in the questionnaire. Hence we did not have the identity of those missing. Our study is based on four lectures given with a gap of one week. Number of lectures could have been increased. Limitations of the findings -whether humour is appropriate while teaching all subjects -perhaps it is and can be incorporated for example through the use of -'bad examples of practice' but this needs to be considered as in the case of breaking bad news etc.

## CONCLUSION:

Humour in teaching has multiple benefits for the students. The quality and content of humour as it is has been used in these setting needs to be defined further. Further research would justify the use of humour as an effective teaching aid in medical education.

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Group A				Group B							
SN.	Grading	Lecture-1 (Present= 37)		Lecture-4 (Present= 36 )		SN.	Grading	Lecture-1 (Present= 38)		Lecture-4 (Present= 44)	
		No.	%	No.	%			No.	%	No.	%
1	Strongly disagree	8	21.62	8	22.22	1	Strongly disagree	4	10.52	3	6.81
2	Disagree	10	27.02	9	25.00	2	Disagree	6	15.78	5	11.36
3	Neither agree or disagree	9	24.32	10	27.77	3	Neither agree or disagree	8	21.05	6	13.63
4	Agree	6	16.21	5	13.88	4	Agree	10	26.31	18	40.90
5	Strongly agree	4	10.81	4	11.11	5	Strongly agree	10	26.31	12	27.27
$X^2 = .147, df = 3, p > .05, NS.$						$X^2 = 2.55, df = 3, p > .05 NS$					
<b>[Table/Fig-1]:</b> - I grasped the lecture of today.											

Group A				Group B							
SN.	Grading	Lecture-1 (Present= 37)		Lecture-4 (Present= 36 )		SN.	Grading	Lecture-1 (Present= 38)		Lecture-4 (Present= 44)	
		No.	%	No.	%			No.	%	No.	%
1	Strongly disagree	12	32.43	11	30.55	1	Strongly disagree	3	7.89	2	4.54
2	Disagree	8	21.62	7	19.44	2	Disagree	5	13.15	3	6.81
3	Neither agree or disagree	5	13.51	6	16.66	3	Neither agree or disagree	8	21.05	6	13.63
4	Agree	7	18.91	6	16.66	4	Agree	11	28.94	15	34.09
5	Strongly agree	5	13.51	6	16.66	5	Strongly agree	11	28.94	18	40.90
$X^2 = .355, df = 4, p > .05, NS$						$X^2 = 2.86, df = 3, p > .05, NS.$					
<b>[Table/Fig-2]:</b> - I was comfortable in the class.											

Group A				Group B							
SN.	Grading	Lecture-1 (Present= 37)		Lecture-4 (Present= 36 )		SN.	Grading	Lecture-1 (Present= 38)		Lecture-4 (Present= 44)	
		No.	%	No.	%			No.	%	No.	%
1	Strongly disagree	11	29.72	10	27.77	1	Strongly disagree	8	21.05	2	4.54
2	Disagree	9	24.32	9	25.00	2	Disagree	8	21.05	4	9.09
3	Neither agree or disagree	7	18.91	9	25.00	3	Neither agree or disagree	5	13.15	5	11.36
4	Agree	5	13.51	4	11.11	4	Agree	8	21.05	16	36.36
5	Strongly agree	5	13.51	4	11.11	5	Strongly agree	9	23.68	17	38.63
$X^2 = .502, df = 3, p > .05, NS.$						$X^2 = 9.883, df = 3, p < .05, Sig.$					
<b>[Table/Fig-3]:</b> - My attention was maintained.											

Group A				Group B							
SN.	Grading	Lecture-1 (Present= 37)		Lecture-4 (Present= 36 )		SN.	Grading	Lecture-1 (Present= 38)		Lecture-4 (Present= 44)	
		No.	%	No.	%			No.	%	No.	%
1	Strongly disagree	7	18.91	9	25.00	1	Strongly disagree	5	13.15	3	6.81
2	Disagree	13	35.13	10	27.77	2	Disagree	7	18.42	5	11.36
3	Neither agree or disagree	10	27.02	11	30.55	3	Neither agree or disagree	11	28.94	10	22.72
4	Agree	3	8.10	3	8.33	4	Agree	7	18.42	13	29.54
5	Strongly agree	4	10.81	3	8.33	5	Strongly agree	8	21.05	13	29.54
$X^2 = .7523, df = 3, p > .05, NS.$						$X^2 = 3.42, df = 3, p > .05, NS.$					
<b>[Table/Fig-4]:</b> - I was not afraid of teacher.											

Group A				Group B			
SN.	Grading	Lecture-1 (Present= 37) No. %	Lecture-4 (Present= 36 ) No. %	SN.	Grading	Lecture-1 (Present= 38) No. %	Lecture-4 (Present= 44) No. %
1	Strongly disagree	14 37.83	12 33.33	1	Strongly disagree	7 18.42	1 * 2.27
2	Disagree	9 24.32	11 30.55	2	Disagree	6 15.78	1 * 2.27
3	Neither agree or disagree	7 18.91	7 19.44	3	Neither agree or disagree	7 18.42	9 20.45
4	Agree	3 8.10	3 8.33	4	Agree	9 23.68	13 29.54
5	Strongly agree	4 10.81	3 8.33	5	Strongly agree	9 23.68	20 45.45
$\chi^2 = .418, df = 3, p > .05, NS.$				$\chi^2 = 14.49, df = 4, p < .05, Sig.$ *Yates correction			

[Table/Fig-5]: - Teacher is friendly.

Lecture-1 Negative Attitudes				Positive Attitudes			
SN.	Observations	Group-A (Present= 37) No. %	Group-B (Present= 38) No. %	SN.	Observations	Group-A (Present= 37) No. %	Group-B (Present= 38) No. %
1	Late comers	4 10.81	3 7.89	1	Good Posture	21 56.76	26 68.42
2	Yawning	8 21.62	2 5.26	2	Smiling faces	3 8.11	16 42.11
3	Napping	3 8.11	0 0	3	Eye contact	8 21.62	19 50
4	Sleeping	1 2.70	0 0	4	Nodding	5 13.51	16 42.11
5	Whispering	12 32.43	7 18.42	5	Writing notes	21 56.76	26 68.42
6	Gossiping	8 21.62	4 10.52	6	Asking Questions	1 2.70	4 10.53
$\chi^2 = 3.168, df = 5, P > .05, NS.$				$\chi^2 = 8.864, df = 5, P > .05, NS.$			

[Table/Fig-6]: - Attitude of students of group A &amp; B in lecture -1.

Lecture-4 Negative Attitudes				Positive Attitudes			
SN.	Observations	Group-A (Present= 36) No. %	Group-B (Present= 44) No. %	SN.	Observations	Group-A (Present= 36) No. %	Group-B (Present= 44) No. %
1	Late comers	5 13.89	2 4.55	1	Good Posture	20 55.56	30 68.18
2	Yawning	7 19.44	1 2.27	2	Smiling faces	2 5.56	22 50
3	Napping	4 11.11	0 0	3	Eye contact	9 25	26 59.09
4	Sleeping	2 5.56	0 0	4	Nodding	6 16.67	18 40.91
5	Whispering	13 36.11	3 6.82	5	Writing notes	20 55.56	36 81.82
6	Gossiping	9 25	1 2.27	6	Asking Questions	0 0	5 11.36
$\chi^2 = 2.496, df = 5, P > .05, NS.$				$\chi^2 = 11.453, df = 5, P < .05, Sig.$			

[Table/Fig-7]: Attitude of students of group A &amp; B in lecture-4.



[Table/Fig-8]: showing images of both groups for comparison.

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