

Posture Evaluation of Dental Students

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Abstract. Correct dentist posture and position during clinical work are of great importance to prevent neck, back pain and muscle fatigue. Therefore, this observational survey was conducted to evaluate the posture of dental students in King Abdulaziz University (KAU) during clinical procedures. Thereafter, recommendations were given in order to improve errors in existing postures. Almost 300 dental students from the third through the sixth grades were observed randomly during their clinical sessions. The evaluation included: the patient's chair position, the student's chair, back and elbow positions depending on the quadrant treated. Furthermore, whether viewing the operative field in a direct or indirect manner and the type of magnification used during clinical work, if any. Results showed that 43% of the students placed their patients' chair within normal limits (almost supine); 50% of the students' backs were bent; 33% of students' elbows were below the level of the quadrant treated; 50% of the students approached the maxillary arch directly; only 3 male students used magnifiers, and 60% of the students experienced neck or back pain after clinical work (mostly females). Therefore, it was highly recommended that students continuously evaluate and correct their whole body posture during a clinical work.

Keywords: Dental students' posture, student posture, ergonomics, posture evaluation, neck and back pain, body pain, musculoskeletal problems.

Introduction

A large number of dentists suffer from musculoskeletal problems later in their professional lives. Some dentists have milder forms of musculoskeletal problems, while others have much severe forms. A proportional correlation between the number of disorders and the years of

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clinical experience were documented^[1]. Backpain was the most common among dentists followed by neck pain^[1-5]. Dentists are subject to a wide variety of physical and psychological ailments that aggravate disorders of the musculoskeletal system and greatly affect the health of dentists^[1,6]. In order to prevent this; correct dentists' posture must be established early in the dental career. Therefore, the correct posture must be stressed in dental schools. Although most schools teach the correct and ideal dentist posture and positions, it is not always applied by the dental students. Therefore, this observational survey was conducted to evaluate the current postural positions of undergraduate students at King Abdulaziz University (KAU) during a clinical work.

Materials and Methods

The undergraduate dentistry program at KAU is a six-year program. The first two years are basic sciences subjects. On the third year, however, the students start operative dentistry training in the pre-clinical laboratory on plastic teeth. In the following years they are exposed to patients gradually in operative, periodontal, endodontic, pedodontic and prosthetic clinical sessions. Finally, in the sixth year, the students treat complete cases in Comprehensive Care Clinic sessions (CCC).

An observational survey was conducted on 295 dental students at KAU. Current postural positions of dental students from the third year through the sixth year were observed randomly during different clinical sessions. The data were collected over a three-week period. All students were observed once, and all were working without dental assistants. Sixty seven of the third year students (28 males and 39 females), 60 of the fourth year students (30 males and 30 females), 91 of the fifth year students (36 males and 55 females), and 77 of the sixth year students (25 males and 52 females) were observed. Third year students' postures were observed in the pre-clinical operative laboratory while working on plastic teeth on manikins simulating the patient. The postures of fourth year students were observed during operative clinical sessions which are their first exposure to working on patients once per week. Fifth year students' postures were observed during an operative, endodontic, and fixed prosthesis clinical sessions in a random manner. Finally, sixth year students were observed during their CCC sessions while working in operative, endodontic, and periodontic (during charting and scaling).

The items evaluated were: The patient's chair position, whether it was within normal limits (almost supine^[7] at the mid-torso level of the dentist, also called zero position), high, low, and/or in an upright position. The dentist's chair level was also evaluated, whether it was within normal limits (the thighs should be parallel to the floor and the lower legs should be perpendicular to the floor, feet should be flat on the floor^[7]), high, or low. Moreover, the elbows levels were evaluated, if elbows were in the same level, above or below the teeth or quadrant being treated. The dental student's back position was observed, either straight or bent. Along with the student's back position, the quadrant that students were working on was observed, and in which manner were they working on that particular quadrant (whether direct or indirect vision). Furthermore, the type of magnification used (either loops or magnifiers) was evaluated, if any. Finally, they were asked if they experience or ever experienced any neck or backpain after clinical work. The results were calculated using the SPSS computer program.

Results

Among the 295 students observed, 176 (59.7%) of the students were females and 119 (40.3%) were males. Students were observed during working in different clinical sessions: 187 (63.4%) of the students were observed while working in operative dentistry sessions; 85 (28.8%) during endodontic sessions; 17 (5.8%) during fixed prosthesis sessions, and 6 students (2%) were observed during periodontics sessions.

The Chi-square test (χ^2) was used to calculate and assess; if there are significant differences between both genders in their posture and all of the items observed; and if there are significant relation between the clinical year of study and all of the observed items.

Patients' Chair Position

Almost 43% of the students placed their patients' chair within normal limits, and 33% of the students placed their patients' chair higher than the normal levels. The details of the students' patients' dental chair positioning in each clinical year of both genders are illustrated in Fig. 1. It is revealed that significant differences were found between the males and females in positioning patients within normal limits, lower than normal limits, and in positioning patients in upright positions.

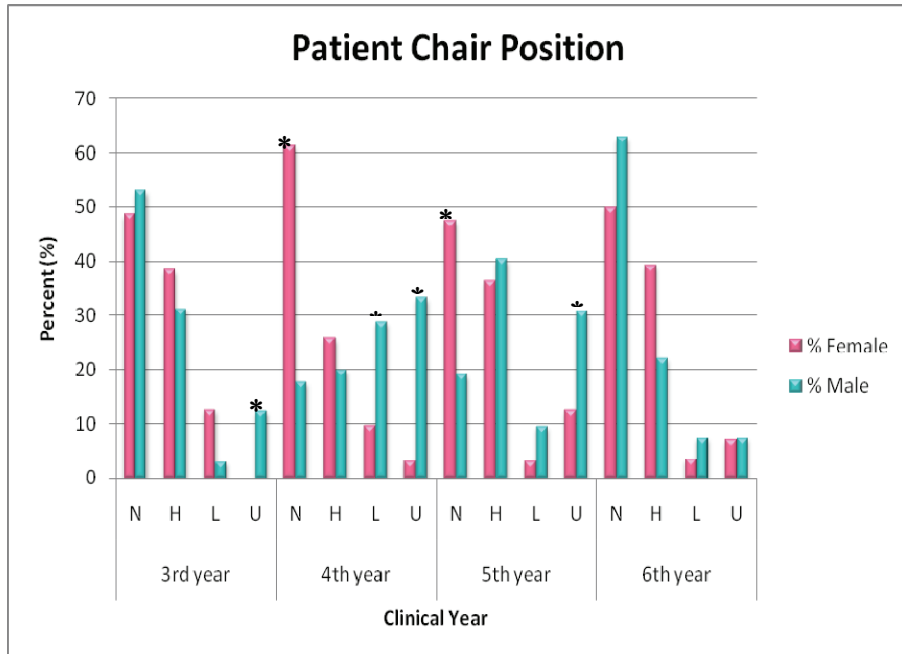


Fig. 1. The percentages of the patients chair positions in each clinical year of both genders. N: within normal limits, H: Higher than normal limits, L: Lower than normal limits, U: Patient chair in an upright position. (*): Significant differences were found between males and females in each marked position separately.

As it is obvious from Fig. 1, a significantly higher number of female students placed their patients' chair in normal position in the 4th and 5th year compared to the 3rd and 6th year. The number of male students who placed their patients' chair in low position was significantly higher in 4th year compared to the 3rd, 5th, and 6th years. In addition, a significantly higher number of male students who placed their patients' chair in an upright position in the 3rd, 4th, and 5th years compared to the 6th year students.

Regarding the relation between the clinical year of study and patients' chair positioning, significant relations were found. When pooling all students (males and females), significant differences were found between the 4th year students compared to all 3rd, 5th, and 6th year students (which were not significant to each other). There were no significant differences between the pool of all 3rd and 6th year students in positioning their patients' chair in an upright position, however there were significantly lower to 4th and 5th year (which they were not significant to each other).

Students' Chair Level

The students' dentist chair adjustment were within normal levels in 85.4% of the students, higher than normal levels in 8.1%, and lower than normal levels in 6.4% of the students. Details of students' chair leveling are revealed in Fig. 2.

Significant association was found between students' chair adjustment and gender. There were significant differences between male and female students. Specifically the 4th year students as it is clear from Fig. 2, where a higher percentage of female students adjusted their chairs within normal levels, and a higher percentage of males adjusted their chairs lower than normal levels.

Furthermore, significant association was found between students' chair adjustment and the clinical year of study, where the pool of all 4th year students were significantly higher than all 3rd, 5th, and 6th year students (which were not significant to each other).

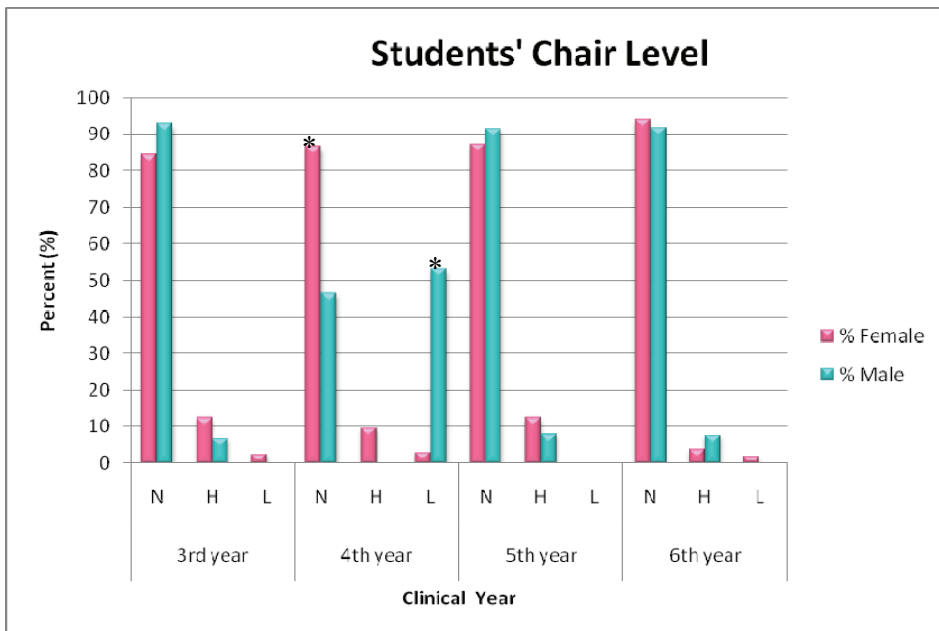


Fig. 2. The percentages of student dental chair adjustments in each clinical year of both genders. N: within normal levels, H: Higher than normal levels, L: Lower than normal levels. (*): Significant differences found between males and females.

Students' Elbows Level

Figure 3 reveals the details of percentages of the students' elbows positions in each clinical year of both genders. Significant differences were found between students' elbows position and gender, specifically 4th and 6th year students.

Significant differences were found between students' elbows position and the clinical years of study. A significantly higher number in a pool of all 5th and 6th year students placed their elbows at the same level of the tooth or quadrant treated compared to all 3rd and 4th year students. Moreover, a significantly higher number of all 4th and 6th year students placed their elbows above the level of the tooth or quadrant treated compared to all 3rd and 4th year students. Furthermore, a significantly higher number of all 3rd and 5th year students placed their elbows below the level of the tooth or quadrant treated compared to all 4th and 6th year students.

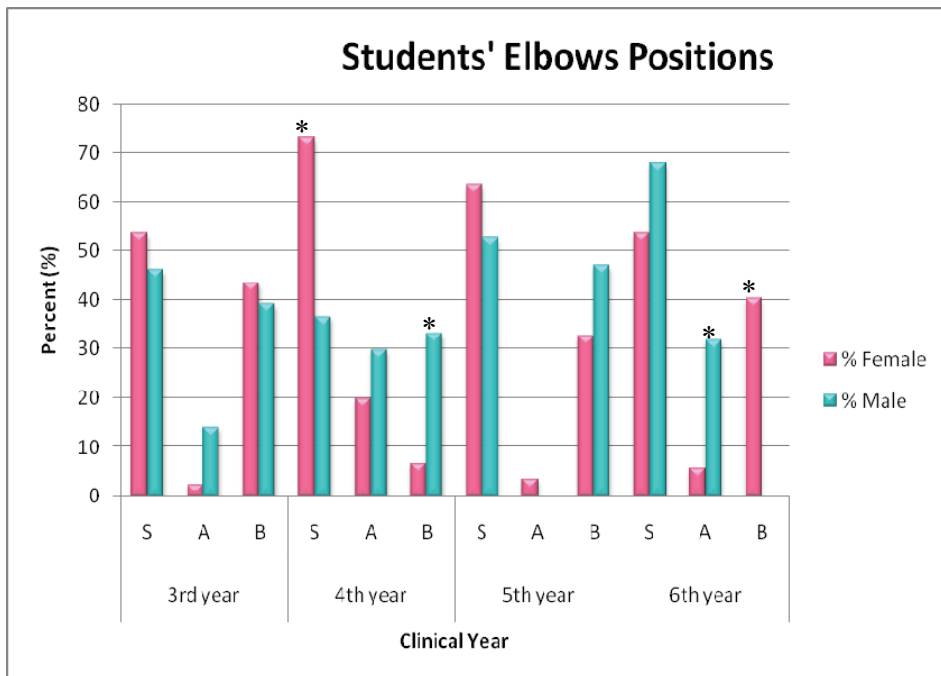


Fig. 3. The percentages of students' elbows position in each clinical year of both genders. S: Same level of the tooth or quadrant treated, A: Above the level of the tooth or quadrant treated, B: Below the level of the tooth or quadrant treated. (*): Significant differences found between males and females in each marked position separately.

Students' Back Position

Results reveal that almost 50% of the students bent their backs during clinical work. The students' back positions during clinical session are revealed in Fig. 4. There were no significant relation between the students' back positions and gender. However, there were significant differences between the students' back positioning and their clinical year of study. Significant differences were found between 3rd and 4th year students who had their backs bent compared to 5th and 6th year students.

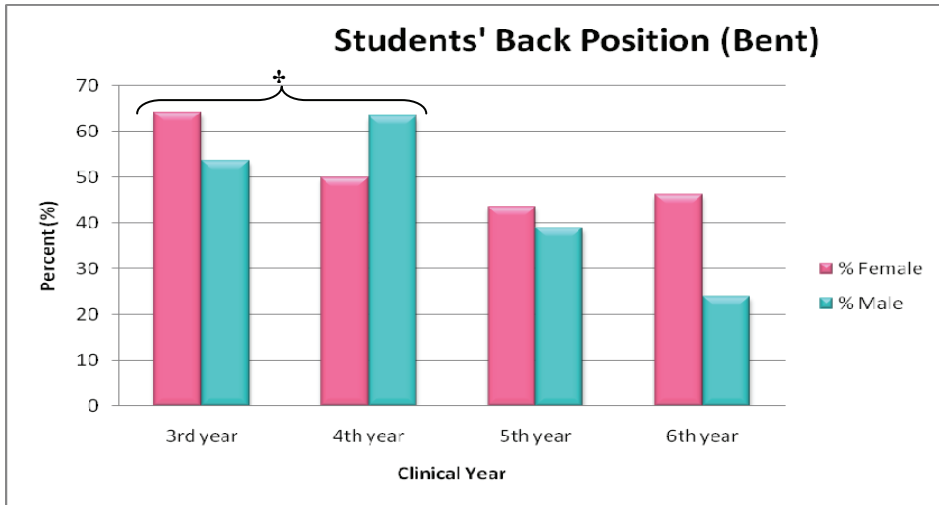


Fig. 4. The percentages of students' bent back position in each clinical year of both genders. (†): Significant differences found between 3rd and 4th years in back bending compared with 5th and 6th years.

The Quadrant Treated and Vision Approach

The student approached the operative field using direct vision in 74.6% of the times, and indirect vision only in 25.4% of the times. The percentage comparison between direct and indirect vision of the operative field are shown in Fig. 5. Significant association were found between the quadrant treated with vision approach; between the quadrant treated and elbows position; between vision approach; and back position. Among the students using direct vision, 85.5% of them had their backs bent, whereas the rest had used indirect vision, and while their backs were still bent. However, 65.4% of the students used direct vision while their backs were straight, whereas the rest of the students used indirect vision, and while their backs were still straight. On the other hand, no

significant differences were found between the quadrant treated and back position.

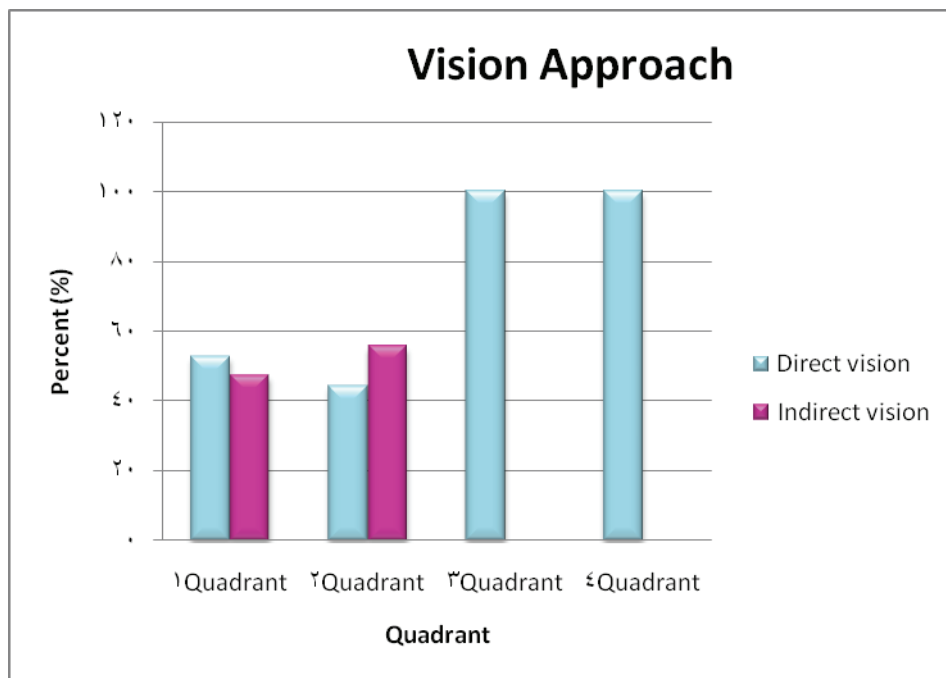


Fig. 5. The percentages of vision approach the students used in each quadrant.

Use of Magnification

Only 3 male students in the midst of the 295 students used magnifications during clinical work. Amongst the 3 students, only 1 student in the 6th year used a magnifier, and 2 students (one in the 6th year and one in the 5th year) that used dental loops.

Neck or Back Pain Experience after Clinical Work

Neck and backpain after clinical sessions were reported in 59.7% of the students. Also, results revealed that 70.5% of females experienced more pain.

Significant relation were found when relating students' neck and back pain after clinical work with the clinical year, and are revealed in Fig. 6. Moreover, significant relation was found between students' neck and backpain after clinical work and gender, where a significantly higher number of females experienced more neck and backpain. Details of the

percentages of students' neck and backpain experience in each clinical year of both genders are revealed in Fig. 6.

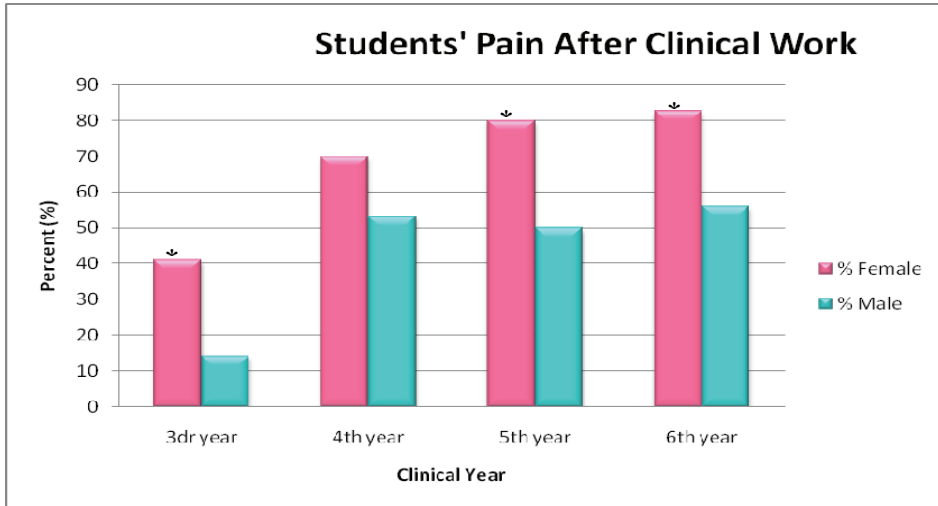


Fig. 6. The percentages of students' neck and back pain experience in each clinical year of both genders. (*): Significant differences found between males and females of each year.

Discussion

Results of this study revealed many observations that are divided into categories below for convenience, but are interconnected with each other. For that reason, some results are discussed in brief in some categories and elaborated in others.

Patients' Chair Position

As it is clear from Fig. 1, a large percentage of students placed their patients within normal positions (42.9%), this suggests that students are trying their best in choosing correct or ideal positions that are convenient for viewing the operative field. That percentage is followed by the 33% of students that placed their patients higher than normal limits. This also suggests that students wanted to obtain a better and closer view of the operative field while their backs remain straight; they placed their patients in a higher position.

Referring to Fig. 1 of this study and after calculating χ^2 , significant differences were found between the clinical year and both genders with

positioning patients within normal limits, lower than normal limits, and in positioning patients in an upright position.

It is clear from Fig. 1 that more female students placed their patients' chair within normal limits, and a higher number of male students positioned their patients lower than normal limits, plus in an upright position. This probably suggests that female students are more or less keener on applying what they have been taught about dentists' posture and patient positioning than the male students.

Moreover, there was a noticeable upright positioning of the patients among male students, specifically the 4th and 5th year students. The reason behind this positioning among 5th year male students was that they did not take the patient and dentist positioning lecture when they were in the 3rd year for one reason or another. Therefore, they were not taught the ideal patient and dentist positioning in order for them to apply it in the clinics. Regarding the 4th year male students, one reason behind the upright positioning of their patients; it is their first year working on patients, as stated earlier; and they may not be as keen as female students in applying what they have been taught regarding patient positioning.

Students' Chair Level

Most of the students (85.4%) placed their dentist chairs' within normal levels, and as it was revealed in Fig. 2. The large percentage of students adjusting their chairs within normal levels strongly suggests that most of the students are choosing positions that are for the most part comfortable for them during the clinical work.

As it is clear from Fig. 2, there were significant differences between male and female students, specifically the 4th year students. Regarding the dentist chair adjustment for 4th year students, it was noticed that 54% males adjusted their chairs lower than normal level. Most probably this is due to the fact that it is their first year working on patients; therefore, they are still trying to find the most comfortable position in working on patients. On the other hand, almost 90% of the 4th year females adjusted their chairs within normal levels; this probably suggests that females, as it was stated earlier, are keen in applying what they have been taught, and adjusting their chairs in the most comfortable position for working.

The significant differences were found between students chair adjustment of the 4th year students compared to the 3rd, 5th, and 6th year students. As previously mentioned, it is the first exposure of the students to clinical work.

Students' Elbows Level

There were significant differences between students' elbows position and gender, specifically on the 4th and 6th year students which was revealed in Fig. 3. The reason behind those elbows positioning was most probably because of the position the students placed them in the patients' chair. In reference to Fig. 3, it was noticed that the larger percentages of students placed their elbows with the same level of the tooth or quadrant treated, followed by students placing their elbows below the tooth or quadrant treated. This is logical as larger percentages of students placed their patients within normal limits, which consequently mean that the students will most probably place their elbows at the same level of tooth or quadrant treated. On the other hand, students who placed their patients higher than normal limits, placed their elbows below the level of tooth or quadrant treated (as it was stated earlier in the discussion, students choose this position probably to view the operative field clearly).

Moreover, significant differences were found between students' elbows position and the clinical year of study. The significantly higher number of the 5th and 6th year students that placed their elbows at the same level of the tooth or quadrant treated may be, as previously stated, that they were more exposed to clinical work. Therefore, they are more aware of the proper dentist and patient positioning compared to the 3rd and 4th year students. Furthermore, the significantly higher number of all 4th and 6th year students placed their elbows above the level of the tooth or quadrant treated was probably because they placed their patients' chair lower than the normal limits compared to the 3rd and 5th year students. Additionally, the significantly higher number of 3rd and 5th year students placed their elbows below the level of the tooth or quadrant treated was probably because they placed their patients' chair higher than the normal limits compared to 4th and 6th year students.

In general it was noticed that most of the students that placed their patients within normal limits, placed their dentist chair within normal limits, and also placed their elbows at the same level of the tooth or

quadrant being treated, but their backs were not always straight, this was probably due to the fact that students tend to bend their backs in order to have a clearer vision of the operative field.

Students' Back Position

Regarding the students' back positioning, the percentage of students bending their backs is considered to be high (48.1%). Results show that there were no significant association between the students' back position and gender. This is probably because all students (males and females) were approaching their patients in the same sitting position. However, when referring to Fig. 4, it is clear that the number of 3rd and 4th year students who had their backs bent were significantly higher than 5th and 6th year students. It could be inferred from the larger percentage of students bending their backs in the 3rd and 4th years of both genders that students of the 3rd year are still in the training process on the pre-clinical laboratory on manikins. Also, 4th year students are not used to working on patients, therefore they are most probably still feeling tense about treating patients after working in the previous year on manikins in the pre-clinical laboratory.

On the other hand, a larger percentage of 5th and 6th year students work while their backs are straight is most probably due to the fact that 5th and 6th year students are getting use to working on patients, so their posture is better than 3rd and 4th year students. Nevertheless, as it was stated earlier, the percentage of students who had their backs bent was still considered to be high.

The Quadrant Treated and Vision Approach

No significant differences were found between the quadrant treated and back position. On the other hand, significant differences were found between the quadrant treated with vision approach; between the quadrant treated and elbows position; and between vision approach and back position.

Referring to Fig. 5, it could be inferred that a large percentage of students tend to view quadrants 1 & 2 directly, which is the most probable cause that leads them to bend their backs. Students probably view the maxillary arch directly in order to have a better view of the operative field, and finish their work more rapidly. Although they know that consequently they will most likely experience neck and backpain

afterwards as they had their backs bent during work. Some of the students that were working on the maxillary arch and used direct vision without bending their backs were mostly working on directly accessible areas.

Almost 86% of the students who viewed the operative field directly were bending their back, which is a relatively high percentage. This percentage includes; students who were working in all 4 quadrants; while the rest of the students viewed the operative field indirectly and had their backs bent; and all were working on the maxillary arch. However, 65.4% of the students who viewed the operative field directly had their backs straight. Similarly, the rest of the students viewed the operative field indirectly while their backs were straight and all were working on the maxillary arch.

Use of Magnification

Regarding magnification usage during clinical sessions, some of the professors in KAU highly recommend its usage and encourage students to do so, thus for one reason or another, only a limited number of students took that advice and used magnification during clinical sessions. The students might think that they are still young to use such a relatively expensive sophisticated gadget, and might consider using it later in their career.

In this survey, only 3 male students in the midst of the 295 students used magnifications during clinical work. One 5th year student, who bent his back during clinical work, although, was wearing magnification. Two 6th year students, one of them was working with ideal posture, did not report neck or back pain after clinical sessions; and the other student reported pain experience after some clinical sessions.

In a study done in 2002 by Andrews, it was concluded that with the use of preemptive ergonomic strategies, such as the use of magnification or illumination, many of the common disabilities associated with the dental careers can be avoided or reduced^[8]. Similar conclusion was stated in Christensen study, where it was stated that properly fitted loops can improve posture and reduce neck, shoulder and back muscle pain^[9]. Branson also concluded that the posture of dental hygiene students was more acceptable when they wore magnifications^[10].

Neck or Back Pain Experience after Clinical Work

Results reveal that there were significant differences between the clinical year of study and back or neck pain experience after clinical work. As it was stated earlier in the results and referring to Fig. 6, regarding neck and back pain after clinical sessions, it is clear that the percentages of pain were gradually increasing from the 3rd year students to 6th year students. By the 6th year, 74% of students of both genders complained of pain after clinical work. These results are similar to a study conducted at 2005 by Rising *et al*, on students at the University of California, San Francisco School of Dentistry where more than 70% of dental students of both genders reported pain by their third year of working in the clinics, and body pain intensity was higher in females than males^[11]. Similar results were reported in a study conducted by Al Wazzan on dentists and dental auxiliaries in 2001^[5]. It is highly suggested that the pain intensity was aggravated because the number of clinical sessions and clinical load increased each year^[5,11].

In this current study, there were significant differences when relating students' neck and back pain after clinical work and gender, where female experienced more neck and back pain, specifically back pain followed by neck pain. The significant difference stated above in this study between the body pain and gender disagreed with the previous stated study conducted in 2005 by Rising *et al*, where the results revealed that, although the percentages of students reporting pain increased with the number of years in dental school, no statistically significant differences were found based on years in the dental school or gender^[11]. The results stated in this current study agrees with other studies where the majority of respondents reported backpain followed by neck pain^[1-4]. However, studies have reported that females suffered from more pain in general, but neck pain specifically, followed by back pain, and the case was reversed with males, where a larger percentage of males experience back pain^[1-4,11,12]. On the other hand, other studies reported that a larger percentage of dentists experience neck pain followed by backpain^[13-15].

In general, it could be inferred that the higher percentage of dentists that complain or report backpain followed by neck pain could be attributed to the dentist faulty back postural practice more than the neck faulty postural practice^[5].

Undergraduate dental students' at KAU are subjected to dealing with lots of stresses during their clinical work, facing unexpected challenges during dental procedures, not having individual dental assistants help, having limited clinical session time and lots of clinical work to perform. Worrying about their requirements and concerned about running behind schedule may be reasons that aggravate mental and physical fatigue, thus result in pain the students complain from after the sessions are over^[11]. This type of work and physical load generally has a cumulative effect on the health of dentists and limits their effectiveness, and may put dentists at risk of occurrence of musculoskeletal problems^[1,2,8,16].

A limited number of the students (4 students) had pre-existing medical conditions, such as: back problems, or performed spinal or vertebral operations, fibromialgia, and planterfachtitis), and 2 other students were pregnant. The former factors or conditions may be causes that might intensify the pain the students experienced after clinical work and musculoskeletal symptoms. The study performed by Rucker and Sunell in 2002 confirmed that certain health factors similar to the former pre-existing medical conditions were co-factors that made some dentists at a higher risk that increased musculoskeletal symptoms along with the dentists postures^[13].

Endodontic sessions were the most clinical session that students reported to experience neck pain and backpain afterward. One explanation for this body pain experience after endodontic sessions could be that endodontic sessions are more stressful and tiring for the students to work using hand filing instruments and in a very limited field using mostly tactile sensation.

Summary and Conclusion

Dental students' body posture during clinical work was evaluated and the following was concluded:

- Almost 50% of the students' backs were bent.
- 33% of students' elbows were below the level of the tooth or quadrant treated, and 11.2% of students' elbows were below the level of the tooth or quadrant treated.
- Almost 50% of the students approached the maxillary arch directly.

- Only 3 male students used magnifiers.
- 60% of the students experienced neck or back pain after clinical work (70% of them were females).
- Significant differences were found between students' posture with the clinical year of study and with gender.
- Significant differences were found between neck and back pain experience after clinical work with the clinical year of study and with gender.

Recommendations

- Students should review the correct patient and chair positions.
- Students should continuously evaluate and correct their backs, elbows, and whole body posture during clinical work.
- Students should always use indirect vision when working in the maxillary arch, except when working on directly accessible areas.
- Students should be encouraged to use magnifiers during clinical work.
- Findings of this study will be presented to all dental students to:
 - Serve as a review of correct posture and patient positioning during clinical work.
 - Bring to their attention the mistakes observed during their clinical sessions.

References

- [1] **Szymańska J.** Disorders of the musculoskeletal system among dentists from the aspect of ergonomics and prophylaxis. *Ann Agric Environ Med* 2002; **9**(2): 169-173.
- [2] **Alexopoulos EC, Stathi IC, Charizani F.** Prevalence of musculoskeletal disorders in dentists. *BMC Musculoskelet Disord* 2004; **5**: 16.
- [3] **Myers HL, Myers LB.** 'It's difficult being a dentist': stress and health in the general dental practitioner. *Br Dent J* 2004; **197**(2): 89-93.
- [4] **Ratzon NZ, Yaros T, Mizlik A, Kanner T.** Musculoskeletal symptoms among dentists in relation to work posture. *Work* 2000; **15**(3): 153-158.
- [5] **Al Wassan KA, Almas K, Al Shethri SE, Al Qahtani M.** Back and neck problems among dentists and dental auxiliaries. *J Contemp Dent Pract* 2001; **2**(3): 17-30.
- [6] **Puriene A, Janulyte V, Musteikyte M, Bendinskaite R.** General health of dentists. Literature review. *Stomatologija* 2007; **9**(1): 10-20.
- [7] **Theodore R, Harald H, Edward S.** *Sturdevant's Art and Science of Operative Dentistry*. 5th ed. St. Louis: Mosby 2006. chp 10, p 449-492.
- [8] **Andrews N, Vigoren G.** Ergonomics: muscle fatigue, posture, magnification, and illumination. *Compend Contin Educ Dent* 2002; **23**(3): 261-266.
- [9] **Christensen G.** Magnification in dentistry useful tool or another gimmick. *J Am Dent Assoc* 2003; **134**(12): 1647-1650.

- [10] **Branson BG, Bray KK, Gadbury-Amyot C, Holt LA, Keselyak NT, Mitchell TV, Williams KB.** Effect of magnification lenses on student operator posture. *J Dent Edu* 2003; **68**(3): 384-389.
- [11] **Rising D, Bennett B, Hursh K, Plesh O.** Reports of body pain in a dental student population. *J Am Dent Assoc* 2005; **136**(1): 81-86.
- [12] **Rucker L, Snuell S.** Ergonomic risk factors associated with clinical dentistry. *J Calif Dent Assoc* 2002; **30**(2): 139-148.
- [13] **Rundercrantz BL.** Pain and discomfort in the musculoskeletal system among dentists. *Swed Dent J Suppl* 1991; **76**: 1-102.
- [14] **Melis M, Abou-Atme Y, Cottogono L, Pittau R.** Upper body musculoskeletal symptoms in Sardinian dental students. *J Can Dent Assoc* 2004; **70**(5): 306-310.
- [15] **Finsen L, Christensen H, Bakke M.** Musculoskeletal disorders among dentists and variation in dental work. *Appl Ergon* 1998; **29**(2): 119-125.
- [16] **Newell TM, Kumar S.** Comparison of instantaneous and cumulative loads on the low back and neck in orthodontists. *Clin Biomech* (Bristol, Avon) 2005; **20**(2): 130-137.

تقييم وضعية جلوس طلاب طب الأسنان

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قسم العلاج التحفظي، كلية طب الأسنان، جامعة الملك عبدالعزيز

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المستخلص. وضعية طبيب الأسنان وموقعه الصحيح أثناء عمله الإكلينيكي مهم جداً لمنع آلام العنق، والظهر، وتعب العضلات. لذلك قامت هذه الدراسة بملاحظة وتقييم وضعية وموقع طلاب الأسنان بجامعة الملك عبدالعزيز خلال عملهم في العيادات الإكلينيكية. بعد ذلك، تم إعطاء مختلف الملاحظات والتوصيات لهؤلاء الطلبة، وذلك لتوضيح وتصحيح أخطاء وضعتهم أثناء العمل. شملت هذه الدراسة تقريباً ٣٠٠ طالب وطالبة أسنان من السنة الثالثة وحتى السادسة. تمت مراقبة هؤلاء الطلبة خلال عملهم الإكلينيكي بشكل عشوائي، واشتملت الملاحظة على وضعية كرسي المريض، وضعية كرسي الطالب، وضعية الظهر والمرافق اعتماداً على موقع السن أو الأسنان التي تتم معالجتها. كما تم تقييم النظر للأسنان، هل هو مباشر أم عن طريق مرآة الفم، وهل يستخدم الطلبة أي أجهزة أو عدسات مكبرة أثناء العمل أم لا. أظهرت النتائج أن ٤٣٪ من الطلبة يجلسون في الوضع الصحيح، ويضعون مرضاهم في الوضع الصحيح. بينما كان ٥٠٪ من الطلبة يعملون وظهرهم منحنية. كما أن ٥٠٪ من الطلبة كانوا يعالجون الأسنان العليا مباشرة دون النظر في مرآة الفم. كان هناك ٣ طلبة فقط يستعملون عدسات مكبرة أثناء العمل بينما ٦٠٪ من الطلبة يعانون من آلام العنق والظهر بعد العمل. لذلك كانت التوصيات بضرورة تقييم وضعية الطلبة باستمرار من قبل الطلبة أنفسهم وأيضاً من أعضاء هيئة التدريس.