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Chiropractic intern attitudes, beliefs, and future practice intentions with regard to health promotion, wellness, and preventive services

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Objective: This pilot study explored the attitudes, beliefs, and intentions of a group of chiropractic interns concerning health promotion, wellness, and preventive services before and after a series of brief educational interventions.
Methods: Interns completed a survey before ($n = 37$) and after ($n = 22$) the interventions. The survey included 12 Likert scale questions about attitudes and intentions toward wellness and health promotion models. The interventions consisted of classroom lectures, clinical training, and online information pertaining to health promotion and wellness.
Results: The interns initially favored wellness models, perceived a need for them, and felt partially prepared to administer them, with mean Likert scores 4 or greater on a 1 to 5 scale. Afterward, the average scores were higher and the interns reported some benefit from this short course of training.
Conclusion: The initial survey demonstrated that interns had some understanding of wellness, health promotion, and preventive services, and favored utilization of these services. The follow-up survey suggested that a short educational intervention could have a positive impact on these attitudes and future utilization of wellness procedures in their practices.

Key Indexing Terms: Wellness; Preventive Care; Health Promotion; Chiropractic; Education

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INTRODUCTION

Wellness, health promotion, and prevention are important topics in health care. Chiropractic physicians claim to provide wellness and preventive care, but what exactly they have meant by that has been variable. There are a few key words that require defining in this context; definitions have been presented in a consensus paper written by Hawk and colleagues.[1] These authors agreed that wellness is "a process of achieving the best health possible, given one's genetic makeup, by pursuing an optimal level of function."[1] This does not necessarily refer to patients who see chiropractors for periodic, asymptomatic spinal maintenance adjustments. The authors further agreed that active care, lifestyle changes, and empowering patients to care for themselves were important aspects of wellness and preventive care. Health promotion activities also include identifying risk factors and subsequent patient education about such risks.[1] Hawk et al. felt that preventing relapses or exacerbations of chronic complaints or comorbidities could more accurately be labeled as management of chronic or recurrent conditions, not wellness or preventive care.[1]

The concepts of health promotion, disease prevention, and wellness care are woven throughout most chiropractic curricula. However, it was not clear if the interns at our college clinic understood and endorsed those concepts. If our interns feel inadequately trained in this area of health care or believe it is not relevant for chiropractic physicians, they will likely graduate without the necessary skills or will to provide these services.

The concept of wellness being part of a curriculum[2] or taught in chiropractic clinics[3–6] has been explored with mixed outcomes by other learning institutions. Upon checking the catalog of our college and speaking with several faculty members, we confirmed that health promotion and wellness concepts were embedded into the syllabi of a few classes. However, no specific class was dedicated to these topics until late in the year 2014, and the faculty members did not agree on the content for wellness and preventive care. Thus, in this group of interns, the purpose of this paper was to assess their attitudes, beliefs, and intentions concerning health promotion, wellness, and preventive services before and after a set of educational interventions.

METHODS

This was a pilot study to assess the feasibility of conducting a larger study of the entire cohort of interns in

1. I understand completely what is meant by the term "wellness".
2. It is important to me to incorporate wellness, prevention, and health promotion into my clinical experience.
3. I feel completely prepared to incorporate wellness, health promotion, and prevention into patient care.
4. I would like to learn more about how to incorporate wellness, health promotion, and preventive practices into patient care.
5. I intend to incorporate wellness, health promotion, and preventive care into my practice upon graduation.
6. I believe that wellness, health promotion, and prevention are a significant portion of chiropractic care.
7. I believe wellness, health promotion, and prevention to be within the scope of chiropractic care.
8. It is easier to maintain health than to recover from sickness and injury.
9. I believe that I can make a good living helping people maintain their health.
10. I believe there is an evidence base for wellness, health promotion, and preventive care.
11. I believe that chiropractic physicians are the best-equipped healthcare practitioners to deliver wellness, health promotion, and preventive care.
12. I believe there is a need for the inclusion of wellness, health promotion, and prevention in the current healthcare paradigm.

Additional Questions for Second Survey (response set)

13. Did you attend the wellness classes? (All, Some, None)
14. Did you check the online learning platform for lectures? (Yes, No)
15. What quarter are you currently matriculating? (10, 11, 12, 13)

Figure 1 - Survey questions used in this study. For questions 1–12, the response set was a Likert-type scale ranging from 1 (completely disagree) to 5 (completely agree).

the future. We created a survey (Fig. 1) pertaining to health promotion, wellness, and preventive services. The survey was based on information gleaned from literature reviews, the training and clinical experience of the authors, and conversations with their intern mentees. All three authors reviewed the questions before the survey was administered. This was a convenience sample of interns who were mentees under the faculty clinicians involved in the study. The survey was administered anonymously to the interns by independent parties, in absence of the faculty clinicians, before and after the interventions. The project was approved by the institutional review board of Palmer College of Chiropractic.

A series of 5 lectures was delivered to the interns. Each lecture was 50 minutes long. A set of forms was created for use in the interns' respective clinic practice modules, and individualized instruction was available for any intern desiring further instruction. The lectures were also posted on an online learning platform so that interns could access the lectures at any time. After a period of 10 weeks (spanning across 2 academic quarters), a 2nd survey was administered to see if the perspectives of the interns had changed.

Two of the faculty clinicians delivered 2 lectures each, and 1 clinician delivered a single lecture. The 1st lecture was an introduction to wellness, including definitions, epidemiology, and an exploration of the literature, especially in the chiropractic field. The 2nd lecture discussed risk factors for chronic diseases, and a risk scorecard accompanying this presentation was created for use with patients. The risk factors were supported with evidence, and interns were encouraged to use the scorecards whenever reasonable. The 3rd lecture was a review of a paper about health promotion. The last 2 lectures were presented from a wellness or preventive perspective and were supported by current literature; topics were interventions that could be classified under the categories of nutrition, lifestyle, chiropractic care, and referral or comanagement patterns. Besides the typical neuromusculoskeletal conditions treated, other issues such as smoking cessation, weight management, hypertension, diabetes, and stress-related issues were included. Subjects were not tested on the subject matter since the survey was more concerned with their attitudes and beliefs at this stage of the program.

Survey questions are listed in Figure 1. A 5-point Likert scale was used for the questions (1 indicating "completely disagree" to 5 indicating "completely agree"). There was also a space where interns could write in comments and suggestions. In the second questionnaire, 3 additional questions were added, as reflected in Figure 1. The responses were then tallied and evaluated for changes between surveys. Our intention was to validate this survey by its utilization

Table 1 - Results of Survey Before (Pre) and After (Post) the Educational Interventions

Question Number	Mean Pre/Post	High Pre/Post	Low Pre/Post	Mode Pre/Post	% Pre-Post
1	4.3/4.5	5/5	2/3	4/5	+4.6
2	4.7/4.8	5/5	3/3	5/5	+2.8
3	3.5/4.2	5/5	2/3	3/5	+20.5
4	4.5/4.7	5/5	2/3	5/5	+4.0
5	4.7/4.8	5/5	3/2	5/5	+2.1
6	4.8/4.9	5/5	3/3	5/5	+1.7
7	4.8/4.9	5/5	2/4	5/5	+1.9
8	4.6/4.8	5/5	2/3	5/5	+5.2
9	4.6/4.7	5/5	2/1	5/5	+2.6
10	4.4/4.6	5/5	1/3	5/5	+3.6
11	4.5/4.6	5/5	2/3	5/5	+3.4
12	4.8/4.9	5/5	2/4	5/5	+1.9

All values are based on a Likert scale with possible scores ranging from 1 through 5.

and responses within the context of this pilot study. Statistics were analyzed by an independent person.

RESULTS

The 2 surveys were given approximately 10 weeks apart. There were 37 respondents to the initial survey and 29 to the second survey. Of the 37 interns who took the initial survey, 10 (27%) offered comments. Comments included "felt the mentors needed to supply more evidence," and 1 intern felt doctors shouldn't be too "pushy" with patients, even though patients might need that advice. In the 2nd survey, 7 (31.8%) out of the 22 respondents provided comments. While most comments were positive in nature, interns asked for more experiential knowledge, such as cases, lab work, or condition-based examples or protocols. One comment cautioned about the potential bias in the research with regard to the funding source, which actually showed a higher level of research capability on the respondent's part. The results of the questionnaires were compared (Table 1).

In the initial survey, a total of 18 intern responses were rated at less than 3. In the final survey, only 2 responses were less than 3. The 2 questions that were rated highest (in terms of agreement) by the interns were question numbers 7 ("I believe wellness, health promotion, and prevention to be within the scope of chiropractic care") and 12 ("I believe there is a need for the inclusion of wellness, health promotion, and prevention in the current health care paradigm."), in both the initial and 2nd surveys. These questions monitored interns' ideas on chiropractic scope of practice and inclusion of these values as part of the current health care delivery system.

In the initial survey, only 1 intern rated a question as low as 1, and that was for question 10 ("I believe there is an evidence base for wellness, health promotion, and preventive care."). Three interns answered with all 5s, indicating high agreement with the project. The response averages ranged from 3.5 (question 3, "I feel completely prepared to incorporate wellness, health promotion, and prevention into patient care."') to 4.8 (questions 7 and 12, mentioned above). In the second survey, the response ranges were from 4.2 (question 3) to 4.9 (questions 7 and 12). Ratings for all questions improved on the second survey, with an average improvement of 4.5%. The largest improvement of 20.5% was for question 3. The smallest improvement was for question 6 ("I believe that wellness, health promotion, and prevention are a significant portion of chiropractic care."), followed by questions 7 and 12, at 1.7% and 1.9%, respectively. However, these were the 3 highest mean scores, so they had less room for improvement. The scores are also summarized in Figure 2.

DISCUSSION

Two important ideas were developed as a consequence of the interventions and the resultant survey data. The 1st was that the interns generally believed that some concept of wellness should be incorporated into their practices. The

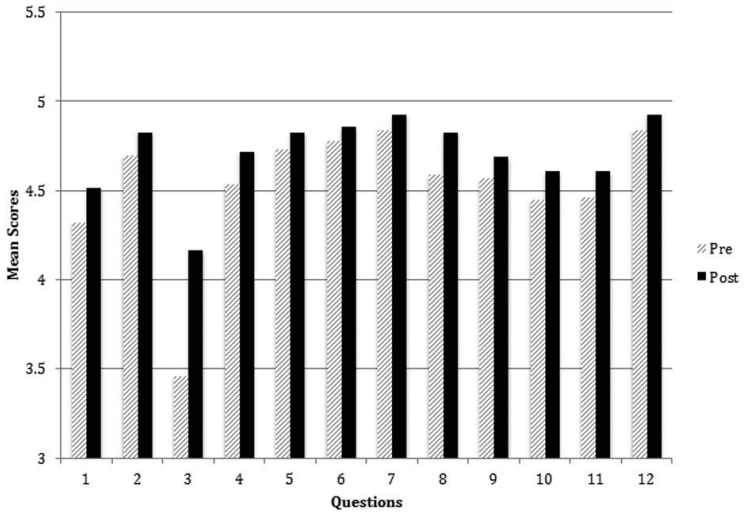

Figure 2 - Survey scores by question, before (pre) and after (post) the educational interventions.

2nd was that the process of education to which they were exposed, although brief and limited, seemed to have a positive impact on their beliefs and their knowledge base. Since the goal was to determine what the interns' attitudes, intentions, and beliefs were concerning wellness and health promotion, it should also be put into proper context with respect to expected current practice models.

From the perspective of the scientific literature, there has been a long-term evolution of thought and research that supports the idea that health is a complex issue.[7–9] These thoughts have come through multiple disciplines, from medicine to psychiatry, from chemistry to biology, and from philosophy to epidemiology. Consequently, the practice of maintaining and reacquiring health requires partnerships with all interested parties, with the patient being at the center in current care models, including the medical home model.[10]

The effectiveness of the healing arts in promoting health and prevention of disease has also been addressed in the literature.[11] The public consistently and abundantly seeks alternatives to current medical practices,[12,13] indicating that the public is not satisfied with the status quo. In the past decade there has been a push toward a nonsurgical spinal pain specialist model[14,15] as a role for chiropractic within the health care system. However, since its beginnings, there have been many who viewed chiropractic as a model for natural care of the whole person.[1] From its origins, D.D. Palmer, the founder of chiropractic, envisioned a triad of elements, which he referred to as toxins, trauma, and thoughts, as being foundational to both analysis and care of patients.

Our chiropractic college currently embraces wellness as part of its mission. However, such concepts are often easier said than carried out. The foundation of how physicians' practice is laid is in the classroom, and this project explored the extent to which chiropractic interns in their last year considered wellness, health promotion, and preventive care an important and achievable aspect of chiropractic practice. It was intended that this program be evidence informed, and fortunately, there was already substantial evidence to support this assimilation.[2–6]

The literature clearly shows that the current health care paradigm is inadequate to support long-term quality of health, especially from a cost perspective, although some progress appears to have been made.[16,17] Even though the life span for the average person in the United States has increased significantly over the last 100 years,[17,18] the quality of life may not have been elevated, with lack of compression of morbidity (COM) being a prime reason for the quality-of-life issue.[19,20] The proliferation of chronic diseases and the long-term disabilities arising from them strongly speaks to the limitations of our current system.[21] This applies to both patients and caretakers.

In the past 2 decades, chiropractic has somewhat followed the medical model by emphasizing the importance of chiropractic care to treat spinal pain.[22] In many cases symptomatic relief is often the end point of care. However, newer research and other visions for chiropractic and allopathic practice are exploring the benefits of continued preventive and wellness care, with the promise of a more holistic approach to health.[23] Interns need to learn to incorporate such concepts as prevention and COM into their future practices to succeed in this new health care paradigm. This is why it is important to know where they stand currently, both from our evaluations and from their perspectives.

These interns expressed some knowledge of these problems prior to this program and demonstrated that they were better informed and had more positive attitudes toward these topics after the program was completed. The need for wellness care is also highly supported by the literature.[1,24–26] Once again, the interns were exposed to the evidence and seemed aware that they could address those deficiencies within the scope and practice of chiropractic. Almost unanimously, they saw wellness as part of the scope of chiropractic practice. These results mirrored to some degree those of a study performed in 2009 at another chiropractic college.[27]

Limitations

There were some limitations in this study and lessons learned in the process. This was a small group of participants. The educational process was short term, consisting mainly of 5 lectures accompanied by supportive behaviors during patient care. Because it was administered over part of 2 educational quarters, there was a small, but significant, new cohort of interns that came into the study that had to quickly be caught up on concepts through the online literature, as well as a similar group that left the study to go on preceptorship (and therefore were lost to follow-up). The implementation of the new paperwork required more time and instruction than was allotted. The newest interns had only the online lectures for the work of the prior quarter and no outpatient care experience due to their stage of training. There was a potential threat to validity of the survey since the questions were repeated in the second survey. However, this was minimized by the fact that they received no feedback on their survey performance. Additionally, there was a potential selection bias in that the 3 participating faculty members already practiced with a wellness model. Since these interns chose those faculty clinicians, they may have chosen them for their own wellness interests, creating a possible selection bias.

It should also be noted that only 1 of the first 3 lectures was given by doctor3 and that most of the interns of that faculty member attended only that presentation. Except for a couple of interns, the interns of doctor3 did not attend the other 4 lectures given by doctor1 and doctor2. The interns of doctor1 and doctor2 had approximately a 90% attendance rate. These findings reflect the influence that a particular faculty member may have on his or her students, thus affecting the potential of future graduates for incorporating wellness and preventive services into their future practices. The attitude of faculty members toward these topics might be a topic for further study.

Another limitation was the potential effect of the bias of the participating faculty members in favor of wellness and preventive care, which may have influenced their particular intern cohort. As such, these results may not be representative of all interns in this clinic. Lastly, whether

these intentions can easily translate into practice has not yet been demonstrated.

CONCLUSION

In conclusion, it appears that the majority of interns did have strong beliefs favoring the use of wellness, health promotion, and preventive services in their practice; intended to use it; and felt it was within their scope of practice. Second, they felt somewhat unprepared to dispense such care, but they demonstrated a willingness to learn more. Third, the short program did demonstrate positive gains overall in every area questioned, with the smallest gains in the areas in which they already had high scores, thus demonstrating a potential effect of even a limited intervention upon attitudes, beliefs, and intentions. A more complete learning program for the entire set of interns, as well as a program to engage the faculty clinicians, should be tested to see how this program may be implemented further.

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Author Contributions

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