



Child and Adolescent Psychiatry Pre-Clinical Elective Effects on Intentions to Choose a Career in Child and Adolescent Psychiatry

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Abstract

The purpose of this study was to examine first and second year medical students' level of interest, their knowledge and factors influencing their intent to pursue child psychiatry as a career field. The authors implemented a pre-clinical elective in child and adolescent psychiatry (CAP) for first and second year medical students. A pre- and post-elective questionnaire was used to evaluate the students' interest and intentions to select CAP as a career and to evaluate various factors influencing their career choice. Results showed that prior to the elective, 64.3% reported being "Interested" or "Very Interested" in a career in CAP. Despite this, only 17.9% of the sample reported that they were "Likely" or "Very Likely" to choose a career in CAP. After the elective, 52.63% reported being likely to choose a career in CAP. Multiple regression revealed that interest predicted intentions for a career in the field, but estimated salary and expected years of residency did not. Patient contact and case discussions were the experiences that students most frequently reported lead them to be more interested in CAP. Though limited by small sample size, this study provides preliminary information on early exposure of medical students to the field of CAP. Early exposure leads to an increase in students' interest, knowledge and their intention to choose child psychiatry as a career field.

Keywords: child and adolescent psychiatry; medical students; career interest; mental health.

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1. Introduction

The rate of diagnosable mental illnesses in children and adolescents has been on the rise. It has been reported that one in four to five adolescents suffer from a mental disorder with impairment in their functioning in their lifetime [1]. According to the U.S. Department of Health and Human Services, it has been indicated that childhood neuropsychiatric disorders will rise to 50 percent by year 2020 and will constitute one of the top five causes of childhood morbidity, mortality and disability [2]. There is a scarcity of resources available in the community to provide help in diagnoses, treatment and prevention of mental illness in children and adolescents by trained professionals in the field [3, 4]. In particular, there is a marked shortage of child and adolescent psychiatrists in the United States [5, 2]. In addition, there is an uneven distribution of availability of child and adolescent psychiatrists with very few to none serving children in areas with high rates of poverty or rural areas [6]. There is also a significant shortage of child psychiatrists for special needs children and adolescents with intellectual disabilities, developmental disorders, and learning impairments [3]. Recent studies have shown medical students' increasing interest and positive perception of the field, however choosing it as a career field remains low [7, 8]. Balon and colleagues [7] evaluated medical students' attitudes and views of psychiatry by using a 39-item questionnaire at the end of their clerkship in psychiatry in the third year of medical school. Four hundred and seventy nine students from four medical schools completed the questionnaire. Results of their study showed positive attitudes and views of psychiatry in medical students but only 2.1% of the students actually considered psychiatry as a career choice. Investigation of various factors influencing medical students' intentions to pursue CAP as a career field remains highly important to overcome the deficiency of child and adolescent psychiatrists in the country. One study reported approximately 56% of medical students had an opinion about the field of psychiatry due to their interaction with non-psychiatry physicians during their first, second or third year of medical school [8]. Findings of another study showed that CAP was considered a respected field by more students than general psychiatry at the end of their clerkship experience [5]. With such a significant shortage of child psychiatrists, it becomes crucial that students become knowledgeable of the field early on by trained professionals to make an informed career choice. In the current study, the authors implemented a pre-clinical elective designed to educate and expose students to CAP early in their medical training. A pre- and post-elective questionnaire was used to evaluate their interest and intentions to choose CAP as a career and to evaluate various factors influencing their career choice.

2. Materials and Methods

Twenty-eight first and second year medical students from a local medical university were enrolled in an elective course in CAP designed to educate and expose them to the field. The nine month elective exposed students to many facets of mental illnesses and the various mental health services provided to children and adolescents through a semi-structured program. All students received an orientation at the start of the elective by a trained faculty member. All students were required to spend two hours each month volunteering on a child psychiatric inpatient unit in order to understand the various mental health issues and factors bringing these children to an inpatient setting. All students met with faculty in the division of CAP every other month in a large group setting to discuss mental health topics pertaining to children and adolescents. In addition, faculty presented about their experiences in CAP and the benefits and requirements of the field. Students also met for informal, small group

mentoring sessions with their assigned faculty mentors or senior residents in the division of child psychiatry. Faculty provided formative feedback mid-way through the elective and at the conclusion. The total time commitment for each student was two hours on the inpatient unit each month (total of 16 hours), two hour large group meetings every other month where all students enrolled were present and faculty presented relevant topics and facilitated discussion (total of 8 hours), one to two hours of small group (4-5 students) discussion with a faculty mentor on alternating months with large group discussions (total of 4-5 hours). At the end of the elective, students were also asked to write a paragraph about their experiences in child psychiatry and what could have improved this pre-clinical elective. The study was reviewed and approved by the principle investigator's Investigational Review Board (IRB). Students completed a pre-elective questionnaire before orientation and a post-elective questionnaire on the last day of the elective in which they were asked questions about their interest, knowledge and plans for a career in CAP prior to and after they completed the elective. In the pre-elective questionnaire, participants included 19 females and 9 males with a mean age of 23.74 (SD=1.65). The sample consisted of 3.6% Hispanic/Latino, 17.9% Asian, and 78.6% Caucasian/European American students. Fifty-three percent of students were in their first year and 39% were in their second year of medical school (two students failed to answer this question). Of these, 19 students completed the post-elective questionnaire. Of this final group, 74% were female, 26% were male with a mean age of 23.63 (SD=1.57), 26% were Asian, and 74% were Caucasian. Fifty-eight percent were in their first year of medical school, and 37% were in their second year (one student did not respond to this question). Because there was no pre-existing established measure available, a Child and Adolescent Psychiatry Interest and Knowledge Scale was developed in order to measure students' levels of interest and knowledge in CAP. The pre- and post-elective questionnaires were identical except that additional questions were added in the post-elective questionnaire about various aspects of the elective that led to an increase in students' interest or a decrease in their interest in the field of child psychiatry. The pre- and post-elective questionnaire included seven interest items including: "Right now, how interested are you in a career in CAP," "How positively or negatively do you feel about CAP," "How likely are you to choose a career in CAP," "How good a fit would CAP be for you," "Compared to other disciplines, how favorable do you feel about CAP," "How satisfied do you think you would be with a career in CAP," and "How do you feel about the prospect of a career in CAP." Each item on the measure was rated on a five-point Likert scale, ranging from "very uninterested," "uninterested," "neutral," "interested," and "very interested." Additionally, participants were also asked about what fields of medicine they are currently considering. Furthermore, students were asked to assess their knowledge about the field of CAP in general by answering 5 knowledge items including: "Are there enough child psychiatrists to meet the mental health needs of children," "Is CAP a shortage specialty field," "What is the salary range that professionals in CAP in the U.S. can expect currently," "How many years of residency training does it take to become a child and adolescent psychiatrist," and "Do you have to be board certified in CAP to treat mental health issues in children." The post-elective questionnaire also included a checklist that asked students to identify which aspects lead them to have more or less interest in CAP, including an option where they could write in their own answers.

3. Results

The students who completed the post-elective questionnaire were compared to those who failed to complete it. The two groups did not differ on any of the demographic variables (year in medical school, gender, age) or on

any of the variables of interest in the study (interest and knowledge items), suggesting that dropout did not occur for any identifiable reason, and that the sample's results are likely generalizable to the population studied. In order to determine the internal consistency of the Child and Adolescent Psychiatry Interest and Knowledge Scale, reliability statistics were run on the scale for the present sample. This resulted in a Cronbach's alpha coefficient of 0.74 for the initial pre-elective sample of 28 students, and 0.91 for the post-elective sample of 19 students. The current sample's mean score on this measure was 25.68 ($SD=3.11$) at pre-test and 27.74 ($SD=4.76$) at post-test. At pre-test, 64.3% of the students reported being "Interested" or "Very Interested" in a career in CAP. Despite this, only 17.9% of the sample reported that they are "Likely" or "Very Likely" to choose a career in CAP. At post-test, 73.68% reported being "Interested" or "Very Interested" in a career in CAP, and 52.63% of the sample reported they are "Likely" or "Very Likely" to choose a career in CAP. Total scores on the interest items of the Child and Adolescent Psychiatry Interest and Knowledge Scale (i.e., see Methods section for description of seven items) were analyzed to determine if total interest levels varied from pre-elective to post-elective. Paired samples t-test was used to compare pre-elective to post-elective total scores on this measure. This analysis revealed a significant increase in students' self-reported interest ($t=2.52$; $df=18$; $p=0.02$). Frequency analysis was used to determine if the elective experience was effective in getting students who did not self-report interest to report interest in CAP. Of the completers, 15 did not write in "Psychiatry" or "CAP" when asked at pre-test, "What specialties within the field of medicine are you considering right now?" Of this group, nine (60%) listed "Psychiatry" or "CAP" as a field they were considering at post-elective. Knowledge items (i.e., see Methods section for description of the 5 items) were examined to see if students' knowledge of aspects of the field of CAP changed. Students' report of the salary that child and adolescent psychiatrists make increased significantly from pre- to post-elective. In addition, students' report of the number of years of residency required for CAP increased. Both findings indicated improved knowledge reflective of a more accurate understanding of the expected salary and required years of residency. At pre-elective, almost the entire sample answered the question, "Are there enough child and adolescent psychiatrists to meet the mental health needs of children and adolescents in the U.S.?" correctly, with 96.4% of the sample answering "no." Similarly, almost the entire sample answered the question, "Is CAP a shortage specialty field?" correctly with 92.9% answering "yes" to this question. At post-elective, 100% of the sample answered both questions accurately. To determine what aspects of the elective experience increased or decreased students' interest in CAP, students were asked to check which aspects of the experience (i.e., contact with child and adolescent patients, specific lectures, information about the benefits of the field, case discussions, and other aspects etc.) increased their interest, and which decreased their interest. Students were allowed to check as many options as they felt were applicable. Table 1 presents the percentage of students who reported each factor increased or decreased their interest level.

Table 1: Factors Reported to Increase or Decrease Student Interest in Child and Adolescent Psychiatry

Patient Contact	17	60.7%	4	14.3%
Lectures	3	10.7%	1	3.6%
Benefits of field	9	32.1%	1	3.6%
Case discussions	16	57.1%	0	0%

Other factors	2	7.1%	2	7.1%
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Overall, patient contact and case discussions (60.7% and 57.1% respectively) were the experiences that students most frequently reported lead them to be more interested in CAP. Very few students reported that experiences decreased their interest. The item most frequently endorsed was patient contact; four students (14%) reported that patient contact decreased their interest in CAP. Table 2 lists correlations between pre-test interest (responses to item 1), estimated salary, estimated number of years of residency required, and intentions for a career in CAP (responses to item 3). Multiple regression was used to examine the extent to which each of the three variables (interest, estimated salary, and estimated years of residency required) predicted pre-test intentions for careers in CAP. The total model explained 55% of the variance in self-reported intentions ($R = 0.74$; $F(3, 19) = 7.75$; $p = .001$). Interest was the only significant predictor ($standardized B = .729$, $t = 4.47$, $p < .0001$). Estimated salary and estimated years of residency required did not contribute to the prediction of intention ($standardized B = .03$ and $.04$, respectively).

Table 2: Correlations between Interest, Knowledge Items & Intentions for a Career in Child & Adolescent Psychiatry

Interest in child & adolescent	—	-.18	.32	.73*
Psychiatry				
Estimated salary	-.18	—	.13	-.04
Estimated years of residency	.32	.13	—	.32

Note. Correlations between pretest interest in CAP (responses to item 1), estimated salary, estimated number of years of residency required, and intentions for a career in CAP (responses to item 3) are presented above. Descriptions of questions are as follows: (Item 1: “Right now, how interested are you in a career in CAP?” Estimated salary: “What is the salary range that professionals in CAP in the U.S. can expect currently?” Estimated number of years of residency required: “How many years of residency training does it take to become a child and adolescent psychiatrist?” Item 3: “How likely are you to choose a career in CAP?” * $p < .01$.

4. Discussion

In the present study, both interest and intention to choose CAP as a career field increased following medical students’ completion of a pre-clinical elective in CAP. Specifically, the results of this study showed that the interest of medical students in the field of CAP after completing an elective increased significantly and the likelihood to choose CAP as a career field also increased significantly with over half of the students who completed the course stating they are likely to choose a career in the field. Sixty percent of the completers who did not write that they were considering CAP as a career field in the beginning of the elective were considering

CAP at the end of the elective. First and second year medical students' knowledge of various aspects of the field of CAP also improved significantly from pre- to post-elective. Specifically, overall knowledge about the field, including current shortage of child psychiatrists, salary, and number of years of training required improved. On the post-elective questionnaire, students were also asked about which part of the elective increased or decreased their interest in the field. Students found patient contact, followed by case discussions and improved knowledge of the benefits of the field to be helpful in increasing their interest in the field of CAP. This study also showed that student's pre-elective interest was a direct predictor of their intentions to choose CAP as a career field. As their interest increased at the end of the elective, their intention also increased. Similar to a recent study by Shaw and colleagues [9], where financial consideration was not an important recruitment barrier, in our study neither estimated salary nor the required number of years of residency contributed to predict student's intention.

5. Constraints/Limitations

There were many limitations of this study including a small sample size, and a large number of dropouts between the pre and post-elective questionnaire. Other limiting factors that may have contributed include the previous stigma attached to child psychiatry, which may be influencing students' decisions. Additionally, students may have already made up their mind before the elective as to which areas of medicine they are interested in pursuing.

6. Recommendations

Future studies would benefit from gathering data from a larger, multi-site sample. Amount of exposure to child and adolescent psychiatrists would also be a variable of interest in future studies. Future studies may wish to consider whether the topics covered in the elective influence outcomes. For example, it is possible that an overview of the efficacy of psychiatric interventions for the mentally ill showing positive outcomes may lead to increasing the students' interest in the field. Additionally, increased level of exposure to the field early on in medical school may prove to be a useful tool in the recruitment of US medical graduates in the field of CAP. Future research should also assess whether longer term follow up of students as they rotate through different medical specialties would enhance interest and retention. Furthermore, following up with students as they apply for their residency would also be helpful to determine which students actually pursued CAP as their field of choice. Efforts should be made to keep the students interested in the field throughout their medical school years. This could be done by providing students with an opportunity to have ongoing contact with mentors in the field, opportunities to attend American Academy of Child and Adolescent Psychiatry annual meetings, and providing applicable research opportunities.

7. Conclusion

This study found that exposing medical student's to the field of CAP early in their medical training led to increased interest, knowledge, and intention to choose a career in child psychiatry in the future. Interactions with patients and discussing cases pertaining to CAP specifically helped to increase interest in CAP. Consequently, more medical schools should consider adding such a program to help increase medical student's interest early

on in their schooling as a way to funnel interest and possibly reduce the current shortage of professionals in CAP.

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