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ASSOCIATION OF A TWO-MONTH SUMMER SCHOOL WITH A RESIDENCY IN PSYCHIATRY – RESULTS FROM A FOUR-YEAR FOLLOW-UP STUDY

ABSTRACT

In 2013, a two-month summer school programme combining clinical work, tutoring and multifaceted teaching was developed. The present study aimed at evaluating the long-term impact of the programme in terms of the participants' subsequent specialization and work experience in psychiatry. The association of psychiatric knowledge development during the programme with these aspects was also assessed. Of the original 86 participants, 51 (66.2%) individuals who had completed the programme in the years 2013−2016 participated in the 4-year follow-up assessments in 2017−2020. A residency in psychiatry served as the main response variable in the online questionnaire study. The residents also evaluated the impact of the programme on their career choice. Information regarding possible work experience in psychiatry after the programme was collected as well. The association of the participants' psychiatric knowledge development during the programme was analysed in relation to the response variables. At follow-up, 25.5% (n=13) of the respondents had a residency in psychiatry and 54.9% (n=28) had worked in psychiatry after the programme. Of the residents, 69.2% (n=9) reported that the programme had significantly impacted on their career choice. Additionally, 60.5% (n=23) of the non-residents reported they seriously considered psychiatry as a career choice. The development of the participants' psychiatric knowledge during the programme was not associated with residency or later work experience in psychiatry. In addition to providing short-term alleviation to the shortage of psychiatrists, the programme's long-term results are encouraging both in terms of specialization and work experience in psychiatry after the programme.

KEY WORDS: CAREER CHOICE; EDUCATION; MEDICAL STUDENTS; PSYCHIATRIC KNOWLEDGE; RESIDENCY

INTRODUCTION

A shortage of psychiatrists is a major problem as the need for mental healthcare increases globally (1,2). It is also a nationwide problem in Finland. The shortage of other specialists stands at approximately 6% for other specialties, while among the psychiatric specialties the shortage is 9−16% (3). Internationally compared, the ratio of psychiatrists to population in Finland is quite good (21/100 000) (4), however, the mean age of active psychiatrists is high and 10−20% of psychiatrists practice only privately (3). In general, the number of specialists is estimated to increase during the next decade and the need for psychiatrists will also increase (5). However, due to current challenges, it has been estimated that the shortage of psychiatrists will further worsen (6) and therefore, the need to increase specialist training is urgent.

One underlying reason for the shortage has been the relatively low number of residents (5), reflecting to some extent the general interest towards psychiatry. Additionally, based on personal experience, the situation in public mental health services can also be worsened by a vicious cycle. The few substitutes the psychiatric units manage to recruit may become excessively burdened by the workload and the negative experience will decrease their interest in psychiatry.

The Finnish medical degree comprises six years of studies and, after completing four years of studies, medical students can act as substitutes for permanent staff, including specialists and residents, in hospitals and health centres. To act as a substitute within a specialty, such as psychiatry, the student must have completed the course in the specialty in question. In Finland, the course in (adult) psychiatry is typically completed during the fourth year of studies.

To inspire interest in psychiatry among medical students, various enrichment initiatives have been developed. Many of the enrichment initiatives have been implemented in the form of summer school programmes (7). Typically, the programmes are 1 to 5-day intensive programmes aimed at students considering psychiatry as a career choice and are intended to reinforce these plans (7−9).

Within the Satakunta Hospital District (SHD), one of Finland's 20 hospital districts, the Psychiatric Care Division has had difficulties recruiting substitutes for the permanent staff during vacation seasons. In 2013, we developed a two-month summer school programme in psychiatry for medical students (10). The short-term goal was to alleviate the critical shortage of psychiatrists and substitutes, and therefore, clinical work formed the backbone of the programme. The long-term goal was to provide the participants with positive experiences of working in psychiatry, thereby increasing the interest in psychiatry among medical students and, hopefully, also the number of residents in the future.

Typically, medical students' interest towards a career as a psychiatrist is relatively low at the beginning of studies, and measures to improve its attractiveness during the course of medical studies are important (11,12). Various enrichment activities, such as clerkships, attending optional courses or joining a psychiatry club are associated with considering psychiatry as a career choice (11−13). While the positive experiences related to clerkships, teaching of psychiatry and educational environments appear to be of significance for choosing to specialize in psychiatry (12,14,15), the association of psychiatric knowledge with a future residency has not been studied in a summer school context.

The main aim of the present study was to assess the long-term goal of our summer school programme, that is, to what extent the participants are later on specializing in psychiatry and whether the programme has an impact on their decision. In different summer school programmes, 20−40% of the participants have been matched to psychiatric residency programmes in the long term (9,16). Another aim of this study was to examine whether the participants had worked in the field of psychiatry after the programme. The emphasis on clinical work in our programme provided a feasible context for studying the improvement in the participants' psychiatric knowledge. It was hypothesized that better psychiatric knowledge and/or its improvement during the programme would be associated with a residency and/or later work experience in psychiatry.

MATERIAL AND METHODS

PARTICIPANTS

The study sample comprised medical students and recent graduates who participated in the two-month summer school programme in psychiatry within the SHD in the years 2013−2016. The application period to the programme is in the autumn and, thus, those who are approved during their final year will typically be recently graduated at the start of the programme. The programme's core components include tutoring to guide the participants in their daily work, regular teaching sessions and leisure activities. The participants carry out clinical work in one of the SHD inpatient or outpatient units in child psychiatry, adolescent psychiatry or adult psychiatry. Inpatient units include both acute and rehabilitation wards. The participants receive a salary. The tutors are either specialists or experienced residents representing the hospital's staff and

each of them guide 1–5 participants. Tutors also have the option of arranging additional training for the participants they are guiding. For example, small workshops based on patient cases, medication and medical statements have been arranged. Teaching sessions for all participants take one afternoon per week and are comprised of a lecture and a workshop. Leisure activities include an informal programme, such as a visit to a local music festival.

Altogether 86 individuals participated in a total of four programmes in 2013–2016. Of them, 9 participated more than once and, for the present study, we followed up only on their first participation. Thus, 77 individuals were eligible for the 4-year follow-up assessments conducted in 2017–2020. Since the participants had a maximum of three years of studies remaining at the time of their participation, it was assumed that they would have graduated by the follow-up. The eligible individuals were approached by email and requested to give their consent and complete the questionnaire online. The final sample comprised the 51 (66.2%) respondents who completed the questionnaire. In the attrition analyses, the respondents did not differ from the non-respondents regarding their age and gender, their work assignment during the programme or their psychiatric knowledge during the programme. The Institutional Review Board at SHD approved the study protocol.

OUTCOME MEASURES

Information regarding the respondents' gender and work assignment was collected from the baseline data. At the 4-year follow-up, the following background information was collected: age, completion of medical degree (yes/no) and a recollection of the overall experience of the programme (on a five-point Likert scale ranging from 1=Very negative to 5=Very positive). Additionally, the respondents were asked what three elements of the programme they experienced as most important. The alternatives were as follows: patient work, tutoring, joint teaching sessions, other participants, leisure activities, unit's staff or other. The respondents chose the most important, second most important and third most important element for them.

The main response variable was whether the respondent was currently a resident in psychiatry (yes/no) and, if so, in which specialty. The non-residents were asked to evaluate if they were seriously considering specializing in psychiatry (yes/no). The residents also evaluated the impact of the programme on their career choice using the following alternatives: 1) No significance, 2) Some significance or 3) Significant impact. Additionally, all respondents were asked to report if they had any kind of work experience in psychiatry after the programme, before or after their graduation.

The programme participants completed a subjective assessment of their psychiatric knowledge both at the start and the end of the programme. The questionnaire was developed for the programme (10) and it comprised 16 statements concerning the participant's knowledge of, for example, assessment of patients with different mental disorders and the psychiatric care system. The items were scored on a five-point Likert scale ranging from 1 to 5 (total score range 16–80), with a higher number representing better knowledge. At the end of the programme, the tutors also completed a corresponding evaluation of the participants' knowledge. We used the participants' self-assessments at the start and the end of the programme, with the difference between the scores representing their subjective improvement, and the tutors' evaluations at the end of the programme.

STATISTICAL ANALYSIS

Continuous variables were assessed for normality both graphically and with the Shapiro-Wilk test. The distributions were non-parametric and thus, the variables were characterized using medians and interquartiles (IQR). Categorized variables were compared using the Chi-Square test. For continuous variables, the group differences were analysed using the Mann-Whitney U Test. The participants' self-assessments of psychiatric knowledge at the end of the programme were compared with the tutors' assessments using Spearman correlation coefficient. The improvement in psychiatric knowledge during the programme was assessed using the Related Samples Wilcoxon Signed Rank test. The magnitude of the change was estimated using Cliff's Delta (17). The following values for the magnitude of the effect size were applied: 0.15 small, 0.33 medium and 0.48 large. These correspond to Cohen's d values of 0.20 for small, 0.50 for medium and 0.80 for large effect size. Statistical analyses were carried out using the IBM SPSS software, version 25.0.

RESULTS

At the follow-up, the median age of the respondents was 29.0 years (IQR 3.0, range 26–50 years). Of them, 68.6% (n=35) were female [median age 29.0 (3.0)] and 31.4% (n=16) were male [median age 29.0 (9.0)] (p=0.61). At the follow-up, 48 (94.1%) respondents had completed their medical degree and the rest estimated they would complete it within a year.

Altogether 54.9% (n=28) of the respondents had worked in psychiatry after the programme, 60.0% (n=21) of females and 43.8% (n=7) of males (p=0.37). Graduation was not associated with work experience in psychiatry (p=0.58). Of the respondents, 25.5% (n=13) were currently residents specializing in psychiatry: 3 in child psychiatry, 4 in adolescent psychiatry, 5 in adult psychiatry and 1 in forensic psychiatry. Of the residents, 69.2% (n=9) reported that the impact of the programme on their career choice had been significant, while 23.1% (n=3) reported some significance and 7.6% (n=1) reported no significance. Additionally, of the non-residents, 60.5% (n=23) reported that they had seriously considered psychiatry as a career choice.

Of the respondents, 66.7% (n=34) rated their overall experience of the programme as very positive and 33.3% (n=17) as positive. Associations of the descriptive variables with residency and work experience in psychiatry after the programme are presented in *Table 1*. Gender had a significant association (p=0.041) with a residency and 92.3% (n=12) of the residents were female. Additionally, median age was not significantly related to residency [25.50 (4.00) for residents and 25.00 (2.00) for non-residents, p=0.086] or work experience in psychiatry after the programme [25.00 (5.00) vs. 24.00 (2.00), p=0.060].

Table 1. Descriptions of the participants and their associations with a residency and work experience in psychiatry after the programme.

Variable	Categories	Resident at follow-up (n=13)	Not resident at follow-up (n=38)	P[a]	Worked in psychiatry after the programme (n=28)	Haven't worked in psychiatry after the programme (n=23)	P[a]
Gender	Female	12 (92.3%)	23 (60.5%)	0.041	21 (75.0%)	14 (60.9%)	0.55
	Male	1 (7.7%)	15 (39.5%)		7 (25.0%)	9 (39.1%)	
Work assignment	Substitute	10 (76.9%)	28 (73.7%)	1.0	20 (71.4%)	18 (78.3%)	0.33
	Intern	3 (23.1%)	10 (26.3%)		8 (28.6%)	5 (21.7%)	
Overall experience	Very positive	9 (69.2%)	26 (68.4%)	1.0	17 (60.7%)	18 (78.3%)	0.23
	Positive	4 (30.8%)	12 (31.6%)		11 (39.3%)	5 (21.7%)	

[a]Chi-square test

Regarding the different programme elements, the three most important elements for the respondents were patient work, tutoring and joint teaching sessions. Altogether 26.8% (n=11) reported that patient work was the most important element for them, and for an additional 61.0% (n=25) it was the second or third most important. Tutoring was the most important element for 22.0% (n=9) of the respondents, but all included it as one of the three most important elements. For 24.4% (n=10) of the respondents, joint teaching sessions were the most important element, and an additional 48.8% (n=20) included it as the second or third most important. Regarding the differences between residents and non-residents, for 30.8% (4/13) of the residents, other participants were one of the three most important elements for them, whereas for the non-residents, 55.3% (21/38) reported the same (p=0.015). Additionally, none of the residents evaluated that leisure activities had been one of the most important elements for them, while 21.1% (8/38) of the non-residents did. Comparing the respondents with work experience in psychiatry after the programme with others, no statistically significant differences were observed regarding their evaluations regarding the importance of the programme elements.

Based on the self-assessments, the median sum score for psychiatric knowledge was at the start of the programme 45.00 (9.00), and at the end of the programme 59.00 (10.25, p<0.001). The median sum score at the start was 47.50 (11.50) for residents, and 45.00 (8.25, p=0.66) for non-residents. At the end of the programme, the corresponding scores were 59.00 (11.75) and 59.00 (9.25, p=0.32). The median score change was 10.50 (10.00) for residents and 15.00 (13.00, p=0.24) for non-residents. Also, regarding the tutors' assessments, no significant difference in the psychiatric knowledge scores was observed [54.00 (16.00) vs. 57.00 (14.50), p=0.31]. The psychiatric knowledge scores are presented in detail in *Table 2*. Although the improvements were significant with good effect sizes, the self-assessment scores were not correlated with the tutors' evaluations.

Table 2. Self-assessments of the participants' psychiatric knowledge at the start and end of the summer school programme (scale 1–5), and comparisons between the subjective and tutor assessment scores.

	Self-assessments				Tutors' assessments		
Statement	**Program Start**	**Program End**	**P[1]**	**Effect size[2]**	**Program End**	**r**	**P[3]**
1. I'm acquainted with the psychiatric healthcare system.	3.00 (2.00)	4.00 (0.00)	<0.001	0.66	4.00 (1.00)	-0.00	0.99
2. I'm acquainted with the internal collaborators within Satakunta Hospital District.	2.00 (1.00)	4.00 (1.00)	<0.001	0.83	4.00 (1.00)	-0.06	0.67
3. I'm acquainted with the municipal co-operative parties.	2.00 (1.00)	4.00 (1.00)	<0.001	0.72	3.00 (1.00)	0.22	0.11
4. I'm aware of the internal policies in psychiatry.	3.00 (1.00)	4.00 (0.00)	<0.001	0.75	4.00 (1.00)	-0.01	0.93
5. I know how to interview a psychiatric patient.	4.00 (1.00)	4.00 (1.00)	<0.001	0.54	4.00 (1.00)	0.04	0.78
6. I'm able to evaluate psychotic symptoms in a patient.	3.00 (1.00)	4.00 (0.00)	<0.001	0.39	4.00 (1.00)	-0.02	0.89

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	Self-assessments				Tutors' assessments		
Statement	**Program Start**	**Program End**	**P[1]**	**Effect size[2]**	**Program End**	**r**	**P[3]**
7. I'm able to evaluate suicidality in a patient.	3.00 (1.00)	4.00 (1.00)	<0.001	0.53	4.00 (1.00)	0.09	0.51
8. I'm able to determine the appropriate placement for a patient.	3.00 (1.00)	4.00 (1.00)	<0.001	0.60	4.00 (1.00)	0.11	0.43
9. I'm able to collaborate with different professionals in treating patients.	4.00 (1.00)	4.00 (0.00)	<0.001	0.58	4.00 (1.00)	0.10	0.48
10. I'm acquainted with the psychiatric legislation.	3.00 (2.00)	4.00 (1.00)	<0.001	0.38	3.00 (1.00)	0.01	0.97
11. I know how to use coercive means in psychiatry.	2.00 (1.00)	3.00 (0.00)	0.001	0.32	3.00 (1.00)	-0.10	0.57
12. I know how to use acute medical treatments.	3.00 (1.00)	3.50 (1.00)	<0.001	0.40	3.00 (1.00)	-0.23	0.13
13. I know how to use long-term pharmaceutical treatments in psychiatry.	3.00 (1.00)	4.00 (1.00)	<0.001	0.64	3.50 (1.00)	0.14	0.31
14. I'm able to make psychiatric diagnoses.	3.00 (1.00)	3.50 (1.00)	<0.001	0.56	3.00 (1.00)	0.11	0.42
15. I'm able to utilize different measures in patient evaluation.	3.00 (1.00)	4.00 (1.00)	<0.001	0.41	3.00 (1.00)	0.16	0.27
16. I understand the significance of psychological examination in patient evaluation.	3.00 (2.00)	4.00 (1.00)	0.014	0.27	4.00 (1.00)	0.24	0.10

The scores are given as medians (interquartiles)
1 Related Samples Wilcoxon Signed Rank test
2 Cliff's Delta; 0.15 small, 0.33 medium, 0.48 large
3 Spearman correlation coefficient; correlation between the self-assessments and the tutors' assessments at the end of the programme

DISCUSSION

In the present study, the main finding was that 25.5% of the respondents at follow-up had a residency in psychiatry four years after their participation in our summer school programme. Additionally, over 50% of the respondents had worked in psychiatry after the programme, and many of the non-residents considered specializing in psychiatry. Although the programme naturally attracts those who are interested in psychiatry, the majority (69.2%) of the residents reported that the programme had significantly impacted on their career choice. The self-assessments and tutors' assessments of the participants' psychiatric knowledge during the programme were not associated with a residency or work experience in psychiatry after the programme and thus, the results do not support the hypothesis.

Compared with the long-term results of other summer school programmes, the results seem promising. In a previous study, concerning the Combined Accelerated Program in Psychiatry, 69% of the participants ranking psychiatry as their first choice had entered psychiatry residency (8). Within the Toronto Institute, 43% of the participants in the summer school programme were matched to psychiatric residency programmes (9), and in the Claassen Institute programme, 21% of the participants did so (16). Straightforward comparisons are, however, difficult due to the marked differences between various programmes, such as the duration and emphasis on clinical work in our programme. Additionally, based on our experience, many of the participants approach our programme more as a summer job opportunity than a step towards a career as a psychiatrist. Thus, our results support the participants' assessments of the significance of the programme on their career choice.

The fact that 54.9% of the respondents had worked in psychiatry after the programme is also encouraging. Unfortunately, comparable results from other programmes are not available. Positive experiences presumably lower the threshold to work in psychiatry, even without a wish of future residency, which would provide temporary alleviation to the shortage of psychiatrists. Additionally, recognizing common psychiatric presentations within healthcare, working as a member of a collaborative multidisciplinary team and improving skills in establishing rapport are also assumed to benefit the participants in other professional contexts (18,19).

The participants experienced significant subjective improvements in their psychiatric knowledge during the two-month programme. Taking into account that they were initially inexperienced and that subjective improvement in psychiatric knowledge can be gained even during a short course (20), this was expected. Given that medical students struggle in making reliable self-assessments (21), the non-significant correlations between the self-assessments and the tutors' assessments were not surprising. Overall, the psychiatric knowledge was not a significant predictor for a career choice in psychiatry, which has also been observed before (14). In the present study, a partial explanation may also be the fact that several non-residents still considered psychiatry as a career choice, which possibly diluted the differences between the groups.

Regarding the different elements, the non-residents had experienced their peers and joint leisure activities during the programme as more important than the future residents. However, sturdy comparisons are difficult, since the elements cannot be studied separately and comparable findings from other summer school programmes are not available. Patient work was emphasized by both residents and non-residents, which is also highlighted in studies on the impact of psychiatry clerkships (14).

Regarding the limitations of the study, due to the different structures of various summer school programmes, the results can only partly be generalized. The number of participants was limited, although the differences between the participants and non-participants were not significant. A limitation is that the psychiatric knowledge evaluations are based on self-assessments and the scale used has not been formally validated. Although they were complemented with the tutors' evaluations, the self-assessments were subjective by nature. Additionally, although the participants evaluated what elements were most meaningful for them, it is difficult to differentiate their true significance. For example, the effect of positive role models is known to be significant (22), but it was not assessed.

To conclude, in addition to the short-term alleviation of the shortage of psychiatrists, the results of this follow-up study indicate that our summer school programme has been successful in terms of its long-term goal. Programmes that focus on inspiring and reinforcing interest are beneficial as such, but the lack of practical benefits in the short term may make the threshold for organizing such programmes high in psychiatric units suffering from a shortage of clinicians. The development of programmes with a greater emphasis on clinical work is therefore encouraged.

Acknowledgements
This work was supported by a grant issued by The Finnish Medical Society Duodecim. The author wants to express his warmest gratitude to all who have participated in organizing the programme, tutors, staff members, and of course, all the studious participants.

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Disclosure statement

The author declares no conflicts of interest

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