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Quick Response Code:

Website: www.jehp.net
DOI: 10.4103/jehp.jehp_147_19

Impact of MiniMedJob as medical career intervention program

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Abstract:

BACKGROUND AND AIM: Medical career exploration is a continuous process that one should invest on throughout their academic life. However, lack of resources and time are the main barriers in establishing suitable intervention. Therefore, the needs for flexible intervention are crucial, as it can improve medical career choices. This study aimed to improve career self-efficacy and to open the insight of medical students in choosing a variety of medical careers.

MATERIAL AND METHODS: This study was conducted using quasi-experimental study design with nonequivalent control groups design (pretest-posttest) using a modified model from a preexisting medical career intervention (MedJob™) labeled as MiniMedJob™. A total of 122 1st-year medical students from Sriwijaya University, Indonesia, were voluntarily joining the study. The effectiveness of MiniMedJob™ in increasing students' self-efficacy was evaluated using Wilcoxon and Mann-Whitney statistical tests using IBM SPSS Statistics for Windows, Version 24.0, Armonk, New York.

RESULTS: MiniMedJob™ was proven effective to improve medical students' career self-efficacy ($P = 0,000$). The mean of the pretest and posttest for the intervention group was 77.79 ± 10.12 and 87 ± 8.36 , respectively. While for the control group, the mean of pretest was 87.00 ± 8.36 and for the posttest group was 83.55 ± 7.96 . Despite the higher score of the intervention group compared to control group, statistically, it was insignificantly different ($P = 0,084$).

CONCLUSIONS: MiniMedJob™ is proven effective in improving medical students career self-efficacy despite their shorter period and fewer activities compared to preexisting intervention model.

Keywords:

Career choice, career intervention, medical career, undergraduate

Introduction

One of the biggest decisions every future physician will have to make throughout their academic life is in determining their future career. The career selection is a continuous process, starting from very early and continuing to evolve endlessly.^[1] Career selection can be influenced by internal and external factors. Internal factors consist of intellectual abilities, interests, talents, motivations, etc., External factors consist of parents' influence, teacher's influence, and peer group influence.^[2] When an individual enters medical school, ideally, they will

immediately begin to explore the career of their interest.^[3]

Careers in the medical field vary greatly, ranging from clinical careers to nonclinical careers, such as specialist, researchers, primary care doctors, health administration, health insurance, community medicine, health administration, epidemiology, and many others.^[3,4] Although abundant choices are currently available to choose from, being a specialist is still considered by medical students as the preferred career choice among many others.^[1,5] This phenomenon happened not because the gap in the importance of those careers, but it relied on the level of medical student awareness on other medical careers, which is still very

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How to cite this article: Putri KE, Syakurah RA, Rasyid RS. Impact of MiniMedJob as medical career intervention program. J Edu Health Promot 2019;8:205.

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Received: 20-03-2019

Accepted: 08-06-2019

low.^[3] Therefore, intervention in the introduction of medical careers is vital to widen their knowledge and awareness on various medical professions.

Medical jobs (MedJob™) is a method of introducing medical career that is carried out comprehensively and aimed to improve the career exploration behavior of medical students. Career exploration behavior studied in MedJob™ were self-efficacy, outcome expectation, and goals (career intention and career exploration). MedJob™ is proven effective to increase career exploration behavior of medical students, both qualitatively and quantitatively. It was constructed as a six-session career intervention packed with activities and guided with online platform group to maintain interaction and reduce the risk of dropouts.^[3]

Despite the effectivity, MedJob™ had its limitation that was the length of intervention of six sessions, and the variety of activities held during the intervention. These two factors hindered MedJob™ to be replicate by medical student's organization, which have limitation in time and resources. Therefore, there was a need to formulate a compact version of MedJob™ for easier replication that still produce the same level of effectiveness. MiniMedJob™ was introduced as a more condensed version of MedJob™. MiniMedJob™ was set to be a 2-day session with two chosen activities hoped to serve as an alternative to be used by students in conducting medical career interventions. This study aimed to improve the career self-efficacy of medical students in choosing a medical career.

Subjects and Methods

This research is a quasi-experimental design with pretest and posttest control group. Participants of this study were 1st-year medical students of Sriwijaya University Palembang, Indonesia, with inclusion and exclusion criteria. Participants were recruited voluntarily. The participants are divided into two groups: intervention and control group. Intervention group joined the MiniMedJob™ and the control group was given handouts of career choices the intervention group had, but without the activities and additional guidance. Data collection was carried out before and after MiniMedJob™ using the translated and validated Career Decision Making Self-Efficacy-Short Form questionnaire in online form using the Google Form.^[3] The collected data are then processed manually and presented in the form of tables and percentages. The next step the researcher examined the participants' data, examined the answers to each questionnaire, examined the completeness, and errors of the questionnaire respondents had filled in and then gave the answers codes according to the indicators on the questionnaire.

Data that had been collected and coded was processed using SPSS Statistics 24 (IBM Company, Armonk, NY, U.S.A). Statistical data processing program that is used to obtain the influence of career intervention on improving career self-efficacy using the Wilcoxon test. To find out the level of MiniMedJob™, effectiveness between the intervention group and the comparison group was to use the Mann-Whitney test from the posttest data from both groups. The study has collected ethical approval from the Local Institution, Sriwijaya University, Indonesia.

Results

MiniMedJob™ was constructed as a 2-day session with two main activities, role model and hospital fieldtrip. This setting reduced more than half of the original intervention timeline. The original model, using six sessions in total, with six role models from various medical career fields, had online platform in order to maintain participants' interest in between sessions and to minimize dropouts, and ended with hospital tour and Dreamwish™, a unique closing ceremony consisted of self-reflection, goal-setting, and symbolically flying the participants' wish in a balloon to soar high to the sky.

MedJob™ and MiniMedJob™ timelines are shown below [Figures 1 and 2].

The detailed activities that were included in the MedJob™ were more varied, including logbook writing, self-assessment, career planning discussions, sharing session with residents and fresh graduates, daily feedback, weekly contests, and quizzes. Some of the activities, such as contests and quizzes, were aimed to reduce dropouts because of the length of the intervention increase the risk of dropouts. Table 1 showed the effect of MiniMedJob™ on improving career self-efficacy by comparing the posttest result with pretest result of the intervention group. From the result of the Wilcoxon test below, it is shown that there was a statistically significant effectivity of MiniMedJob™ on improving career self-efficacy of medical students ($P = 0,000$).

Results of the comparative analysis of the average effectiveness of MiniMedJob™ between intervention group and control group are showed in Table 2 and Figure 3. The results of the Mann-Whitney test comparing the posttest results of intervention group and control group showed that intervention group

Table 1: Effect of MiniMedjob™ on increasing career self-efficacy

Career self-efficacy	Mean±SD (minimum-maximum)	P*
Pretest	77.79±10.12 (56.60-97.50)	0,084
Posttest	87.00±8.36 (70.00-98.30)	

*Wilcoxon, $\alpha=0.05$. SD=Standard deviation

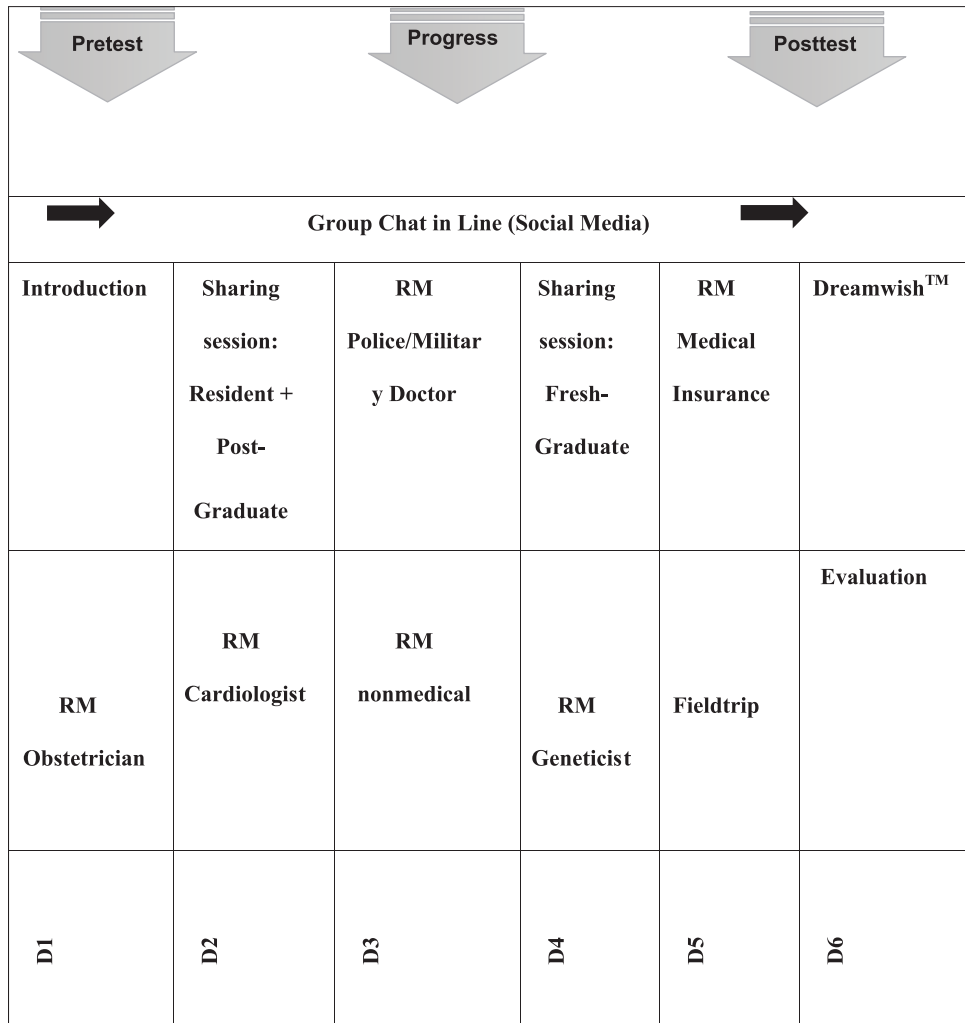


Figure 1: The definitive timeline of MedJob™^[3]

scored higher than control group, but not statistically significant ($P = 0.084$).

According to Figure 3, there was an increase in career self-efficacy between intervention and control groups, but the difference was not proven statistically significant. The pretest mean of the intervention group was 77.79, while the mean of the posttest was 87. Control group had pretest mean of 77.32, and the posttest mean was 83.55.

Discussion

MiniMedJob™ proven to be statistically significant to increase medical students' self-efficacy in a relatively short time intervention compared to the recommended length of career intervention activity^[6] and the original medical career intervention.^[3] The choice of role model and hospital field trip as critical points used as main activities played a great role of this success in increasing career self-efficacy.^[3,7]

Role model is considered as one of the most influential determinants in career decision-making in Indonesia,

Table 2: Comparative analysis of MiniMedJob™ effectiveness between intervention and control group

Career self-efficacy	Posttest (minimum-maximum)	P*
Intervention group	87.00±8.36 (70.00-98.30)	0.084
Control group	83.55±7.96 (83.55-98.30)	

*Mann-Whitney, $\alpha=0.05$

and combined with the through and thoughtful representative of nonmedical career in medical career. This maneuver was done to cover more variety of career choices in a short amount of time. All three role models are chosen carefully according to certain criteria, such as young at age (all role models are under 40-year-old), already established on their field, had immense passion toward their career, and have great communication skill. These criteria are also used in the original MedJob™.^[3,7]

Compared to the original MedJob™ that had six role models and one resident sharing sessions, and this diverse choice was the most effective way given the limited time and resources. Moreover, verbal persuasion serves as an extrinsic support given to the participants

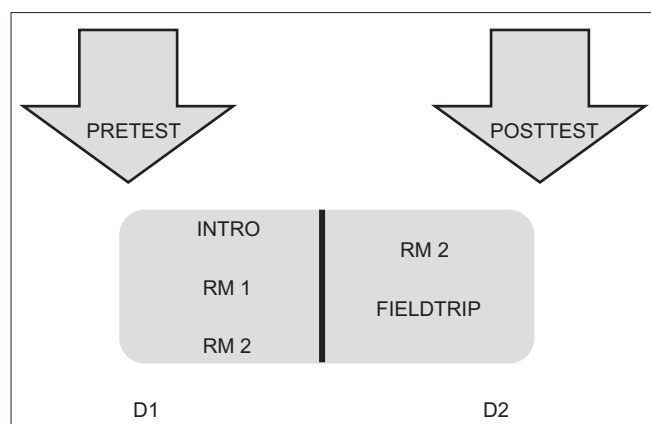


Figure 2: The definitive timeline of MiniMedJob™

during role model session, and field trips will also affect their confidence, and this poses important role in one's career choice.^[3,8-11]

Beside the use of role model as main activity, hospital field trip was one of the activities that are chosen and proven to be effectively increase medical students' career self-efficacy. The hospital field trip included all major wards and vital facilities of the teaching hospital, such as emergency room and operating room. They also guided by medical clerks and hospital officials that assist them as tour guide and peer mentors throughout the field trip.^[12] The students had the chance to meet residents, nurses, and patients, and they were briefed on how things work on daily basis in the hospital also discussed about residency life with the residents.

This positive result is in accordance to previous studies that showed the importance of field trips as one of early introduction to working life, and in this case, hospital life.^[3,13,14] First-year students have very few opportunities to observe let alone experience hospital life, as one of the careers they can choose in the future. This increase the impact on field trip as it is also in accordance to their current stage of career development.^[10] Qualitatively, participants stated that the hospital field trip was their favorite activity throughout MiniMedJob™ as it increases motivation, confidence, and interest of medical students toward their possible career choices.^[15,16] However, it should be noted that in collectivist culture, career decision is not solely dependent on the individual, but also rely on family and closed ones' shared decision.^[17] Hence, the field trip might have been more effective in a long run if it was accommodated for the family as well.

Role models and hospital tours were also considered as the best activities to be chosen in MiniMedJob™ because of the main target of the intervention, which are 1st-year medical students. At the age of 17–19, an individual faced

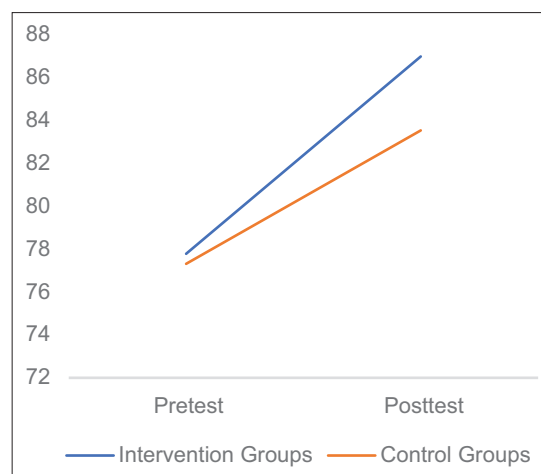


Figure 3: Comparison of career self-efficacy in intervention and control groups

with the challenge of fulfilling new roles in adolescence development task to find their own identity,^[9,10,18,19] also at the stage of career exploration.^[3,9] Moreover, most of the medical students exhibited difficulties in choosing their own career at the first 2 years of their studies.^[20] Role models and hospital tours were effectively filled the gap of information and experience lacking by 1st-year students, resulting both effective and impactful early exposure.

Despite the effectivity shown in pretest and posttest comparison, the comparison between intervention and control groups did not show significant effectivity statistically. It might have been the drawback of short intervention length. During MedJob™ intervention, career self-efficacy was the variable with the most consistent effectivity throughout the intervention with the biggest effect size.^[3] However, this study used double the participants from the original intervention, so this might result in the decrease of effectivity because class size also influences effectivity of group intervention.^[6,7]

Nonetheless, this result served as an important reminder that although the pretest and posttest comparison might have been showing substantial effectivity in increasing medical career self-efficacy; there is still room for improvements to increase the effectivity so that the intervention group can ultimately show a satisfying effectivity and impact. This limitation needs to be observed thoroughly, corrected and followed up in order to acquire the most effective and easily replicable medical career intervention model.

There are also ways to increase effectivity without adding the length of intervention because it was the main problem needed to be resolved essentially. Doing preparation better helps to increase effectivity and minimizing risk of dropouts. Good preparation is the key of having successful activities.^[3,9] Choosing the right

time to conduct the intervention helps to steer the whole activity smoothly, so does choosing the role models effectively and according to the cultural preference and norms.^[8,17] Making a standard preparation guidelines should be considered in future research to increase effectivity and to ensure the reliability of the model. Collaboration with faculty in incorporating medical career awareness into the curriculum is a strategic move that can be taken into consideration in the future.

Conclusions

MiniMedJob™ as an alternative medical career intervention is proven to be able to influence the enhancement of medical students' career self-efficacy. MiniMedJob™ that has been delivered as a 2-day activity using role models and hospital field trip were more replicable by medical students with time and resources constraint.

Acknowledgment

The authors greatly acknowledge and appreciatively thank our colleagues from Medical Faculty, Sriwijaya University, Palembang, Indonesia, and Mohammad Hosein General Hospital, Palembang, Indonesia, who provided resources and assistances that greatly assisted the research. The authors would also like to show our greatest gratitude to the participants and role models of MiniMedJob™ for sharing their insights and wisdom during the course of this research. The authors declared that this research received no specific funding and conflict of interest.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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