Students’ motivation to choose general practice as their career pathway: a report from a middle income country, Indonesia

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Abstract

Background: General practitioners (GPs) within the primary health care services are mainly function for community prevention. However, not all countries have the GP specialist training, including Indonesia. Students’ motivation will drive them to select their career pathway, including to become a GP. Therefore, it is important to understand students' perspectives and influential factors for their career pathway decision on the GP career pathway to predict fulfillment of the primary care services.

Methods: Mixed-methods were used to interpret national level data. The survey’s questionnaire using a 5-point Likert scale with Yes-No questions, and two open questions about preferences for career-choice were delivered electronically to 2240 students who already completed their national exit exam, across 64 faculties of medicine in Indonesia. Focus group discussions and in-depth interviews were conducted with third-year students who passed the exit exam from one single institution with the highest level of accreditation.

Results: The surveys’ response rate reached 81%. Based on the students’ perspectives, GP is not preferred as a main career choice. Sixty-seven percentage indicated most prefer to choose to become a hospital specialist. From the qualitative data, it was revealed factors choosing GP as their main career choice were: more family time, closer to and serving the community as their motivation, and interested in learning bio-psycho-social subject. Meanwhile, the reasons which hamper students to choose GP career choice were: imbalance in work and rewards, less authority, being at the lowest level in the health care system, too broad science causes high uncertainty, and much less financial incentives.

Conclusions: GP is not considered as an interesting career option for medical students in this study. Contributing factors to be a GP should be nurtured in medical curriculum to facilitate a shift from external to internal motivation. GP as a career pathway needs to be well-developed in every country to inspire students to work at primary care settings, to have better health outcomes, to increase patients’ satisfaction, and to optimize the health costs.

Background

Defined comprehensively by Starfield (1998), the term Primary Care refers to integrated and
accessible health care services by a clinician who is capable in dealing with communal health care needs, building sustainable relationship with patients, and practices under family and community circumstances (Shi, 2012). Specific to clinical needs, it is also defined as a service which manages and identifies undifferentiated symptoms, then matches patients’ needs with health care resources (Ferrer, Hambich, and Maly, 2005). Those specific characteristics in health care services are meant to be held by a General Practitioner (GP) or Family Physician who mostly works at Primary Care Units. Over time, the primary care services have demonstrated their positive impact on low- and middle-income populations (Mochinko, Starfield, and Erinosho, 2009). Moreover, the GP existence is correlated with low mortality rate in almost country in the world (Starfield, Shi, and Machinko, 2015). As consequences, primary care services are essential for the Indonesia health care system which must deal with the triple burden of diseases: non-communicable and communicable diseases along with low to non-existent resources (Mboi, et al., 2018).

It is already known that trends in the career choice as GP face threats lately in many countries such as Germany (Kiolbassa & Mikash, 2011), Japan (Kawamoto et al., 2016), and UK (Lambert et al., 2012). Although there are many established institutions already supporting the present number of GPs, there are challenges to maintain the number of GPs since it depends on how GP work could be sustained within the community within their respective health care system and what assurance exists in the career pathway as Primary Care physicians.

Several studies have already explored the reasons motivating undergraduate students to choose their career pathway. A systematical study on GP career trends divided the reasons into internal and external causes which could encourage or demotivate undergraduate students to choose GP/FM as their career pathway (Puertas et al., 2013). It found that the most common encouraging reasons were exposure to a rural or remote area, role models, and working conditions, and the main demotivating reasons were low income, prestige, and medical school environment. Specifically, encouraging reasons identified in middle and low income settings such as understanding of rural needs, and intellectual challenges are different than those in high-income countries, for example, attitudes towards social problems, voluntary works, the influence of family, and length of residency. Low and
middle-income countries also differed from the high-income countries, regarding the community structure-needs and their culture. These differences underpin the reasons for undergraduate students in deciding their career pathway. For example, a study in Saudi Arabia reported that their undergraduate students choose their career pathway depended on their gender, students’ perspectives, role models, financial rewards, prestige, and technical challenges (Guraya, and Almaramhy, 2017). In Saudi Arabia, the female students tend to choose their career pathway by the convenience to get some scholarship support and more close and humanistic interaction with their patients. On the contrary, the male students tend to choose their career pathway depends on technical challenges, the greater possibility of earnings, and prestige. A study in the UK revealed students’ reasons to choose GP/FM as their career pathway were: role models, life-work balance, and encountering a variety of case presentation (Alberti, 2017). Stress among GPs, lack of procedural protocol, working alone, and negative comments from hospital educators tend to have demotivated students from choosing the career as GP/FM. It is different in Germany, where their health care system differs from other countries since their GP does not work as a gatekeeper. Those who choose GP/FM as their career pathway are mostly females, of older age, low ambition concerning career possibilities, income and prestige are not their priority, and prefer close patient-doctor relationship (Kiolbassa, 2011). In addition, based on a study in Japan, Kawamoto (2016) reported choosing GP/FM as their career pathway was based on students’ admission from hometown, students’ preparation for the entrance exam, students’ intention for rural setting, and work-life balance.

Motivation is an important aspect which will drive students to choose their career pathway. According to the motivation theory of Self Determination by Ryan-Deci (1985) life decisions are based on a personification process. The self-determination theory of motivation proposes that motivation is a fluid and dynamic process which could change over time (Kursurkar et al., 2011; Orsinii, Binnie, & Wilson, 2016). Several factors could influence students during their educational process, in which internal and external factors will become intertwined and shape the students’ ultimate motivation (Orsinii, Binnie, & Wilson, 2016). This shaping process implies the importance of the educational system within each institution.
Just as the lower middle-income countries are unique with specific cultural characteristics and health care system, undergraduate students will have specific consequences in choosing GP as their career pathway. From the literature, students’ preference for their career choice is influenced by their own personalities at the beginning of their education, and external factors in the middle of training. Every past experience for each student will shape their opinion concerning GP as a career pathway. At the end of this process, based on their individual conditions and preferences, they will decide the best career pathway for themselves. This study aimed to know whether GP is an interesting career pathway for undergraduate medical students and explore decisive factors influential in choosing their career pathway.

Methods
This exploratory study used a mixed method approach (Mason, 2002). A qualitative study was first conducted in order to get students’ perspectives. Then, a quantitative study was conducted to balance the data in order to avoid any bias from the qualitative data since it was only from one institution. This study received approval from the appropriate institutional ethics board with some correctional changes for the informed consent.

Qualitative study
This descriptive study used qualitative methods with focus group discussion (FGD) and in-depth interviews in order to gather the data. In addition, several simple open questions were added into an e-questionnaire, in which students were asked to mention three reasons which make them choose GP as their future career and on the contrary, not choose to become a GP. Students were randomly assigned to join the FGDs. Students numbering five per tutorial group from a total of 36 groups joined the FGDs (nine students in each FGD with a total of 4 FGDs). The FGDs and in-depth interviews were done by using structured guidelines. Three students from every five listed students who already finished their exit exam were invited for an in-depth interview with the principal investigator. After introducing each other, we used open questions about their future career. Then we started to ask about their opinions about medical career choices, their opinion about being GP or primary care doctor as their future career, their opinion about becoming a rural doctor, and several questions on
how education shaped their career opinion. The FGDs were saturated when we reached the third FGD. All FGDs and in-depth interviews were recorded, transcribed, and analyzed by using open coding process. Two coders analyzed the data for matching themes and held two mini meetings in order to have agreement.

Quantitative study
The quantitative study was a national survey using an e-questionnaire which was distributed to students who already finished the national exit exam. The questionnaire was adapted from a research report from a Swedish tele-health study conducted in 2017. Construct validity was done by adding several questions based on current literature, and the questionnaire were divided into several part: (1) students’ identity, (2) students’ perspective on career in medical field, (3) students’ preference for their career, (4) students’ factor determination of their future career, (5) students’ preference in working style for their next future career, and (6) educational impact on their career preferences. Each part consisted of two to fourteen questions. Face validity was done by 30 students outside the participants of this study. Based on the validation process, there was several questions dropped and adapted. The final questionnaire was sent to the IT office to be set into electronic format. An informed consent section was added in the beginning of the questionnaire, in which the students clicked for agreement to participate in the study. The quantitative data were analyzed descriptively.

Results
The overall results from the qualitative and quantitative studies showed that most of students still had positive view concerning GP but there were several reasons which made them unwilling to choose GP as their career pathway as represented below.

Qualitative study
Based on the qualitative data, most of students said that GP is not their next future career in medicine, while one of them said that GP will be only a temporary option for their career before they choose specialties in medicine as shown by several quotes:

“GP….it is something positive but how to explain….it is positive as a starting career.....”  (FGD)

“Yes, it is a career option, it will be a phase which should be passed through, all of us should be a GP”
Below are several reasons not to choose GP as their career pathway including the science, working task/responsibility, rewards, social hierarchy, and social/community perspectives, as reported below.

**The science**

GP profession must have certain competencies which prepare them to fit into a health care system. Regarding their role, they were prepared to make the best clinical decisions for their patients regarding their condition. However, that ability was constrained with their medical knowledge since medical knowledge is flourishing in recent decades.

“First, the science, then secondly also because of previous one because the science flourish rapidly....getting more specialized even become sub-sub specialty....so with condition like that, becoming GP just really needs to be upgraded “ (FGD)

**Working task/responsibility**

We found several interesting responses showing dissatisfaction toward the GPs they met. Most students said that health services from GP were too short and only based on symptoms which make it not satisfying. This could imply that it was caused by the large number of patients who should be seen within a limited time by the GP. Furthermore, one respondent also indicated that GP were demanded to do more preventive tasks and speak diplomatically to their community which is hard according to some students.

“ when my experiences met with GP...with my all achieved science, I think I could do more as a GP...” (FGD)

“From my personal perspective, I do not want to be a GP because GP only give symptomatic treatment. Only based on criteria, I even went to GP services three or four times and I received the same medication, that make me underestimate them. That was experienced not only by me, but I also heard my friends got that experiences, just like me, they also got so many medications, that’s why I do not want to be a GP” (FGD)

“If we go to a specialist, they will be more exploring into details, so that’s our impression, they are better, more precise” (FGD)
“.....GP should maintain their community health, so they should diplomatically speak to their community, and do more preventive task...” (FGD)

Rewards

For decades, GP accepted rewards from their patients which was from patients' out of pocket payments. They could only accept a limited amount based on the number of patients each day. The development of the national insurance system gives impact to the payment system. The system pays the GP by a per-capita system which enables them to accept salary-based income, regardless of the number of patients each day. However, this amount seems still low regarding to several students.

“If seen from the salary point of view, it seems so little, although now we have capitation. Yesterday, it was said that the earning from the capita will be cut for operational costs of the unit and also for the head of the unit, the nurse....so the doctor will receive only a little” (In depth interview)

“From the PHC capitation, per patients they had 11 thousand rupiahs, and each PHC got around 10 thousand people, but I saw the doctor only receive 3 million 3 hundred rupiahs for one month and I was really surprised because it is not enough for this time to live with that amounts, I feel that I was not prepared. Then we should be a GP first, so it took a long time and we are just worth that much” (FGD)

Social hierarchy within health care system

Several negative comments showed its influence on students’ perspective of GP.

“‘become a specialist! Why would you become a GP? You will regret it, just like me’......from primary care doctor who complaints like that, he/she disappointed why he/she not becoming a specialist” (In depth interview)

Social/community perspectives

For a long time, GP has held a special place in the community heart. However, there are sociocultural changes within the community. Some students give those evidence.

“Patients in my area, actually not in the city but in the village. In my village, our people tend to think why should I go to GP because it will just cost their money twice, if they already know the problem they just decided to go to internist or pediatrics” (In depth interview)
“The community trust specialist more, have greater preference to go to specialist if they’ve got ill which might be not necessarily like that because might be that only need GP level competency....” (FGD)

“My parents’ opinion is different, they see GP life is so miserable and they see specialist is much better” (FGD)

“If just me, I do not have national insurance coverage, so if I want to have health care service, I will just go to specialist, if I go to GP, they will refer me anyway. So many just like me, if they got ill, they just go to specialist. Also, besides they should have long queue, I think that is why they choose to directly go to specialist” (In depth interview)

We also obtain qualitative data from the questionnaire. We shorten the data into 300 sources by having equal representatives from 64 institutions who participated in this study. The results from the open-ended parts in the e-questionnaire are illustrated in Table 1. Most of students do not want to be a GP and we captured this phenomena by a simple quote shared from students who are not willing to be a GP:

“it is just because low rewards, unspecific science, and big responsibility.” (e-survey)

**Quantitative study**

From 2,204 students who took the national exit exam, eighty-one percent decided to complete the questionnaire. With a response rate of 82 percent, there were 1788 data from predominantly female students’. Seventy-five percent of students came from urban areas and eighty-seven percent are not married yet.

Students’ perspective on their career in medicine in a working place is shown in Table 2. Most of the students agreed the need of specialty at the working place, with around seventy-six percent in accordance. Comparing between GP and specialist, students had more positive perspectives as specialist than GP, with twenty-five percent indicating positive perspectives toward GP and twenty-seven percent with positive perspectives toward being a GP in a remote area compared to sixty-eight percent with positive perspective of becoming a specialist. As part of the overall perspective as GP, students had more positive perspective of GPs who work in remote areas. In line with that opinion,
fifty-seven percent students agreed to becoming a GP who works in a remote area but seventy-four percent of them said no to becoming a usual urban GP.

The decision to take specialty in the working area will depend on personal interest, flexible working time, salary/rewards, and time for family. Interestingly, working status, in-dependency-responsibility, research opportunity, networking, serving community, and career development were not determinant factors which will affect them to choose their specialty, as shown in Table 3. Preference of working type is one of the influential factors for student in order to choose their career pathway. As shown in table 4, students’ working type preference is mostly dominated by expectation of working in balance with personal life, using more technology, more procedural protocols and team work, not too complicated cases, and more patient interaction.

Besides their internal factors, one of the biggest influencing factors on students’ determination of career pathway is when they are in the educational phase. As shown in Table 5, several educational impacts were also asked to the students, including the students’ insights after their education, GP as good role model, comments which could shape their perceptions on a career as GP, and their perceptions on their own perspective changes toward GP after education. Seventy-two percent of students realize that they were prepared to be a GP after finishing their education phase and also as a doctor who will work in remote areas, with as many as 56 percent. Seventy-seven percent of students still see good GPs as their role models. Fifty-six percent of students made good comments about GPs during their study and only twenty-nine percent of students made negative comments about GPs. Moreover, fifty-nine percent of students agreed that they had changed their perspective on GP after their education.

In this study, the results are grouped into several parts: identity, students’ perception and preference on medical career pathway, determining factors and working style preference, and educational impact. Each part had missing data, involving from 0.1 % - 11 %, except the identity part. In order to consider the data reliable, two border levels of missing data (above 5% or above 10%) was used (Dong and Peng, 2013). In this study, if we use the above 10% of missing data as the cut-off point, most of the ‘educational impact’ data as shown in Table 5 had above 10% missing data, indicating it
cannot be trusted. Educational impact had the most missing data which could be caused by cultural bias since students were afraid to talk openly about their teachers due to huge power distance index (PDI) between students and teachers. If we use above 5% of missing data as the cut-off point, then the data on ‘students’ perception-preference on medical career pathway’ and ‘working style preference’ cannot be trusted. Interestingly, data on ‘determining factors for their career pathway’ can be trusted with missing data cut of point below 5%. As shown from the data pattern, when the students were asked about their preference of work, they could not give firm answers but when asked about factors which influence their decision of their career pathway, they could give firm answers. These contradictory patterns showed that the students were not really sure about their own working expectations and future career decisions.

Discussion
Data from this study indicates that GP is not a preferred career pathway for medical students who are recently graduated. As expressed by one participant, ‘GP is not a destination but a destiny’. The students still have positive view for GPs but they prefer to choose another career pathway. In line with their perceptions and preferences of medical career pathway, most students plan to stay as a GP for only 2–3 years, if there is chance they will prefer to pursue as a specialist or taking master degree rather than stay as a GP for the rest of their career. This particular result will influence the number of GPs in Indonesia which should be maintained for the society’s and health care systems’ needs, especially in a country that has no graduate GP specialist training. GP roles are important in the development of an effective and efficient health care system since they deal directly with the community and are on the front line in deciding the most effective care management for the people in their community.

Students’ perspectives on GP as career pathway mostly were positive and most of them also hope for balance between work and life. This balance is one strong reason which encourages medical students to choose GP as their career pathway (Kiolbassa and Mikcsh, 2011; Lambert et al., 2012). As a GP, working in Primary Care has specific characteristics which are influenced by personal style, i.e. health care practitioner serving their patients as a whole person (personalized holistic care), practicing
patient-centered medicine by giving consultations, allowing patients to express their perspectives, respecting patients’ authority in decision-making, and safeguarding self-autonomy (Landstrom, Rudeback and Mattsson, 2006). Patient-centered care medicine will require much more communication with patients, family, and community. Unfortunately, the advantages of life balanced with working as GP is not recognized as a significant benefit working as health worker by the students but fortunately, there is a strong chance for students to change their minds throughout their life. In contrast, science is one strong reason for students not to choose GP as their career pathway as also mentioned by Lambert (2012). Thus, the emphasis that students expect in working as health worker will deal with only a specific science of medicine, even though the roles of GPs include taking care of all patients with different life phases (Landstrom, Mattsson, Nordin, and Rudeback, 2014). The reason for preferring a specific science by the students could be caused by their lack of understanding on working as health care professions, i.e. dealing with a complex patients’ life background and socio-determinants of health. Furthermore, some reasons were already revealed from the data such as working task/responsibility, rewards, social hierarchy within health care system, and social/community perspectives on GP and were common reasons for not choosing GP as a career pathway (Puertas et al., 2013). This study also found that society has high expectations for health worker, not only for the services but also in sociocultural aspects i.e. doctor should have high socioeconomic level. This will make working as GP to be seen as not unfavorable. As consequences, it will demotivate students to become a GP.

As they work in the real world, there is possibility that they will chose GP as their career pathway since they are not firm with their expected future work environment yet. Responses also shown that working status, in-dependency-responsibility, research opportunity, networking, serving community, and career development are not factors which will affect them to determine their works’ specialty, as well described in previous study (Kiolbassa, 2011; Kawamoto, 2016). However, there is still homework to do since rewards should be better defined for GPs in order to upgrade the image and role of GPs within the health care system.

Additionally, from an educational point of view, an exposure in rural/remote areas will have positive
influence on students to choose GP as their career pathway (Kawamoto et al., 2016). Furthermore, exposure with a good GP could provide a good role model for students and have positive influence for students to choose GP as their career pathway (Alberti et al., 2017). Fortunately, most of student still see GP as good role models and made few negative comments about GPs. This should be maintained from early in their education until completion of their study since it will be externally integrated with the motives for the students’ career choice (Kursurkal et al., 2011; Orsinii, Binnie, & Wilson, 2016).

Conclusions
In a country that is lacking a graduate GP training, GP as a career pathway in Indonesia is still not preferable for most medical students. Educational strategies could be done to promote GP as a viable career pathway in order to provide sufficient number of qualified GPs for Indonesian people by providing GPs’ good role model and exposing students with remote/rural areas. Meanwhile, a more positive environment within the health worker community should be established in order to maintain the system, i.e. helping the GP as mainstay of the health care system to work effectively within the system and providing proper rewards for GP for the patient-centered care services that they deliver.

Abbreviations
GP General Practitioner
FM Family medicine
FGD Focus group discussion

Declaration
Ethics approval and consent to participant: These study already approved by ethical committee/board in Gadjah Mada University with approval letter number KE/FK/07652/EC/2017 published 14 July 2017. All of participants already informed and had signed their consent to be involved in this study, and when it is published we remain their names and institutions to be anonymous. In e-survey, a statement consisting the information about the study was at the first page, and by clicking on the questionnaire, the participants was considered agree to be involved in this study. Consent of publication: all of authors declare no conflict of interest with the publication of this manuscript. Availability data: all data are available with the first author and can be accessed by request via first author’s e-mail address. Funding: this research was funded by internal research
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Tables
Table 1. Qualitative result from questionnaire
Coding categories - determining factors in choosing GP as their career path

| Number of responses | Quotes example |
|---------------------|----------------|
| 1                   | Reward/salary 3 | “enough rewards” |
| 2                   | The science 36   | “various cases” |
|                     |                 | “more experiences” |
| 3                   | Responsibility and competence, including | “flexible working time” |
|                     | National assurance coverage (BPJS) | “front liners, first liner” |
|                     | Time | “caring holistically” |
|                     | Family time | |
|                     | Facility | |
| 4                   | Social hierarchy 3 | |
|                     | Cooperation | |
|                     | Career | |
| 5                   | Social/community perspectives: 40 | “I Want to have close relationship with community” |
|                     | | “Want to give service to the community” |
|                     | | “I want to be first point of contact of the community” |
|                     | | “Make good deed, achieve rewards.” |
| 6                   | Spiritual 5 | |

Table 2. Students’ perspective on medical career

| No | Item                                      | 1       | 2       | 3       | 4       | 5       |
|----|-------------------------------------------|---------|---------|---------|---------|---------|
| 1  | The need of specialty in working place    | 16(0.9%)| 20(1.1%)| 252(14.1%)| 671(37.5%)| 703(39.3%)|
| 2  | Career as GP                              | 100(5.6%)| 166(9.3%)| 763(42.7%)| 455(25.4%)| 175(9.8%)|
| 3  | Career as doctor in remote area           | 69(3.9%)| 186(10.4%)| 747(41.8%)| 489(27.3%)| 161(9%)|
| 4  | Career as specialist                      | 18(1%)| 29(1.6%)| 389(21.8%)| 639(35.7%)| 588(32.9%)|

Table 3. Factors determining in career pathway
| No. | Item                                | Yes      | No       | Missing data |
|-----|-------------------------------------|----------|----------|--------------|
| 1   | Personal Interest                   | 1088(60,9%) | 700(39,1%) |              |
| 2   | Salary-rewards                      | 942(52,7%) | 846(47,3%) |              |
| 3   | Time for family                     | 942(52,7%) | 846(47,3%) |              |
| 4   | Flexible working time               | 937(52,4%) | 849(47,6%) | 2(0,1%)      |
| 5   | To serve society                    | 878(49,1%) | 910(50,9%) |              |
| 6   | Career development                  | 831(46,3%) | 957(53,3%) |              |
| 7   | Leisure time                        | 667(37,2%) | 1120(62,7%) | 1(0,1%)      |
| 8   | Independence-responsibility         | 658(36,8%) | 1130(63,2%) |              |
| 9   | Family distance                     | 629(35,2%) | 1159(64,8%) |              |
| 10  | Networking                          | 613(34,3%) | 1175(65,7%) |              |
| 11  | Opportunity to teach                | 482(27%)  | 1306(73%)  |              |
| 12  | Working status                      | 436(24,4%) | 1351(75,6%) | 1(0,1%)      |
| 13  | Research opportunity                | 281(15,7%) | 1507(84,3%) |              |
| 14  | Family with specialist career       | 206(11,5%) | 1582(88,5%) |              |

Table 4. Personal preferences on working style to choose specialist

| No | Item                                | 1          | 2          | 3          | 4          | 5          |
|----|-------------------------------------|------------|------------|------------|------------|------------|
|    |                                     | From       | To         | From       | To         | From       | To         | From       | To         | From       | To         | From       | To         | From       | To         |
|    |                                     | Personal life dominant/simple cases/ interaction/ technology minimum | Works dominant cases/mostly interaction/most technology/most team works |
| 1  | Proportion work and personal life   | 137(7,7%)  | 125(7%)    | 1298(72,6%) | 85(4,8%)   | 44(2,5%)   |
|    |                                     | 137(7,7%)  | 125(7%)    | 1298(72,6%) | 85(4,8%)   | 44(2,5%)   |
| 2  | Scope of Cases                      | 27(1,5%)   | 95(5,3%)   | 635(35,5%)  | 693(38,8%) | 233(13%)   |
| 3  | Procedure                           | 18(1%)     | 67(3,7%)   | 626(35%)    | 736(41,3%) | 239(13,4%) |
| 4  | Interaction                         | 14(0,8%)   | 53(3%)     | 536(30%)    | 760(42,5%) | 323(18,1%) |
| 5  | Technology                          | 10(0,6%)   | 38(2,1%)   | 536(30%)    | 768(43%)   | 331(18,5%) |
| 6  | Proportion of team working          | 19(1,1%)   | 50(2,8%)   | 527(29,5%)  | 764(42,7%) | 318(17,8%) |

Table 5. Educational impact on students’ career determination
| No | Item                                                                 | Yes            | No       | Missing     |
|----|----------------------------------------------------------------------|----------------|----------|-------------|
| 1  | Previous learning experiences on primary and secondary care settings directing work as GP. | 1293(72,3%)    | 307(17,2%)| 188(10,5%)  |
| 2  | Previous learning experiences in remote areas clinical settings.     | 1005(56,2%)    | 596(33,3%)| 187(10,5%)  |
| 3  | Previous learning experiences with GP as a good role model.          | 1370(76,6%)    | 221(12,4%)| 197(11%)    |
| 4  | Previous learning experiences with other teachers’ positive comments on GPs as positive role model in health care services. | 1002(56%)      | 589(32,9%)| 197(11%)    |
| 5  | Previous learning experiences with other teachers comments on GPs lack of role model within health care services. | 535(29,9%)     | 1059(59,2%)| 194(10,9%)  |
| 6  | Change perspective on GP after school                                 | 1057(59,1%)    | 536(30%)  | 195(10,9%)  |

**Supplementary Files**

This is a list of supplementary files associated with this preprint. Click to download.

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