

FACTORS AFFECTING CHOOSING OF FUTURE SPECIALTY AMONG INTERN PHYSICIANS, TABUK ARMED FORCES HOSPITAL, SAUDI ARABIA

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ABSTRACT

The choice of interns for their postgraduate medical specialist training has an important influence on future work force in health care system, especially in times of shortage or oversupply of physicians, to elucidate the career preferences of Saudi interns as well as the factors which influence them to make the decision regarding which specialty to pursue. This cross-sectional study was conducted at King Salman Armed Forces hospital in Tabuk Province at Northwest Saudi Arabia. It included intern physicians trained at this hospital (n=70). A self-administered questionnaire was utilized. The study included 40 intern physicians. Almost two-thirds of them (65%) aged 24 years or less. More than half of them were males (55%). The commonest reported preferred specialties were internal medicine (17.5%), pediatrics (17.5%) and ophthalmology (15%). Some specialties such as anesthesia and community medicine were not reported at all as preferred specialties by the participants. There was no significant difference between male and female interns regarding preferred specialties. Concerning factors influencing career choice, personal interest (100%), future job opportunities (92.5%) and a chance to serve people (90%) were the most frequent agreed upon factors. More than half of them (57.5%) wanted a workshop on career or specialty counseling before starting the residency after completion of undergraduate studies. Intern physicians participating in this study report preferred specialties quite differ from those reported before in Saudi Arabia with no gender difference. Personal interest was reported by all as an influential factor on the formulation of their specialty preferences.

INTRODUCTION

The number of undergraduate medical students and consequently interns is increasing in Saudi Arabia, thus increasing the demand for specialty training, and for training and supervision at both graduate and undergraduate levels. Trends in selection of particular specialties have implications in terms of arranging training and supervising positions and information on these trends is necessary to guide policy [1].

While a body of literature from around the world including countries such as the United States (U.S.), [2] Australia, [3] New Zealand,[4] Canada,[5] and China,[6]

address factors affecting medical student specialty choice, there is little data on influences on Saudi medical students and interns [7].

It is often assumed that students do not make their career choices until after they have finished medical school, remaining agnostic about their final specialty choice until that time. However, medical school entrants [8] and even medical school applicants, often have strong preferences for, and particularly, against, some medical careers [9] there is strong evidence, therefore, that career choice can be determined during or even before medical school [10, 11].



The choice of interns for their postgraduate medical specialist training has an important influence on future work force in health care system, especially in times of shortage or oversupply of physicians. Consequently, studying the process of career choices can provide important information to help in educational planning and administration, assign priorities and plan for provision of proper health care. 'Career counseling as a specialty area has been recognized since the early 1980s with the establishment of career counseling competencies and credentials. The issue of career counseling for medical students and intern doctors during their training has been identified by a number of research studies. A study published in 2004 suggested that early career advice and support during medical school and immediately after graduation might encourage doctors who were considering careers in specialties in which there are shortages to pursue careers in these specialties [12]. Lambert and Goldacre while analyzing the views of doctors in training on the importance and availability of career advice reported that a great majority of junior doctors want career advice after qualification [13].

Insight into the reasons underlying the choice of medical careers in a country like Saudi Arabia can improve medical career-planning. Better matches of preference and actual specialty may prevent the early termination of a medical career. These insights can also provide better information and counseling for medical students and young doctors, and guide them towards careers that serve their aspirations as well as the health needs of the society [7]. On the other hand, failure of proper selection can lead to the waste of time and financial resources, improper utilization of human talents, declining enthusiasm and performance, multiple changes among specialties, drop outs, and even abandonment of health careers [7].

In Kingdom of Saudi Arabia (KSA), health care services have to be matched with existing health problems. These services should also be served by a variety of suitably trained work force for their health care priorities. Therefore this study was carried out to elucidate the career preferences of Saudi interns as well as the factors which influence them to make the decision regarding which specialty to pursue.

SUBJECTS AND METHODS

This cross-sectional study was conducted at King Salman Armed Forces hospital which is a military hospital located in Tabuk Province at Northwest Saudi Arabia. It included intern physicians trained at this hospital (n=70). All of them were invited to participate in the study by filling in the study questionnaire. A self-administered questionnaire was utilized. It has been previously used in a similar Saudi study and proved to be valid and reliable. [14] It included four main sections. The first section of the

Majority of the intern physicians (92.5%) have seen their chosen specialty as significant to the community.

questionnaire comprised of questions regarding demographic characteristics of the respondents (age, gender, marital status, number of children, residence and working of one or both parents as a physician. The second section included a list of medical specialties which students were likely to choose later in their careers. Students were asked to choose from 15 specialties and select the most preferred specialty. Specialties enlisted were: surgery and subspecialties, internal medicine and sub specialties, pediatrics, orthopedics, gynecology & obstetrics, ophthalmology, dermatology, anaesthesiology, Psychiatry, Laboratory medicine, radiology, ENT, emergency medicine, family medicine, community medicine. A separate group for other specialties was constructed to include other academic specialties and forensic medicine. In the third section of the questionnaire, students were asked to indicate the degree to which 24 factors influenced their choice. The fourth section including four questions about the impact of the chosen specialty for the community, the need for career counseling in the process of career choosing of the specialty during academic education, satisfaction with opportunities during medical college tenure to explore potential career and the influence on specialty choice by obtaining marks in a particular subject.

The researcher distributed the self administered questionnaire during the working hours; care was taken to not disturb the physicians. The questionnaires were collected in the same day. The researcher repeated this over one week period to include as much as interns. All ethical considerations regarding permissions were followed.

Statistical analyses were conducted with the SPSS version 22.0 for Windows (SPSS Inc., Chicago, IL, USA). Data were shown as number and percents. For the comparison of categorical data Pearson chi-square (χ^2) was used. $P < 0.05$ was accepted as statistically significant.

RESULTS

The study included 40 intern physicians. Their demographic characteristics are summarized in table 1. Almost two-thirds of them (65%) aged 24 years or less. More than half of them were males (55%). Majorities (92.5%) were singles and 70% reside rural areas. Only 10% of them had physician parents.

The commonest reported preferred specialties were internal medicine (17.5%), pediatrics (17.5%) and ophthalmology (15%). Some specialties such as anesthesia and community medicine were not reported at all as preferred specialties by the participants. Figure 1 Table 2 shows no significant difference between male and female interns regarding preferred specialties.

Concerning factors influencing career choice, personal interest (100%), future job opportunities (92.5%) and a chance to serve people (90%) were the most frequent agreed upon factors. (Table 3).

Only half (50%) of the participants reported that obtaining marks in a particular subject influence their specialty



choice. Sixty percent of the intern physicians were satisfied with opportunities during medical college tenure to explore potential career choices and more than half of them (57.5%)

wanted a workshop on career or specialty counseling before starting the residency after completion of undergraduate studies. (Table 4).

Table 1. Demographic characteristics of the participants

	Number (40)	Percentage
Age (years)		
≤24	26	65.0
>24	14	35.0
Sex		
Male	22	55.0
Female	18	45.0
Marital status		
Single	37	92.5
Married	3	7.5
Having children (n=3)		
No	1	33.3
Yes	2	66.7
Residence		
Rural	28	70.0
Urban	12	30.0
Physician parents		
Yes	4	10.0
No	36	90.0

Table 2. Comparison between male and female interns regarding preferred specialties

	Males N=22 N (%)	Females N=18 N (%)	Chi-square (p-value)
Surgery and its subspecialties (n=5)	3 (13.6)	2 (11.1)	6.08 (0.415)
Internal medicine and its subspecialties (n=7)	6 (27.3)	1 (5.6)	
Pediatrics (n=7)	4 (18.2)	3 (16.7)	
Ophthalmology (n=6)	4 (18.2)	2 (11.1)	
Dermatology (n=3)	1 (4.5)	2 (11.1)	
Emergency medicine (n=4)	1 (4.5)	3 (16.7)	
Others (n=8)	3 (13.6)	5 (27.8)	

Table 3. Factors influencing career choice among interns, Tabuk armed forces hospital

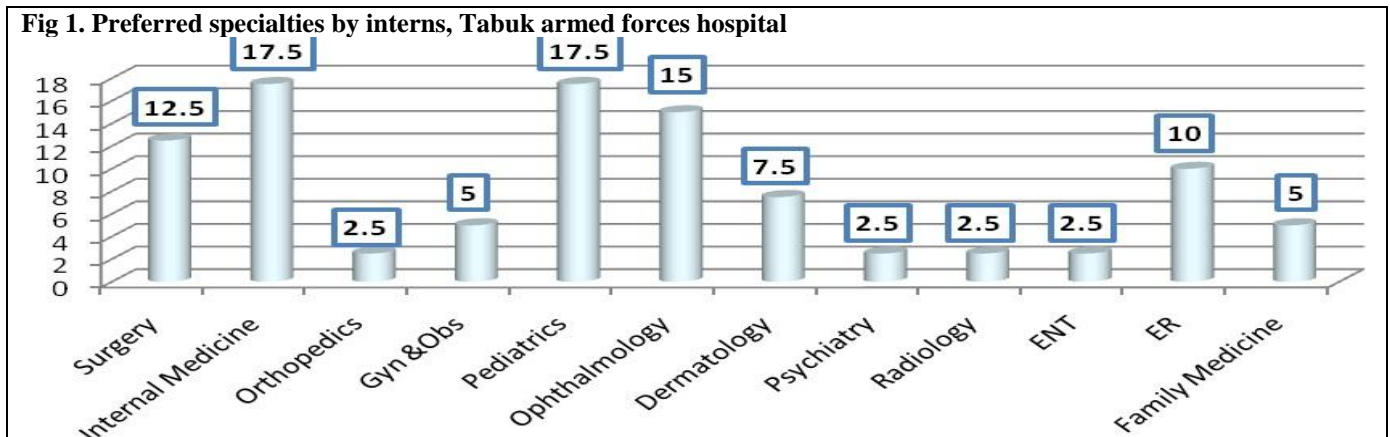
Statement	Agree N (%)	Don't Know N (%)	Disagree N (%)
Personal interest	40 (100)	0 (0.0)	0 (0.0)
Marital status	14 (35.0)	8 (20.0)	18 (45.0)
Number of children	5 (12.5)	9 (22.5)	26 (65.0)
Family' expectation	25 (62.5)	7 (17.5)	8 (20.0)
Teachers advice	26 (65.0)	6 (15.0)	8 (20.0)
Friend advice	26 (65.0)	8 (20.0)	6 (15.0)
Less competitive field	12 (30.0)	11 (27.5)	17 (42.5)
Future job opportunities	37 (92.5)	3 (7.5)	0 (0.0)
Prestige of specialty	23 (57.5)	10 (25.0)	7 (17.5)
Shortage of specialists	19 (47.5)	10 (25.0)	11 (27.5)
Diversity of patients	29 (72.5)	6 (15.0)	5 (12.5)
Option to practice abroad	29 (72.5)	6 (15.0)	5 (12.5)
Good clerkship experience	32 (80.0)	7 (17.5)	1 (2.5)
Research opportunities	27 (67.5)	7 (17.5)	6 (15.0)
Teaching opportunities in medical	22 (55.0)	9 (22.5)	9 (22.5)



college			
Perceived ability (inclination)	27 (67.5)	11 (27.5)	2 (5.0)
Effect of a role model	21 (52.5)	17 (42.5)	2 (5.0)
A chance to serve people	36 (90.0)	4 (10.0)	0 (0.0)
Location of practice	27 (67.5)	9 (22.5)	4 (10.0)
Work-related risks	19 (47.5)	10 (25.0)	11 (27.5)
Work stress	24 (60.0)	8 (20.0)	8 (20.0)
Short period of training	18 (45.0)	6 (15.0)	16 (40.0)
Work independently	25 (62.5)	12 (30.0)	3 (7.5)
High income potential	29 (72.5)	5 (12.5)	6 (15.0)

Table 4. Attitude of the intern physicians towards career choice

statement	Very significant N (%)	Significant N (%)	Not sure N (%)	Insignificant N (%)	Very insignificant N (%)
In your opinion how significant is your chosen specialty to the community?	24 (60.0)	13 (32.5)	2 (5.0)	1 (2.5)	0 (0.0)
	Yes N (%)		Not sure N (%)	No N (%)	
Is obtaining marks in a particular subject influence your specialty choice?	20 (50.0)		15 (37.5)	5 (12.5)	
	Very satisfied N (%)	Satisfied N (%)	Not sure N (%)	Dissatisfied N (%)	Very Dissatisfied N (%)
How satisfied are you with opportunities during medical college tenure to explore potential career choices?	11 (27.5)	13 (32.5)	8 (20.0)	5 (12.5)	3 (7.5)
	Yes N (%)		Not sure N (%)	No N (%)	
Do you want a workshop on career or specialty counseling before starting the residency after completion of undergraduate studies?	23 (57.5)		13 (32.5)	4 (10.0)	



DISCUSSION

The choice of a future career specialty is an important subject among intern physicians. Preferred



specialties are based on complex factors, including intrinsic factors (personal attributes) and extrinsic factors (local medical environmental effects) and thus differ from one place to another. Internal medicine with its subspecialties and paediatrics, followed by ophthalmology were the most preferred specialties by intern physicians in Tabuk, KSA. Surgery with its allied sub-specialties, internal medicine with its subspecialties followed by paediatrics, dermatology and gynaecology and obstetrics were the most preferred specialties by the medical students in Pakistan[15]. Surgery was the most common choice of future career specialty among medical interns in a Nigerian Tertiary hospital [16]. In another Saudi study carried out among medical students at King Khalid University [17]. Preferred specialty choices observed in male and female students together were surgery (22.45%), internal medicine (8.61%), ophthalmology and pediatrics (7.48%), neurology (5.89%), and orthopedics (5.66%). In an earlier study, it was reported that internal medicine (17%), surgery (16%), pediatrics, and obstetrics and gynecology (14%) were the most sort after specialties [18].

Generally speaking, there was no significant difference between male and female interns regarding preferred specialty in the present study. This could be partly attributed to the relatively small size of our cohort. In another study carried out in Saudi Arabia, males preferred more significantly surgery and orthopedics whereas females preferred Obstetrics and Gynecology [17].

Interestingly, in contrast to observations in other studies conducted in Saudi Arabia [18]. European countries [19] and the study of Khader *et al* from Jordan [20] in this study obstetrics/gynecology was not in the most preferred list of female students. The same has been reported recently in Saudi Arabia. This unwillingness of females to enter obstetrics/gynecology in a conservative country like Saudi Arabia may be attributable to concerns about a demanding professional obligation versus family commitments, work force planning and career progression problems, rather than any lack of enthusiasm for the specialty.

In the same context, male students' did not intend to work in obstetrics and gynecology. In contrast to this Figueiredo *et al* [21] reported a preference of 18% and 16% by two

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cohorts of male students from Brazil. From Saudi Arabia, [17] a small liking by men for obstetrics and gynecology (4%) while Khader *et al.* from Jordan [20] reported a preference of only 1%. Possibly, this very low interest in obstetrics and gynecology by male students reflects the conservative socio-cultural environment in Saudi Arabia.

The most important influencing factors in specialty selection were personal interest, future job opportunities and a chance to serve people. Our results matched with Chang *et al* [22] and Rehman *et al* [15]. Our study shows moderate level of impact of a role model for specialty selection on students which is strengthened by many other studies [15, 23, 24].

This study has potential limitations. First, the relatively low sample size and response rate which limits the generalizability of results. However, for feasibility issues, namely, time and limited budget, the data were collected from a limited sample of 40 students (about 57% of eligible Intern physicians) which is an acceptable percentage. Second, its cross-sectional strategy did not confirm the causality of the association between exposure and outcome.

In conclusion, intern physicians participating in this study report preferred specialties quite differ from those reported before in Saudi Arabia with no gender difference. Personal interest was reported by all as an influential factor on the formulation of their specialty preferences. Future research should examine the relative importance of the aforementioned factors' influence on primary care and specialty choice for Saudi medical students. Moreover, research is needed on popularity and effectiveness of retraining programs for physicians who initially train as subspecialists and desire a career in community-based, mixed primary care/subspecialty practice.

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CONFLICT OF INTEREST

There is no conflict of interest.



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