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General practice research

Does gender affect the decision to participate?

Background

Recruitment of general practitioners for research in Australia is problematic. We aimed to explore general practice demographics and recent research experience for effects on research attitudes and enablers and inhibitors of research participation.

Methods

A survey was developed and distributed to GPs via two divisions of general practice in Melbourne, Victoria.

Results

Seven hundred and fifty-six questionnaires were mailed and 215 (28%) returned; 50% of respondents were women and 51% of all GPs had previously participated in general practice research. Gender differences were found in factors affecting the decision to participate. Women were significantly more concerned about out-of-hours commitment ($p < 0.001$), paperwork volume ($p < 0.001$), recruitment criteria ($p = 0.009$) and research methodology complexity ($p = 0.016$). They were more likely to want to work as a general practice group ($p = 0.007$) and to be inhibited by having to present results to peers (OR 2.4, 95% CI: 1.5–3.8).

Conclusion

Research challenges, reduced interest in research participation and feminisation of the workforce have major implications for the future of research in general practice. Systemic changes are needed to address these issues.

Keywords

research; general practice; attitude of health personnel; questionnaires

While research within general practice is essential to improve practice processes, service delivery and the assessment and care of patients, recruitment and retention of general practitioners into research has been disappointing.^{1–7} Despite considerable investment by the Australian government over the past 10 years via the Primary Health Care Research, Evaluation and Development initiative, issues and barriers to participation have been described, including the Australian fee-for-service context, an undersupply of GPs, time pressure and poor payment for research activities.^{8–10}

Concerns expressed by practitioners include poor recognition as a research partner, having little input into the research design, the misuse of data, scepticism of the research value, lack of resources and inadequate direction and research procedures.^{8,11–13} Despite these barriers, Australian younger GPs have positive attitudes to research,¹⁴ therefore the future of primary care research will depend on its ability to engage and enhance the practitioner research experience by developing a research culture during training programs.^{15,16}

The demographics, working practices and demands of the Australian general practice workforce continue to evolve with a shift to larger practice sizes, feminisation of the workforce and part time practitioners.^{17,18} Feminisation influences practice demographics, type of consultation and working hours.^{13,19,20} In our study on childhood obesity, we found there was difficulty in recruiting GPs into a research project on improving the assessment, management and treatment of childhood obesity in general practice and yet, practitioners put a high priority on learning more about dealing with

childhood obesity. This raised questions about additional barriers to recruitment.²¹

The aim of this study was to survey GPs about their attitudes to, and experience with, research in their practice. Specifically if there is any influence of age, gender or past research experience on their responses and their attitudes to research into childhood obesity.

Methods

Questionnaire development

A questionnaire was developed using Askew's questions from existing literature,¹⁴ with extra questions added after consultation with experts in general practice education, research, childhood obesity, and practitioners involved in our research. The additional questions were put to four general practice focus groups for feedback before circulation. The questionnaire was designed so that it could be completed in about 5–10 minutes and used various simple response options (yes/no, Likert scale and free text). Initial questions were about demographics and previous research involvement. Sets of questions centred on attitudes to the relevance of research and factors that influence the decision to become involved, and increase or inhibit participation, including some specific questions about research into childhood obesity. Free text responses gave GPs the opportunity to cite additional factors.

Participants/questionnaire circulation

Two divisions of general practice, located in inner middle suburban Melbourne (Victoria) and already involved in our childhood obesity project, agreed to a one-off distribution of the questionnaire to their members by mail. No incentive was offered and no reminders or follow up was permitted by the participating divisions.²²

All analyses were performed using the SPSS statistical package (standard version 19, SPSS, Chicago, IL, USA). Chi-square test was used to look for gender differences and binary logistic regression to assess research participation characteristics.

This study was approved by the Monash University Standing Committee on Ethics in Research involving Humans (SCERH).

Results

Of the 756 questionnaires mailed, 215 (28%) were returned. The level of return is adequate for meaningful analysis. The equal gender distribution of responses matched division demographics according to the information provided on their websites (women 46% and 50.1% respectively). More than half of the responders (55%) were in the 46–60 years age range, and 142 (68%) had graduated more than 20 years previously. Approximately half (51%) indicated they had been involved in research and of these, 70 (64%) had been involved in research in the past 5 years. The majority (85/111) had participated in recruitment (77%) (Table 1).

While age and gender were significant for likelihood of ever having been involved in research (male gender and older age group were more likely to have participated) when recent research involvement (current or over the past 5 years) was analysed, age grouping and gender made no difference. There was a trend for recent research involvement to be in the middle age groupings (ages 35–60 years). Overall, men were more likely to have participated as a principal researcher (chi-square, $p=0.006$).

Attitudes to research

Attitudes to research were mixed, although there was strong endorsement that research could help in the day-to-day management of patients (87%) and that practicing evidence based medicine improves patient care (88%). Relatively few (16%) would like to increase their involvement in research, although a further 40% were unsure. Previous research participation did not influence these responses.

Factors that impact on GPs' decisions to become involved in research

Eleven factors were listed and generally participants felt all factors were important.

However, women were significantly more likely to be influenced by out-of-hours commitment, and also by several direct aspects of a research project – the volume of paperwork, the recruitment criteria and the complexity of the research methodology (Table 2).

Factors that may increase participation in research

Six factors were provided for comment. When analysed for age and gender the only significant difference was an increased preference for women to work as part of a general practice team (chi-square, $p=0.007$) (Table 3).

Inhibitors to participation in general practice research

The strongest of the five listed inhibitors was meeting the informed consent process, followed

by a requirement to present to peers and research requiring patient recall (Table 4). While research that required presentation of results to peers was described as an inhibitor by 39% of respondents, there was an interesting gender and age interaction. Women were more likely than men to find presenting to peers an inhibitor (OR 2.4, 95% CI: 1.5–3.8, $p<0.001$). This difference was greater in older GPs, with men (age >45 years) least likely to be inhibited by peer presentation (23%) and older women most likely (54%). For younger men and women the percentages were 40% and 46% respectively.

Other factors

The GPs were asked if there were any other reasons or factors that would increase their participation in general practice research (59 responses/215); inhibit participation in general

Table 1. Demographics of participants and their research experience

Question	N	Response choice	Response n (%)
Gender	215	Males	107 (50)
Age group (years)	215	<35	17 (8) (3m/14f)*
		35–45	49 (23) (17m/32f)*
		46–60	119 (55) (62m/57f)*
		>60	30 (14) (25m/5f)*
When graduated from medical school	210	<5 years ago	2 (1) (0m/2f)*
		5–10 years ago	14 (7) (4m/10f)*
		11–20 years ago	52 (25) (19m/33f)*
		>20 years ago	142 (68) (79m/63f)*
Where graduated	215	Victoria	168 (78)
		Interstate	17 (8)
		Overseas	30 (14)
Last involved in research	110	Currently	20 (18)
		Up to 5 years ago	50 (45)
		5–10 years ago	23 (21)
		>10 years ago	17 (15)
Acted as principal investigator	106	Yes	22 (21) (17m/5f)
Attended a research methodologies course	108	Yes	29 (27) (17m/12f)
Recruited patients into a research project	111	Yes	85 (77) (58m/27f)
Recruited paediatric patients into a research project	109	Yes	8 (7) (6m/2f)
N = total number of survey responses			
* n (%); (m/f) = number (percentage) (number males/number females)			

(107/215) or in childhood obesity specifically (57/215); and any other general comment they wished to make (23/215). Responses were coded to recurring themes related to time, payment, focus of project, project specifics, practice logistics and general disinterest in research.

The largest group of enablers/inhibitors were related to time (115 comments): more free time to enable research commitment, importance of family time, and concern regarding after hours commitment. Younger women were most likely to cite time as a concern.

The next most cited enablers/inhibitors were related to project specifics (39 comments). Enablers were simple and easy research projects that could be conducted during clinical appointment, projects which helped facilitate patient care such as care plans, projects with personal buy in and involvement, projects with clear aims and endpoints and research likely to inform positive policy change. The complexity

of the research design, conduct and analysis, where these were perceived as daunting, were inhibitors. Practice logistics provided additional issues: practice too small, unsuitable patient demographics and no provision for research support.

Inhibitors to research into childhood obesity

Most inhibitors revolved around practice logistics including general unsuitability of patient demographics, sensitivity to parents' feelings, gaining parental consent and lack of practice

Table 3. Factors that might increase participation in research

Factor	N	Yes (%)**	Significance of gender
Availability of academic mentor	212	149 (70)	<i>p</i> =0.29
Training in research methodologies	213	121 (57)	<i>p</i> =0.35
Research designed by GPs	208	115 (55)	<i>p</i> =0.40
Research as part of general practice group	211	152 (72)	<i>p</i> =0.007* Women 80.2% Men 63.5%
Access to internet information	211	130 (62)	<i>p</i> =0.44
Patients recruited by third party	207	101 (49)	<i>p</i> =0.26

* Chi-square test – women were more likely to endorse group research than men
** Yes/no responses; N = total number of survey responses

Table 2. Eleven factors in the decision to become involved in general practice research

Factor	N	Agree/strongly agree n (%)	Unsure n (%)	Disagree/strongly disagree n (%)	Mean**	Median**	Gender influence
Remuneration	214	131 (61)	26 (12)	57 (27)	3.34	4	<i>p</i> =0.52
Credibility of investigators	212	181 (85)	22 (10)	9 (4)	4.06	4	<i>p</i> =0.55
University involvement	214	133 (62)	51 (24)	30 (14)	3.57	4	<i>p</i> =0.95
Out-of-hours commitment	210	162 (77)	31 (15)	17 (8)	3.89	4	<i>p</i> <0.001*
Volume of paperwork	212	186 (88)	18 (8)	8 (4)	4.3	5	<i>p</i> <0.001*
Personal interest therapeutic area	214	202 (94)	9 (4)	3 (1)	4.33	4	<i>p</i> =0.11
Sensitivity research topic	214	133 (62)	49 (23)	32 (15)	3.55	4	<i>p</i> =0.74
Recruitment criteria	214	137 (64)	55 (26)	22 (10)	3.61	4	<i>p</i> =0.009*
Research knowledge and skill level	213	129 (61)	58 (27)	26 (12)	3.53	4	<i>p</i> =0.20
Personalities research team	214	82 (38)	77 (36)	55 (26)	3.1	3	<i>p</i> =0.18
Complexity of methodology	213	145 (68)	46 (22)	22 (10)	3.67	4	<i>p</i> =0.016*

* *p* values chi-square test. In each case indicate a greater level of importance in the issue by women

** Importance of the factor rated using Likert scale 1–5: 1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, 5 = strongly agree
N = total number of survey responses; n (%) = number responses (percentage)

Table 4. Factors that might inhibit participation in general practice research

Factor	N	Yes (%)**	Significance of gender
Needing to go through the informed consent process	213	117 (55)	$p=0.84$
Research involving children	211	41 (19)	$p=0.75$
Research requiring me to present my results to peers	210	81 (39)	$p<0.001^*$
Research requiring patient recall	209	72 (34)	$p=0.05$
Research topics that might be considered sensitive (eg. childhood obesity)	208	49 (24)	$p=0.80$

* Chi-square test – women were more inhibited by research which required them to present to peers
 ** Yes/no responses; N = total number of survey responses

support internally. Several considered the research focus problematic as they did not consider childhood obesity as fitting a medical context but as a societal/government responsibility. Patient recall was an issue, especially as childhood obesity was not generally the presenting problem.

Discussion

The findings of this survey present some new insights into general practice research. The feminisation of Australian general practice, reflected in this survey, and the competitive demands and time constraints on women's lives need to be carefully considered when designing and conducting research in general practice. Women were more concerned about time pressures and after hours commitments and preferred to conduct research as part of a group. Older women were more likely to express concern about presenting to peers. Reassuringly, we confirmed that interest in research participation was not affected by gender.^{14,23}

The study population was derived from two urban divisions of general practice; both were middle to upper middle class socioeconomic areas. Two divisions located in lower socioeconomic areas declined to participate. The survey was not distributed in rural Victoria or in a provincial city. These may limit the ability to generalise the findings to the wider population in Victoria and Australia. The choice to not include follow up nonresponders produces a likelihood of response bias, however, those who failed to respond could be reasonably assumed to be

less enthusiastic about involvement in general practice research.

Of great concern is the apparent decrease in GPs looking to increase their research participation. In 2001 Askew et al,¹⁴ reported that 29% of GPs would like to increase their involvement in research, whereas we have found only 16%. These figures suggest that unless there is systemic change the problem will continue and possibly worsen.²¹

There were clear enablers of research participation: direct involvement, clear research aims and outcomes, simplicity of design, working as a team, facilitating and simplifying patient care, and projects that influence policy direction were all seen as positives. Assistance and consideration are also necessary and GPs look for academic mentoring, credibility of researchers, understanding by researchers of the limitations and constraints of general practice and access to information and advice. Researchers need to engage general practice research expertise and general practice participants early in the study design process. They must have realistic expectations regarding what is achievable in general practice.⁹ General practitioners may require assistance in areas of professional development regarding research methodology, the specific research topic, and in the preparation and presentation of research findings.

The issues with childhood obesity research will continue due to the additional hurdles of treating a condition which is poorly recognised in the community, sensitive (both emotionally for

the patient/parents and business-wise for the practitioner), rarely the presenting condition for the consultation and involves consenting minors.²¹

Implications for general practice

Research challenges, reduced interest in research participation and feminisation of the workforce have major implications for the future of research in general practice. Systemic changes are needed to address these issues.

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