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ABSTRACT

Objective

To determine the non-medical needs of **older patients in the emergency department (ED)**

Methods

We undertook a cross-sectional survey of **three age groups (50-64, 65-79, 80+ years), using a self-administered questionnaire with five response options (strongly agree-strongly disagree) for 31 items.**

Results

548 patients were enrolled. Significantly fewer older patients knew how to call for assistance ($p<0.001$), knew how the ED works ($p<0.01$), felt frightened by their illness ($p<0.001$) or felt that the ED lights were too bright ($p<0.03$). A substantial proportion of all patients did not agree/strongly agree that their illness and/or treatment had been well explained.

Conclusion

Older patients appear resilient but need to be told to call for assistance when needed, to know how to call for this assistance and how the ED works. Clear information regarding their illness and treatment should be provided, **as well as to younger patients who may be anxious.**

Key words: *emergency department, geriatrics, aged, patient satisfaction*

INTRODUCTION

Australia is one of many developed countries **dealing with issues related to facing** an aging population with shifting healthcare needs.[1-3] It has been predicted that in 2050, people

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aged 65 years and over will constitute 27% of the Australian population.[1] The number of older patients presenting to the emergency department (ED) has increased over the last decade and people aged 85 years and over are 3.9 times more likely to present compared to patients aged 35-59 years.[4] This necessitates a shift towards the diagnosis and management of complex geriatric syndromes and decompensating chronic medical conditions.[5-8]

It has been reported that the special care needs of older adults are not aligned with the medical priorities of the standard ED.[6-12] The ED is designed to maximise efficient use of space, allowing greater staff manoeuvrability, rapid patient evaluation and access to equipment. However, the trade-off may be decreased patient privacy, a relative lack of comfort and decreased duration of the doctor-patient interaction.[13]

Quality of care is multifactorial, incorporating the patient's view of their needs, the care they receive, and any adverse outcomes of management.[14,15] For younger patients, some compromises to comfort and privacy may be tolerated but for the frail older patient, these basic needs may have greater impact on their perceived quality of care and, in turn, satisfaction with that care. With older patients spending more time in the ED per admission than younger patients, they are potentially more vulnerable to negative experiences and adverse outcomes.[12,16,17]

The non-medical needs of ED patients are issues not directly related to the investigation, diagnosis and management of their presenting complaint. They include staff interaction and attentiveness, communication, privacy, and perceived waiting time.[14,15] For older patients, most reports relate to satisfaction with medical and physical needs.[2,18-21] Specific non-medical needs have only been addressed in small, qualitative studies.[18,19,22-24] There is a need for quantitative studies that examine non-medical needs and patient satisfaction as a function of patient age. We aimed to determine the specific non-medical needs of older ED patients. These findings will inform **the development of** intervention and education strategies aimed at improving the experience **of older patients in the ED.**

METHODS

We undertook a survey of middle-aged and older patients in the mixed (adults and paediatric) ED of a tertiary referral teaching hospital ED, between February and June 2014. The ED has

an annual census of approximately 75,000 patients. The study was approved by the institution's Human Research Ethics Committee.

Patients were included if they were aged 50 years or more and had been in an ED cubicle for at least 2 hours. Patients were excluded if they declined participation or were unable to complete the survey **because of** communication difficulties, dementia, ~~significant~~ or medical illnesses **that may have affected cognition (e.g. pain, delirium, shock). This determination was made by the medical and/or nursing staff who had been interacting with the patient since admission. Patients were not invited to participate unless the staff were confident of their capacity.**

An investigator was available between 08:00 and 17:00, Monday to Friday, during the study period. Consecutive, potential participants were identified on the ED electronic information system. Their suitability was assessed two hours after their admission to an ED cubicle, through consultation with the treating medical and/or nursing staff. Patients meeting the study entrance criteria were provided with a verbal and written explanation of the study.

After obtaining verbal consent, the study questionnaire was given to the patient for self-administration. Participants were free to withdraw at any stage. Demographic data were collected by explicit data extraction from the medical record and included age, gender, ethnicity, presenting complaint, triage category and co-morbidities. Only age and gender data were recorded for patients who declined participation or withdrew.

Three age groups of patients were enrolled: age 50-64, 65-79 and 80+ years. ~~The 50-64 year old group served as a control group, against which the responses of the two older groups were compared.~~ At the beginning of the study, all consecutive patients meeting the entrance criteria were invited to participate, regardless of their age. Towards the end of the study, patients were only invited if they were in an age group that had not yet reached its required sample size.

The questionnaire was developed through review of the medical literature, and contained items shown to be, or thought to be, of particular relevance to older patients. It comprised thirty-one items relating to the ED environment, staff-patient interaction and specific psychological ~~issues~~ **variables**. Each item was rated using a 5 point Likert Scale (1=strongly

agree, 2=agree, 3=neither agree nor disagree, 4=disagree, 5=strongly disagree). The questionnaire was validated for face validity by a trial on six ED patients aged over 50 years. It was designed to be anonymous and self-administered. If a patient required assistance in completing the questionnaire, either the researcher or a relative would help to read the items and record the patient's responses.

The sample size was based on the proportion of patients who agreed/strongly agreed with an item. **If the absolute difference in this proportion between two groups was 15% (or more), we regarded this difference as *clinically significant* i.e. a meaningful difference in the proportions who agreed/strongly agreed. To ensure that we had an adequate sample size to demonstrate a 15% difference statistically (i.e. a difference not likely to have occurred by chance),** 182 patients were needed in each age group (total 546 patients, alpha 0.05, 2-sided, power 0.8). All data were entered into a formatted spreadsheet (Microsoft Excel 2003) and imported into SPSS for Windows statistical software (Version 22.0, SPSS Inc., Chicago, Illinois, USA) for analysis. For statistical analysis, Likert Scale response options were merged to form three new groups: 'agree/strongly agree', 'neither', and 'disagree/strongly disagree'. The Chi-square test (Fisher's exact test where appropriate) was used for comparison of proportions **across the three study age groups and ANOVA for comparisons of means.** The level of significance was 0.05.

RESULTS

Of 586 patients invited to participate, 38 (6.5%) refused or failed to complete the questionnaire. There were no **significant** differences in age or gender of patients who were and were not enrolled (Table 1). Complete data were obtained from the remaining 548 patients (Table 2). The three age groups did not differ in gender, ethnicity or triage category. However, chronic disease was much significantly more prevalent among the older age groups.

The item responses of the three groups are described in Table 3. Important items where the groups differed significantly are described in the Figure. For the majority of items, the groups did not differ and there were few trends with age.

There were three ED environment items where the groups differed: 'I do not know how to call for assistance', 'I do not know how the ED works' and 'The ED lights are too bright'. For each of these items, there were clear trends in responses with age. The older the patient,

the less likely they were to know how to call for assistance, to know how the ED works and to be concerned about the ED lights.

There were also three staff interaction items where the groups differed significantly: 'My illness has been well explained', 'My treatment has been well explained' and 'I receive good answers to my questions. **For these items, the middle age group had higher proportions who agreed/strongly agreed.** However, there was no **linear** trend in agreement (or disagreement) with age.

Among specific psychological ~~issues~~ **needs**, older patients were significantly less likely to be frightened by their illness. Also, there were trends towards older patients feeling less scared and feeling less ignored.

DISCUSSION

The finding that the groups did not differ for the majority of items is encouraging and suggests that the patient experience, especially in regard to staff interaction and psychological ~~issues~~ **needs**, does not deteriorate with increasing age. Also, it may reflect a degree of resilience among the older patients.

The groups did differ, however, on three important environment items. Increasing age was associated with increasing proportions of patients who did not know how to call for assistance and who did not know how the ED works. The reasons for the differences between the groups are unknown although it is consistent with reports that older patients are often unfamiliar with triage and management processes in the ED.[16,25] Overall, the patients' perceived interactions with the ED staff were **very good excellent** as evident in several items relating to communication e.g. 'I receive good answers to my questions'. This suggests that poor communication between the staff and the older patients, i.e. staff simply not providing this information, may not have contributed substantially. However, it is notable that approximately one quarter of patients in two groups did not agree/strongly agree that the staff told them to call for help if needed. If this instruction was not given then the way in which a call for help could be made may not have been given either. The relationship between increasing age and cognitive decline is well known and may adversely impact upon the

processing of information and orientation.[10,12] Although speculation, it is possible that cognitive decline was the cause of the differences observed between the groups.

Tolerance of the bright ED lights increased with age. Although this finding was statistically significant, the absolute differences between the groups were small and not clinically significant. Nevertheless, this finding is of interest and consistent with a report that bright lights in the ED setting benefit older patients who have cognitive deficits and that they serve to improve patient orientation.[18]

Patient-staff interactions were ~~excellent~~ **very good** overall, a finding that is likely to reflect the quality of care provided by the ED staff. Importantly, there is no reason to believe that patronisation of patients was an issue as very few patients in each group agreed/agreed strongly that the staff 'treated them like a child' or 'looked down on them'. Although there were statistically significant differences between the groups on three items ('illness well explained', 'treatment well explained', 'received good answers'), there were no age trends to suggest that age affects the item content. Furthermore, the absolute differences between the groups were small and not clinically significant. While the results of these three items are questionable, they are consistent with a report that patients over the age of 65 years perceive that they generally receive clear answers to their questions.[21]

An important association between staff communication and patient satisfaction has been reported.[14,15] Information provision has also been reported to improve the quality of care for older patients.[19,25,26] Information can relieve fear and stress, and allow patients to regain a sense of control by empowering them to become more involved in the decision-making process.[14,16,22] Our findings suggest that patient age is not associated with the **perception of** provision of **adequate** information. However, this is not consistent with the findings of Perez-Carceles et al.[27] who reported that patients aged over 65 years receive less information on the reasons for treatment and why medications were prescribed. These patients subsequently had less understanding of their ultimate diagnosis.[27]

Although not associated with age, the provision of information about the patients' illness and management was not ideal. Up to one quarter of patients in some groups did not agree/strongly agree that their illness and/or treatment had been well explained. The reasons for this are not known. It is possible that this information was not provided adequately or was

provided incrementally and inconsistently by the various ED staff. Alternatively, this information may have been provided but not heeded because the patients' memory and/or comprehension had been affected adversely by stress, anxiety or pain.[22]

It is clear that the large majority of patients perceived the staff to be very attentive. This is evident in their responses to 'staff spend enough time with me' and 'the staff listen to me carefully'. Staff attentiveness is a major determinant of perceived quality of care and involves displaying empathy, providing reassurance, and understanding patient concerns.[23] Patient distress can be exacerbated by negative staff-patient interactions such as an uncommitted and reluctant attitude.[20]

The groups differed on only one psychological issue ~~-needs~~ item - that the older the patient, the less likely they were to be frightened by their illness. This finding is consistent with the observed trend for older patients to be less scared. These findings are difficult to explain. The prevalence of chronic disease among our patients was much greater among the older patients and it has been reported that older patients are more likely to present with decompensation of chronic disease.[10,20] Familiarity with their chronic disease and its decompensation could conceivably lessen these patients anxiety if they know what to expect. However, it has been reported that frequent admissions to the ED actually frighten patients due to concerns regarding the potential evolution of their disorder.[22,25]

This study has important limitations. Selection bias may have been introduced by convenience sampling mainly during office hours as it has been reported that staff attentiveness is less during night shift.[28] The study entrance criteria may have excluded subsets of patients who, by nature of their illness or handicap, may have responded differently e.g. the very ill or those with language or cognitive barriers. Unwell patients may be less likely to note the way that staff interact with them.[14] Patients with cognitive impairment and delirium are common in the ED [2,29,30] and may perceive their ED care differently.[14] Patients who declined participation were few and their basic demographics did not differ from enrolled patients. Therefore, it is unlikely that failure to enrol declining patients introduced substantial selection bias.

The study questionnaire was designed by the investigators. Although trialled and revised before use, it has not been thoroughly tested in other large studies. Important, relevant items

may not have been included. It was designed for self-administration and this may have been difficult, especially for the older patients. Although assistance was available, this may have introduced a Hawthorne effect by precluding anonymity for some patients. Finally, the study was undertaken in a single ED. As EDs differ in their culture, process and levels of staffing, the findings may not be generalizable to other EDs.

From the findings of this project, we make some recommendations. Firstly, more attention should be given to ensure that very old patients are aware of how to call for assistance and how the ED works. These issues should be routinely addressed by the nurse when the patient is admitted to a cubicle and could be supplemented by a brief information leaflet. For all age groups, it is recommended that more time be taken to ensure that the patients' illness and treatment are well explained. It is notable that more than one fifth of patients in the younger patient group reported being scared. ED staff should be aware of this finding and endeavour to be as reassuring to their patients as possible. Switches that enable dimming of cubicle lights could be considered to enable more comfortable lighting levels at times when full illumination is not required. We also recommend that similar, multi-centre research be undertaken. Older patients comprise an increasing proportion of the ED patient load and it is incumbent upon ED staff to accommodate all specific needs of older patients, both physical and psychological.

CONCLUSION

Overall, older ED patients appear resilient. Clear information regarding their illness and treatment should be provided, **as well as to younger patients who may be anxious**. Staff should advise the patient to call for help when needed and instruct the patient in how to do so. The way in which the ED works should be explained and possibly supplemented by an information leaflet. Older patients are less frightened by their illness and staff should be aware that younger patients may require more support and reassurance. Multi-centre observational studies are recommended to further explore the non-physical needs of the aging ED population.

Key points:

Older ED patients:

- should be encouraged to call for assistance and advised how to do so
- should be clearly advised how the ED works
- are less frightened by their illness

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Table 1. Demographics of enrolled (n=548) and non-enrolled patients (n=38)

		patients enrolled	patients not enrolled	p
		n (%)	n (%)	
age (years)	50-64	187 (34.1)	15 (39.5)	0.34
	65-79	183 (33.4)	15 (39.5)	
	80+	178 (32.5)	8 (21.0)	
gender	male	244 (44.5)	20 (51.3)	0.41
	female	304 (55.5)	19 (48.7)	

Table 2. Demographics and medical history of patients enrolled

variable	age group (years)		
	50-64	65-79	80+

		n (%)	n (%)	n (%)	p
gender	male	92 (49.2)	84 (45.9)	68 (38.2)	0.10
	female	95 (50.8)	99 (54.1)	110 (61.8)	
ethnicity	Aust/NZ/Brit*	167 (89.3)	158 (86.8)	159 (89.3)	0.44
	Southern Europe	11 (5.9)	11 (6.0)	9 (5.1)	
	Northern Europe	2 (1.1)	6 (3.3)	7 (3.9)	
	Asian	6 (3.2)	4 (2.2)	1 (0.6)	
	other	1 (0.5)	3 (1.6)	2 (1.1)	
triage category**	1 and 2	50 (26.8)	35 (19.3)	28 (15.7)	0.06
	3	103 (55.4)	118 (65.2)	112 (62.9)	
	4 and 5	33 (17.7)	28 (15.5)	38 (21.3)	
co-morbidity	arthritis	13 (7.0)	32 (17.7)	44 (24.7)	<0.001
	ischemic vascular disease	22 (11.8)	35 (19.3)	57 (32.0)	<0.001
	neurological disease	22 (11.8)	30 (16.6)	52 (29.2)	<0.001
	hypertension	53 (28.5)	88 (48.6)	98 (55.1)	<0.001
	asthma/COPD	16 (8.6)	30 (16.6)	35 (19.7)	0.01
	mental illness	25 (13.4)	27 (14.9)	14 (7.9)	0.01
	diabetes	26 (14.0)	41 (22.7)	31 (17.4)	0.01
	anaemia	4 (2.2)	10 (5.5)	10 (5.6)	0.18
	cancer	35 (18.8)	52 (28.7)	42 (23.6)	0.08
	gastrointestinal disease	60 (32.3)	45 (24.9)	57 (32.0)	0.21

*Aust/NZ/Brit – Australia, New Zealand. Britain

**For triage categories 1,2,3,4 and 5, patients are to be seen immediately, within 10, 30, 60 and 120 minutes of presentation, respectively.

Table 3. Responses to the questionnaire items (data for patients who did not agree/strongly agree not shown)

patients who agree/strongly agree

	within each age group			
	50-64	65-79	80+	
	n (%)	n (%)	n (%)	p
Environment				
I do not know how to call for assistance	26 (14.2)	46 (25.7)	69 (39.9)	<0.001
I do not know how the ED works	63 (34.2)	76 (42.5)	95 (54.0)	<0.01
The ED lights are too bright	45 (24.6)	37 (20.4)	34 (19.2)	0.03
The emergency department is too noisy	31 (16.8)	38 (21.0)	38 (21.5)	0.15
Would like reading material while waiting	60 (33.1)	51 (28.2)	48 (27.1)	0.31
Staff Interaction				
My illness has been well explained	133 (74.3)	152 (83.5)	130 (74.3)	0.01
My treatment has been well explained	153 (83.6)	161 (89.4)	136 (78.6)	0.03
I receive good answers to my questions	164 (89.6)	173 (95.6)	153 (86.9)	0.04
Staff are friendly	181 (97.3)	182 (100.0)	175 (99.4)	0.12
Treated like a child rather than an adult	6 (3.2)	5 (2.7)	7 (4.0)	0.70
Called by name	176 (95.1)	179 (98.4)	168 (94.4)	0.32
Staff are concerned about me as a person	159 (85.9)	170 (93.4)	154 (87.5)	0.13
Staff look down on me	5 (2.7)	6 (3.3)	9 (5.1)	0.81
Staff concerned about physical comfort	167 (90.3)	164 (91.1)	160 (89.9)	0.45
The staff are reassuring	165 (90.7)	171 (94.0)	163 (91.6)	0.52
The staff spend enough time with me	154 (83.2)	159 (87.4)	145 (83.3)	0.77
The staff listen to me carefully	168 (91.3)	171 (96.1)	172 (96.6)	0.07
The staff show me respect	174 (94.1)	174 (96.7)	173 (97.2)	0.16
The staff introduced themselves to me	176 (95.1)	178 (98.3)	173 (97.2)	0.55
The staff are polite	182 (98.4)	178 (98.9)	174 (98.3)	0.78
Staff told me to call for help if I need it	142 (76.8)	151 (83.4)	132 (74.6)	0.24
Psychological issues				
I am frightened by my illness	81 (43.5)	65 (35.7)	34 (19.1)	<0.001
I feel scared	41 (22.4)	34 (18.8)	23 (12.9)	0.07
I feel ignored	14 (7.6)	11 (6.1)	5 (2.8)	0.08
Fear will not get pain killers if need them	8 (4.3)	7 (3.9)	14 (7.9)	0.18

Worried about managing when home	35 (19.1)	37 (20.3)	33 (18.8)	0.50
Feel abandoned	13 (7.0)	13 (7.0)	13 (7.0)	0.87
I have enough privacy	157 (84.9)	164 (90.1)	159 (89.8)	0.52
Would like someone to chat to	28 (15.2)	35 (19.4)	29 (16.4)	0.37
Confused about what is happening	15 (8.1)	29 (16.0)	24 (13.6)	0.11
Worried unable to contact family	15 (8.1)	16 (8.8)	19 (10.7)	0.51

Figure. Important items where the three age groups differed significantly

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