Geriatric Assessment during Health Promotional Home Visits by Zone Nurses of the Suva Subdivision, Fiji

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ABSTRACT
The elderly population of Fiji is around 7% of the total national population and is predicted to increase to 23% in 2050, yet the country does not have a standard procedure that assesses their health and well-being. A survey was carried out to explore current Geriatric Assessment Practice (GAP) amongst the zone nurses of the Suva subdivision during health promotional home visits. Overall the GAP of nurses is poor. Nurses had little awareness of assessment procedures and they constitute. The lack of a standard geriatric assessment protocol that can be used by all zone nurses is evident. More research on the elderly should also be carried out to provide better information and improve nursing practice.

Introduction

Population aging has been a main feature of the population trend of the 20th century with most elderly people living in developing countries.[1] Decreasing fertility and mortality rate has proportionally resulted in less children being born and more people reaching an older age today than in previous years.

Fiji's elderly population of those 60 and above is currently estimated at 58, 000 or 7% of the national population, and this has been predicted to increase to 305, 000 or 23% of the national population in 2050.[2] In 1995 life expectancy was 72 years, while birth rate had declined to 2.4% from 3.2% in the 80s[3]. National estimates for 1999 by WHO show that non-communicable disease were the most common non-psychiatric conditions amongst the elderly in Fiji[4]. Widowed elderly women are one of the most disadvantaged groups in Fiji, and the elderly population was less likely to be educated or employed when compared to their younger counterparts.[5]

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Geriatric Assessment is a Multidimensional process designed to assess an elderly person's *functional ability, physical health, cognitive and mental health, and socio-environmental situation*.[6] It differs from a standard medical evaluation by including non-medical domains; by emphasizing functional ability and quality of life, and often by relying on Multidisciplinary teams. Geriatric Assessment is often a part of preventive home visits that are carried out by primary care staff amongst independently living elderly people in the community. Geriatric Assessment can be used in primary prevention to assess general wellbeing and risk factors; secondary prevention to assess preclinical disease states and tertiary prevention to assess need for rehabilitation.[7] A systemic review in 2000[8] had shown that health promotional home visits with assessment did not improve outcomes of physical or psychological function, falls, admissions to institution, or mortality. However two later meta-analysis have shown that home visiting programs that offered health promotion programs and preventative care reduces mortality and admission to long-term intuitional care,[9] and are effective if interventions are based on multidimensional geriatric assessment and frequent follow-up visits.[10] This study will explore current Geriatric Assessment Practice (GAP) amongst zone nurses during Health Promotional home visits. It will find out how they carry out *Multidimensional Assessment and Multidisciplinary Referral* amongst the elderly.

Methodology

The whole population of 23 active zone nurses within the Suva Subdivision was used for the survey. The target population was defined according to the zone nurses' familiarity with their respective zones and their experience as community nurses. A questionnaire was used to assess GAP through two main activities – *Multidimensional Assessment and Multidisciplinary Referrals* of the elderly. A point score was allocated to the responses, with the most favourable response having the most points. Scores ranged from zero to a maximum of eighty two. Variables that were initially defined as nominal or ordinal data were changed to ratio data by the allocation of a points score. The total GAP score therefore is a rough indication what nurses assess during home visits. It should be emphasized that the questionnaire is not a validated measure of GAP competency.

A pilot study was carried out first amongst eight nurses who had previously worked in a Suva zone within the past year. All are still working within the Suva subdivision but are not involved in zone nursing activities. The nurses were asked to fill in a draft questionnaire and comment on its clarity and relevance. Variables were also cross-checked and consequently some had to be omitted because the nurses' responses were inconsistent. The final questionnaire was

then distributed to the zone nurses to self-administer. Prior to this a consent letter was obtained from National Health Research Council of Fiji (NHRCF), which was given out with the questionnaires. The SPSS program was used to assist with the tabulation and analysis of variables.

Results

The survey was able to achieve a 100% response from the zones that had a residing nurse. Inclusion of the vacant zones still presents a valid response rate of more than 85%. Most nurses who took part are young and of Fijian ethnicity

Over 60% of the nurses were able to define Geriatric Assessment as multi-dimensional care of the elderly, but only two nurses were able to define it as an activity that requires multi-disciplinary team effort (Table1). Disturbingly, five nurses did not even mention elderly care, when they were asked to write down their definition of Geriatric Assessment. Only four nurses have had any training in Geriatric care which had happened more than two years ago.

TABLE 1. Distribution of Geriatric Assessment Definition and Training

VARIABLES	Freq.	% (n=23)
Definitions		
Multi-dimensional assessment	14	60.9
Multi-disciplinary assessment	2	8.7
Care of the elderly	18	82.6
Nurses trained in elderly care	**4**	**17.4**

Most nurses are new to the profession with their nursing experience averaging at 9.3 years (Table 2). This observation is reflected in the professional areas where most experiences average below 4 years. Personal experience of living with or caring after an elderly relative was longer with an average of 5.65 years but insignificant when compared with clinical experience; rural experience; elderly exposure; time in zone and time in medical area (F ratio of 1.41 < the critical value of F6, 132 = 2.29 at $\alpha = 0.05$)

There is one outlier; a nurse who has worked for over 30 years and has spent 16 years in clinical and 12 years in rural service.

TABLE 2. Descriptive statistics of different professional experiences by duration

EXPERIENCE	MEAN YEARS	STANDARD DEVIATION
Years of service	9.3	6.064
Clinical nursing practice	3.22	4.045
Rural nursing practice	2.61	2.840
Exposure to elderly people	5.65	7.177
Time in Zone	2.61	1.852
Time in Medical Area	3.26	1.959

Description of Geriatric Assessment Practice (GAP) amongst Nurses

The mean of the total GAP score amongst the nurses is significantly less than the comparison score at $p<0.001$ (Table 3). The average score of the activities that make up GAP show a variable result. The *Multi-dimensional Assessment* average score is also significantly lower than its respective comparison score, while the *Multi-disciplinary Referral* average score showed no significant difference. The limited questions to assess *Multi-disciplinary Referral* have resulted in this inconsistency, because it is evident from the results that this activity is not done adequately by the nurses.

TABLE 3. Result of One-sample t-test (one tailed) between GAP score and comparison score

	t score	Mean	St. Dev.	Comparison score[t]
Multidimensional assessment score	-11.882***	10.09	5.616	20
Multidisciplinary referral score	-1.643	3.26	2.158	4
TOTAL G.A. PRACTICE SCORE	**-4.748*** **	**15.91**	**5.616**	**24**

***$p<0.001$

[t] 50 % score of total achievable points

Nurse responses to frequency of home visits and making referrals are inconsistent. Most nurses make at least two or more home visits per year to each elderly person in the zone, while around 17% of nurses never make any such home visits at all (Table 4). Around 30% of nurses make a one-and-only referral for each elderly member in their zone (Table 17). Inconsistently, an equal number make at least two referrals per year for each elderly member while over 20% never make any referral at all.

TABLE 4. Frequency of geriatric home visits and referrals

FREQUENCY OF HOME VISITS	Freq.	%
Never	4	17.4
Only once	1	4.3
Annually	2	8.6
2 -3 times a year	10	43.5
More than 3 times a year	6	26.1
TOTAL	**23**	**100***
FREQUENCY OF REFERRALS		
Never	5	21.7
Only once	7	30.4
Annually	4	17.4
2 -3 times a year	6	26.1
More than 3 times a year	1	4.3
TOTAL	**23**	**100***

*after rounding off

Nurses significantly assess more ***Health*** dimensional issues when compare with other dimensions (P<0.05) (Table 5). This is expected since nurses would be more familiar with health issues. Only around 11% of issues assessed are from the ***Social*** and ***Carer*** dimensions. ***Environmental Risk*** dimension has the least variation with the nurses asking only five types of issues. In total nurses average around ten issues per respondent with 48 different issues being assessed overall.

TABLE 5. Range and frequency of issues assessed within the different dimensions

DIMENSIONS	RANGE OF ISSUES		NUMBER OF ISSUES		
	Freq.	%	Freq.	%	Mean
Health concerns	14	29.2*	85	35.7	3.7*
Financial concerns	6	12.5	37	15.5	1.6
Functional ability	8	16.7	32	13.4	1.4
Environmental risk	5	10.4	31	13.0	1.3
Social concerns	8	16.7	27	11.3	1.2
Carer concern	7	14.6	26	10.9	1.1
TOTAL	**48**	**100**	**238**	**100**	**10.3**

*<0.05

Despite the dominance of *Health* issues, nurses also frequently enquired about source of financing (Table 6), followed by enquiries on Hypertension, Diabetes and Diet, which all scored above 50%. In the *Health* dimension 26% assess mental and cognitive functions, while only 3 nurses asked about bowel habits and urinary problems. It is evident that the nurses lacked awareness of medical problems that commonly affect the elderly and based their medical assessment on the problems that affect the general population.

Vital issues in the other dimensions pertaining to the elderly are being left out completely. Only two nurses assessed self-grooming and self-hygiene in the *Functional Ability* dimension. Only one nurse asked about marital status within the *Social* dimension, and noone asked about employment status. Most assessment on *Environmental Risk* is about safety of the house and accessibility of its amenities. For the *Carer* dimension, most assessment focused on the carer's capability to carry out the task; however, some nurse also queried the adequacy of care given and the attitude of carer.

Nurses are unaware of other Government and Non-government institutions that cater for the needs of the elderly. Of the referrals made more than half are made to doctors and the Social Welfare Department. Other referrals are made to the Red Cross and to residential homes for the elderly. Five nurses also make referrals to physiotherapists.

Discussion

The age and ethnic makeup of respondents are similar to the national composition of nurses, with young Fijian nurses making up the bulk of the nursing profession. Older more experienced nurses and Indo-Fijian nurses tend to make-up the bulk of exodus overseas or to private health institutions. The nursing shortage has also increased the intake of student nurses in nursing school over recent years which have led to more young nurses graduating and entering the nursing workforce. The average time that a nurse spends in the zone and medical area could be considered to be relatively short in a program that requires familiarity with elderly community members and continuity of care. The exodus of nurses is also a factor behind the observation, as nurses are frequently transferred to counter the increasing number of vacant positions.

The low level of knowledge on Geriatric care clearly highlights the shortfall of the National Program on the Health Care of the Elderly (NPHCE), which featured training of health workers in three of its objectives. In addition the country does not have a gerontology nurse or gerontologist, while the training institutions for nurses and doctors do not have any geriatric curriculum. Globally the lack of geriatric education and the shortage of geriatric professionals are problems currently faced,[11] and it only adds to the local demise of geriatric training.

Description of Geriatric Assessment Practice (GAP) amongst Nurses

Nursing assessment mainly focused on health issues but did not emphasize issues from other dimensions. This is similar to the observation in a qualitative study that observed that district nurses mainly focused on medical issues but did not emphasize *Social* concerns[12].

Evidently the nurses' familiarity with medical issues biases assessment towards this dimension. In addition the lack of knowledge on geriatric care and a confusion of roles with Social Welfare officers, Environmental Health Officers and other workers limits the activities of nurses in the other dimensions. The later issue is due to the lack of interaction with the relevant Government Departments and NGOs, as nurses are not aware of the services that these institutions offer on geriatric care. The current study shows that with a lack of geriatric training, nurses are using general community assessment and screening practices to screen the elderly.

They routinely screen for hypertension and diabetes, and enquire about medical clinics and medication, but fail to screen for conditions that commonly afflict the elderly, such as renal incontinence, irregular bowel movements, mental function, and trauma due to falls. No attempt was made to assess health-seeking behaviours and choice of treatment since they have an affect on the compliance of the elderly to follow assessment recommendations. Plange had observed in an earlier study that most of the Fiji elderly population use traditional medicine despite consulting a health worker frequently[5].

The high number of enquiries that the nurses make on *source of finance* can be an indication of the squalid living condition amongst the elderly people. Poverty is a common attribute of the elderly in Fiji because they are less likely to be employed when compared to their younger counterparts [5].The retiring age for most civil servants has been reduced to 55 years as the Government tries to cope with the huge

TABLE 6. Frequency and types of issues nurses assess within each dimension.

DIMENSIONS	ISSUES	Freq.	% (n = 23)
Health	Hypertension	12	52.3
	Diabetes	12	52.3
	Diet	12	52.3
	Eyes / Ears	10	43.5
	Medication / clinic	7	30.4
	General appearance	6	26.1
	Mental / cognitive	6	26.1
	Musculoskeletal	6	26.1
	Smoking / alcohol	4	17.4
	Exercise	3	13.0
	Genitourinary / gastrointestinal	3	13.0
	Cardiovascular	2	8.7
	Others	2	8.7
	TOTAL	**85**	
Finance	Source of finance	13	56.5
	Social welfare assistance	11	47.8
	Cost of living	6	26.1
	Medication / clinic cost	3	13.0
	Employment status	3	13.0
	Others	1	4.3
	TOTAL	**37**	
Functional Ability	Independence of movement	11	47.8
	House work	6	26.1
	Gardening	5	21.7
	Self grooming / dressing	2	8.87
	Self hygiene	2	8.7
	Food preparation	2	8.7
	Community work	1	4.3
	Others	3	13.0
	TOTAL	**32**	
Environmental Risk	Accessible amenities	11	47.8
	Housing	9	39.1
	Indoor safety	9	39.1
	Pollution	1	4.3
	Others	1	4.3
	TOTAL	**31**	
Social	Attend social / church functions	7	30.4
	Living arrangement	4	17.4
	Travelling	4	17.4
	Having visitors	4	17.4
	Take part in decision making process	3	13.0
	Relationship with family	2	8.7
	Marital status	1	4.3
	Others	2	8.7
	TOTAL	**27**	
Carer	Health of carer	6	26.1
	Financial status of carer	5	21.7
	Relationship with elderly	5	21.7
	Type of care given	5	21.7
	Duration of care	2	8.7
	Attitude of carer	2	8.7
	Problems encountered with elderly	1	4.3
	TOTAL	**26**	

number of university graduates who are unemployed. The national poverty report shows an increasing number of elderly people living in hardship[13]. Other issues that require greater attention amongst nurses are employment status, asset ownership and unbefitting responsibilities that incur financial strain on the limited resources of the elderly. The latter often arise from married adults still dwelling with their parents, or grandparents being given the child-rearing task while the parents look for work[5].

Nurses placed little emphasis on functional activities that are essential for daily living like feeding oneself, self-dressing and grooming oneself and self hygiene. Nurses may see declining functional ability as a normal ageing process, requiring attention only if it causes disease to the elderly. Aging therefore is negatively associated with disease. This phenomenon was described by Wells who found that lack of knowledge about normal ageing processes amongst nurses in Australia had given rise to negative attitudes[14].

Most assessment on *Environmental Risk* focuses on the accessibility of amenities like toilets and bathrooms. Lack of awareness on what environmental risk constitutes; the absence of an assessment procedure and a confusion of roles with Environmental Health Officers are limitations that prevent proper assessment of this dimension.

Very little attention has been given to assessing *Social* concerns. This had been explained by Worth[12] to be due to unfamiliarity with social issues amongst nurses. Nurses often identify elderly members in need of social or financial help and let Social Welfare workers do the assessment themselves. This is evident in the amount of referrals sent to the Social Welfare Department. The prevailing low geriatric nursing knowledge and the absence of an assessment procedure further disables proper assessment of social issues.

The nurses rarely assess the *Carer as* it is a fairly new concept globally[15]. The nurses are able to highlight important issues of caring capability, relationship with the elderly and caring arrangement. Emphasis is to be stressed on the need to make Carer assessment an integral part of the assessment process by all nurses.

Difference between Nurses' score and Comparison score

Geriatric Assessment Practice (GAP) scores amongst nurses are low. This result is consistent with the low level of knowledge on geriatric care identified above. The National Program on the Health of the Elderly (NPHCE) needs to be reviewed because knowledge on key issues of assessment, referral, and training are lacking amongst the nurses.

Multi-dimensional Assessment practice is limited because nurses lack a systematic method of doing assessment. Nurses do not have a check-list of issues to ask within each dimension, and are unfamiliar with the different dimensions that should be assessed in elderly people. Worth found similar results where nurses had no specific guidelines on how the assessment is supposed to be carried out.[12] The inconsistent results within *Multi-disciplinary Referral* practice have greatly reduced the validity of the nurses' scores in this area.

Making no referrals or making a one-and-only referral for each elderly member is not appropriate. Further investigation needs to be carried out to find out the cause of this discrepancy, although the high workload and the lack of geriatric awareness and assessment procedure would be the main factors. Most referrals are to doctors or Social Welfare Department and little awareness is present of other local institutions that deal with the problems of the elderly in the other dimensions. This includes international non-governmental organisations and various Government Departments funding projects that can be channelled towards the needs of the elderly.

The MOH together with relevant Non-Governmental Organisations and Government Departments are to develop a Geriatric Assessment protocol that is to be used nationwide.

Study Limitations

The lack of a valid instrument to assess GAP competency is a limiting factor. The questionnaire used in the current study needs to be further developed and standardized with valid practice assessment instruments and methods. In addition the lack of literature on a standard comparison score to indicate competent nursing GAP was another limitation. A comparison score needs to be developed from an instrument or method that validly measures GAP.

Recommendations

Institutions involved in training and awareness on geriatric care are to commence efforts to better geriatric care amongst nurses, and focus on the normal process of aging and the different dimensions that are affected by it. Medical conditions that commonly afflict the elderly are to be part of training.

Common elderly concerns of finance, social interaction, functional ability and environmental risks are to be stressed, and local examples be used as much as possible.

Nurses are to be made aware of the different institutions that they can make referrals to, if there is a need for further assessment and assistance. They should be aware of the type of specialized assistance that is offered and how it can be accessed.

The MOH together with relevant Non-Governmental Organisations and Government Departments are to develop a Geriatric Assessment protocol that is to be used nationwide.

It is to have a checklist of issues that assesses different dimensions and must work out the frequency of follow-up assessment for all elderly individual based on the types of problems that have been identified. The National Geriatric Assessment Protocol (NGAP) must also standardize a referral

method between the nurses and the different specialized care of the elderly. It must work out the frequency of referrals for follow-up specialized assessment based on the types of problems that have been identified.

Finally a bigger study needs to be done that is more representative of the nation's zone nurse population. This is to be part of the development of the NGAP. Information needs to be obtained on the ability of nurses and MOH to carry out geriatric assessment procedures given the limited numbers and resources that are available

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