Chinese version of staff-based measures of individualised care for institutionalised persons with dementia

ORIGINAL ARTICLE

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ABSTRACT

Background. In 2007, staff-based measures of 3 domains of individualised care (IC) for institutional residents with dementia were published. This paper presents data on the scientific acceptability of their use when translated into Chinese.

Methods. These short, multi-item scales were translated into Chinese in Hong Kong then back translated to English. Data were collected among care workers at subvented and private residential care facilities in the Central and Western districts of Hong Kong. Data were also collected on selected characteristics of the care workers and of the facility in which they worked. Analyses included internal consistency coefficients, bivariate correlations, and both exploratory and confirmatory factor analyses.

Results. Confirmatory factor analyses revealed that all items load on the original English version of the scales and only on those scales. Diagnostics indicated an acceptable fit. The bivariate correlations between the scales suggested that the 2 communication scales can be combined into one when used in Chinese; exploratory factor analyses confirmed this suggestion. Correlations with selected care worker and facility characteristics were all as expected.

Conclusions. These scales can be used in Chinese for both research and administrative purposes.

Key words: aging; dementia; nursing homes; validation studies

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INTRODUCTION

Individualised care (IC) has replaced custodial care for persons with dementia in long-term care institutions. IC encompasses an interdisciplinary approach, recognising each older resident as unique who should participate in decision making that affects him/her.[1,2] It prioritises relationships and care tasks, and accepts the personality of the individual as concealed rather than non-existent.[3] When applied to the area of dementia,[4] the concept is difficult to measure, despite its common-sense appeal.[5] In 2007, staff-based measures of 3 domains of IC: knowing the person/resident, resident autonomy and choice, and communication (staff to staff and staff to resident) were published.[6] All measures were designed for completion by care staff. Data confirming the reliability and validity of these measures among different groups of care workers have been reported.[7] We aimed to present a Chinese version of these measures using data collected in Hong Kong.

Literature review

Research often focuses on administrators' expectations and philosophy of care and/or written documents and mandates, even though a weak

relationship has been demonstrated between espoused philosophy and observed care, except with respect to restraint use.[8,9] Other tools such as Dementia Care Mapping and the Quality Interactions Scale are difficult to implement in large studies; their reliability and validity is still awaiting confirmation.[10] No comprehensive empirically derived tools were available to assess psycho-social preferences, which are an essential component of IC (knowing the person).[11] Measurements of IC in easy-to-use scales have been assessed, but these are focused on acute care.[1,12]

Confirmed by an expert panel, 5 domains of IC were derived from a literature review[13]: (1) knowing the person or resident (IC-know), (2) providing opportunity for autonomy and choice (IC-autonomy), (3) communication between staff and staff and between staff and resident (IC-communication-SS and -SR), (4) family involvement, residents connecting with others including other residents' family and staff, (5) and a home-like physical environment conducive to safety, mobility, interaction and privacy. The first 3 domains focus on staff, their interactions with each other and with the residents. Measures therefore target staff working with residents. Care staff spend more time with the resident than family members or management staff. Some residents, particularly those with severe dementia, are unable to communicate, justifying the focus on staff-based measures in this instance.

IC-know includes the unique needs and personal preferences of an individual with dementia. This refers to self-identity and requires taking cultural and religious needs and norms into account.[14,15] IC-autonomy indicates that independence is essential to self-worth in individuals with or without dementia.[16] For those with dementia, decision incapacity in one area does not necessarily transfer to all areas of life; areas of incompetence evolve over time. In order to encourage autonomy, care staff need to continually assess abilities and disabilities.[17] Staff communicating with one another ensures better care of residents by circulating resident information, solving problems together, and collaborating on solving unusual behaviour of residents.[18] Communication between staff and residents requires both verbal and non-verbal interactions and demands a particular astuteness of staff, especially for those with dementia.[19]

METHODS

The shorter versions of the original scales were used. The measures in English (**Appendix A**) were translated into Chinese (**Appendix B**) and then back-translated. Any discrepancies were resolved by an expert in dementia care and an experienced nurse. The self-administered questionnaires were sent to 7 subvented residential care facilities under Hong Kong Sheng Kung Hui Welfare Council and 5 private residential care facilities in the Central and Western districts in Hong Kong. Frontline workers involved in dementia care were asked to complete the questionnaire.

The 6-item IC-know scale measures staff perception of their knowledge of residents. Higher scores indicate that the staff know the residents better. Possible scores range from 6 to 24. The 8-item IC-autonomy scale measures the general environment in which the staff work. Higher scores indicate that the facility where the staff work supports the autonomy of dementia residents. The 5-item IC-communication-SS scale reflects staff communication with one another and supervisors within the institution. Higher scores indicate that the staff communicate more with other staff in the facility. Possible scores range from 5 to 20. The 3-item IC-communication-SR scale refers to staff communication with residents. Higher scores indicate the staff communicate more with residents. Possible scores range from 3 to 12.

Other data collected included characteristics of the care staff (age, gender, level of education attained, months working at the current facility, and position) and the facility (numbers of beds, residents and residents with dementia, and whether the facility was profit-making or not).

Internal consistency (Cronbach's alpha) was performed for each scale. Exploratory and confirmatory factor analyses were performed where all items for all scales were entered at once. Validation was undertaken through correlation analyses of the scales with one another and with the characteristics of workers and of the facilities.

RESULTS

The IC-autonomy and IC-communication-SS scales

revealed acceptable internal consistency (0.72 and 0.80, respectively) [**Table 1**]. The IC-know scale was barely acceptable (internal consistency, 0.67) when one item was deleted ("I find it hard to talk to residents because I don't know enough about them"). The IC-communication-SR scale achieved low internal consistency of 0.63; thus use of this scale was recommended with factor weights. The low internal consistency may have been due to the small number of items. When the 2 communication scales (SS and SR) were combined into one, acceptable internal consistency of 0.79 was achieved.

Confirmatory factor analyses demonstrated that all items loading on the original scales loaded only on those scales and not on any others (**Figure**). The comparative fit index of 0.86 indicated a good model fit, as was the parsimony ratio of 0.79 and the root mean square error of approximation of 0.05 (**Table 2**).

Scales were correlated to one another, although

Table 1
Internal consistency of individualised care (IC) items

IC items	Internal consistency
IC-know	0.67 (with one item deleted: "I find it hard to talk to residents because I don't know enough about them")
IC-autonomy	0.72
IC-communication-SS	0.80
IC-communication-SR	0.63
IC-communication (SS & SR)	0.79

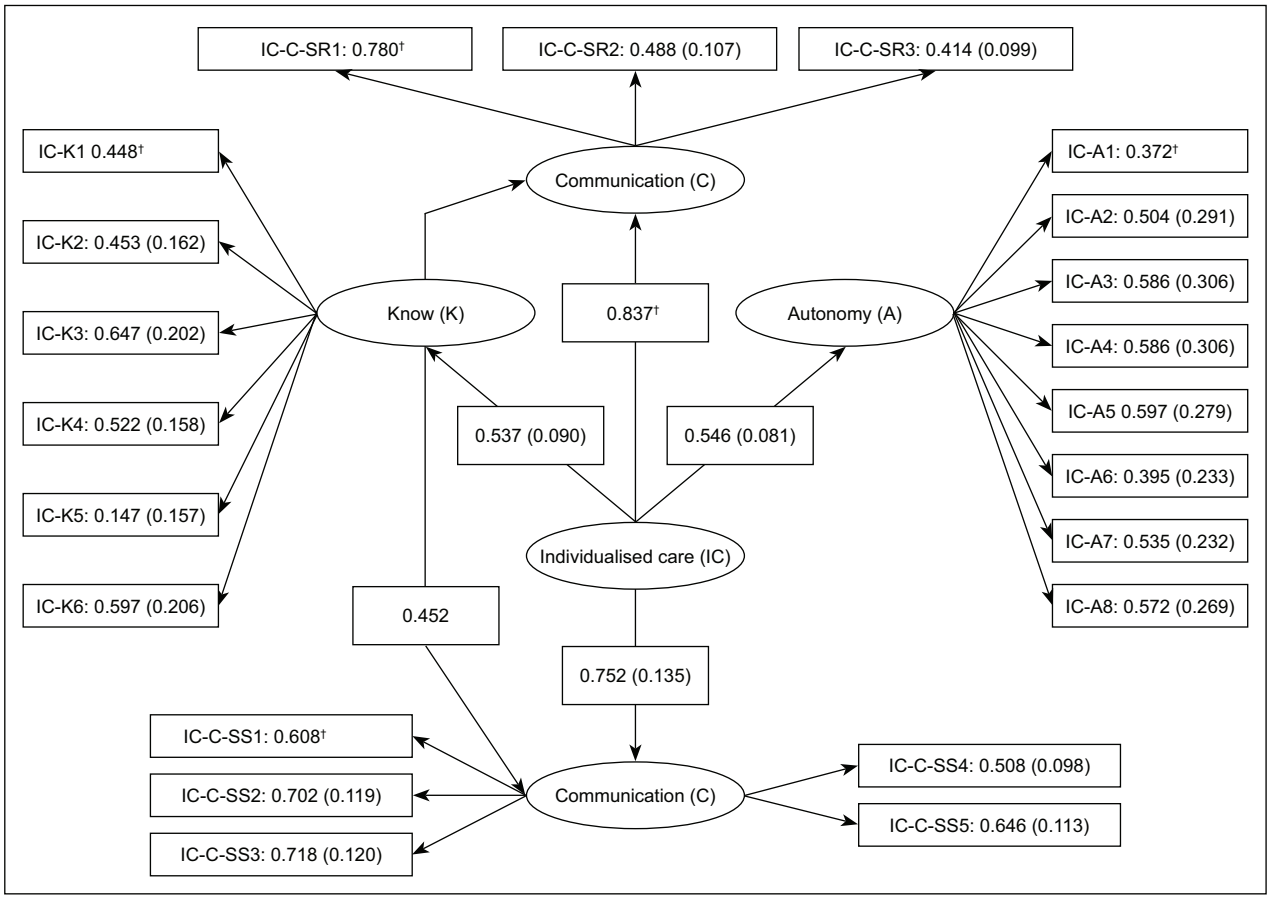

Figure. Confirmatory factor analysis*
* Values are presented as standardised regression weights (standard errors)
† Parameters initially fixed to 1.0 for scaling and statistical identification, no p values can be estimated for these parameters

there is much non-shared variance (**Table 3**), the highest being between the 2 communication scales. The 2 communication scales were slightly more correlated to the IC-know and IC-autonomy scales than the IC-know and IC-autonomy were to one another. Higher scores in one scale/domain correlated with higher scores in the other scale/domain.

Age and gender of the staff was unrelated to any of the 4 IC scales (**Table 3**). Education level of staff was only related to the extent of their communication with one another; staff with more education were more likely to communicate with one another. Position of the staff correlated to the IC-autonomy; personal care workers tended to provide less autonomy to the residents than did registered nurses and occupational therapists (who have more training). The length of time working at the facility correlated to both the provision of autonomy to residents and to communication with other staff. Those working longer at the facility tended to provide less autonomy to the residents, and were more likely to communicate with other staff.

Table 2
Standardised regression weights of all individualised care (IC) items

IC items	Estimate p	Standardised regression weights
IC-communication (C)-SR	1.000	0.837
IC-autonomy (A)*	0.359‡	0.546
IC-C-SS	0.805‡	0.752
IC-know (K)	0.420‡	0.537
IC-C-SR1	1.000	0.780
IC-C-SR2	0.676‡	0.488
IC-C-SR3	0.557‡	0.414
IC-K1	1.000	0.448
IC-K2	0.849‡	0.453
IC-K3	1.241‡	0.647
IC-K4	0.896‡	0.522
IC-K5	0.333†	0.147
IC-K6	1.239‡	0.597
IC-A1	1.000	0.372
IC-A2	1.507‡	0.504
IC-A3	0.850‡	0.297
IC-A4	1.678‡	0.586
IC-A5	1.537‡	0.597
IC-A6	1.211‡	0.395
IC-A7	1.230‡	0.535
IC-A8	1.458‡	0.572
IC-C-SS1	1.000	0.608
IC-C-SS2	1.035‡	0.702
IC-C-SS3	1.063‡	0.718
IC-C-SS4	0.716‡	0.508
IC-C-SS5	0.992‡	0.646

* All IC-autonomy items are reverse coded
† $p<0.05$
‡ $p<0.001$

The non-profit nature of the facility correlated to knowing the resident better and with giving the resident autonomy (**Table 3**). Those working for non-profit organisations were more likely to provide higher levels of care in these dimensions than those working in for-profit organisations. Those working in larger facilities were less likely to provide residents with autonomy and were less likely to communicate with residents. Those working in facilities with more residents with dementia were less likely to get to know the residents, to provide them with autonomy, and to communicate with them.

An exploratory factor analysis was conducted because of the clustering of the 2 communication scales in this Hong Kong sample (**Table 4**). These Chinese data revealed that the 2 communication scales could be combined. The validity of the scales was confirmed; all items loaded highly on the original scales and only on the original scales. The modification among this Chinese sample referred only to the 2 communication scales; all items for both of these scales loaded highly on one communication scale.

DISCUSSION

The findings among these Hong Kong data are largely consistent with those reported for the English Canadian sample. Confirmatory factor analyses revealed a similar pattern as for the English-Canadian data, and was evident when translated into Chinese. The deleted item in the IC-know scale ("I find it hard to talk to residents because I don't know enough about them") was also found not to work well in the re-visit to these scales,[7] and was thus deleted from use in that scale as well. The short 3-item IC-communication-SR scale achieved low internal consistency, as in the English-Canadian version. In the English-Canadian version (where the 2 communication scales correlated to each other), the 2 scales should not be combined. However, the 2 scales can be combined in the Hong Kong version.

Consistent with the English-Canadian versions, all scales in the Chinese version correlated to one another. In the English-Canadian version, the highest correlation was between the IC-know and the IC-autonomy scales, whereas in the Chinese version, the highest correlation was between the 2 communication scales.

In terms of the validation variables of staff, gender was unrelated to any of the 4 scales. This is similar in both English and Chinese samples. The longer the staff work at the facility correlated to

Table 3
Correlations in individualised care (IC) scales and characteristics of care staff and facility*

Parameter	IC scales			
	IC-know	IC-autonomy	IC-communication-SR	IC-communication-SS
Correlations between IC scales				
IC-know	1			
IC-autonomy	0.29§			
IC-communication-SR	0.16‡	0.31§		
IC-communication-SS	0.32§	0.23§	0.42§	
Characteristics of care staff				
Education level	NS	NS	NS	0.11†
Position in facility	NS	-0.13‡	NS	NS
Months working at facility	NS	-0.14†	NS	0.13†
Characteristics of facility				
No. of beds	NS	-0.17‡	-0.14‡	NS
Nature of facility	0.18‡	0.14†	NS	NS
No. of residents with dementia	-0.12†	-0.12†	-0.19‡	NS

* Only variables significant with 1 of the scales are shown
† $p<0.05$
‡ $p<0.01$
§ $p<0.001$

providing less autonomy to the residents, but more communication with staff in the Chinese sample and not in the English sample. In the English sample, age correlated with IC-communication-SR; younger staff were more likely to score high on staff-to-resident communication. Regrettably, neither education level of the staff nor their position was measured in the English-Canadian study. In terms of facility characteristics, neither the size of facility nor number of residents correlated to the scales in the English-Canadian study.

CONCLUSIONS

The findings of this study suggested that the 4 IC scales are valid and reliable when used in Chinese. The IC-know and IC-autonomy scales can be used as they are used in English. The IC-communication-SS and IC-communication-SR can be combined and used as one scale in Chinese. The data also suggested that the scales correlated to the validation variables in ways that were expected. More education was related to higher scores in terms of IC care provision. Working longer at the facility, however, seemed to turn workers communication more to co-workers and less to residents. Working in not-for-profit facilities correlated to the provision of more IC. Those working in larger facilities and in facilities with more residents with dementia were less likely to score high on these measures of IC.

Table 4
Exploratory factor analyses of individualised care (IC) items

IC item	IC-Communication (C)	IC-Autonomy (A) 1	IC-know (K)	IC-autonomy (A) 2
IC-K1: I do not have the time I need to read the social histories of residents			0.54	
IC-K2: I have a good understanding of the residents that I am caring for			0.48	
IC-K3: I do not know the behaviour patterns of individual residents			0.65	
IC-K4: I know what residents I care for like			0.48	
IC-K5: I find it hard to talk to residents because I do not know enough about them			0.52	
IC-K6: I do not feel I know each resident as a unique individual			0.74	
IC-AI: Feel rushed because of facility routines		0.51		
IC-A2: Feel that the facility you work in supports the independence of residents				0.70
IC-A3: Feel that you are able to allow the residents you look after to make decisions for themselves				0.83
IC-A4: Feel that residents have enough to do during the day		0.70		
IC-A5: Feel that the facility you work in offers choice in activity programming		0.65		
IC-A6: Feel that you have enough time to allow residents to do things for themselves				0.50
IC-A7: Feel good about the quality of care you are able to provide at this facility		0.55		
IC-A8: Feel that there are enough resources available to you to provide resident care		0.63		
IC-C-SS1: Share personal information that I learn about residents that may help other staff members make sense of resident behaviour	0.63			
IC-C-SS2: Share care approaches that can help manage the difficult behaviours of residents	0.72			
IC-C-SS3: Talk with other staff members in order to find out the meaning behind difficult resident behaviours	0.79			
IC-C-SS4: Tell my supervisors about the need to change a procedure or practice that is no longer working for resident care	0.63			
IC-C-SS5: Offer ideas for making changes within the care plans of residents	0.70			
IC-C-SR1: Talk to residents about social events that are going on within the facility (e.g. birthday parties, social activities, outings)	0.55			
IC-C-SR2: Talk to residents about what is happening outside the facility (e.g. current news events, weather)	0.43			
IC-C-SR3: Talk to residents about their personal lives (e.g. where they grew up, how many children they have)	0.50			

In addition to research, these measures of IC can be used by administrators to assess care being provided to residents with dementia. They can be used constructively to reward those who provide better care and to identify areas where training should be provided for those who score lower in other areas. IC is a complex concept. Although these measures refer only to specific aspects of the overall concept, they provide a step towards measuring at least some of the domains of this type of care.

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APPENDIX A

Individualised care (IC)-know

The following statements refer to different ways that you can obtain information about residents, and to your perceptions of how well you know the residents that you are caring for. Read each statement carefully and think about he extent to which you agree or disagree with it. Place your responses in the space to the left of each statement using the following scale as a guide.
1. strongly disagree; 2. somewhat disagree; 3. somewhat agree; 4. strongly agree
_____ I do not have the time I need to read the social histories of residents.
_____ I have a good understanding of the residents that I am caring for.
_____ I do not know the behaviour patterns of individual residents.
_____ I know what the residents I care for like.
_____ I find it hard to talk to residents because I do not know enough about them.
_____ I do not feel like I know each resident as a unique individual.

IC-autonomy

Here are some thoughts and feelings that people sometimes have about themselves as Care-Attendants in long-term care facilities. How much does each statement describe your thoughts and feelings about your ability to provide care at the facility you work in?
Please rate each item below based on how you *generally feel* about each one by using the following scale as a guide:
1 Very Frequently; 2 Frequently; 3 Occasionally; 4 Seldom; 5 Never
_____ Feel rushed because of facility routines.
_____ Feel that the facility you work in supports the independence of residents.
_____ Feel that the other Care-Attendants you work with have different ideas about how dementia care should be provided.
_____ Feel that residents have enough to do during the day.
_____ Feel that the facility you work in offers choice in activity programming.
_____ Feel that you have enough time to allow residents to do things for themselves.
_____ Feel good about the quality of care you are able to provide at his facility.
_____ Feel that there are enough resources available to you to provide resident care.

IC-communication-SS

The following statements refer to different forms of communication between staff members. Read each statement carefully and think about the extent to which you have used it in the last 7 days. Place your responses in the space to the left of each statement using the following scale as guide.
1 Never; 2 Sometimes; 3 Often; 4 Always
_____ Share personal information that I learn about residents that may help other staff members make sense of resident behaviour.
_____ Share care approaches that can help manage the difficult behaviours of residents.
_____ Talk with other staff members in order to find out the meaning behind difficult resident behaviours.
_____ Tell my supervisors about the need to change a procedure or practice that is no longer working for resident care.
_____ Offer ideas for making changes within the care plans of residents.

IC-communication-SR

The following statements refer to different forms of communication between staff members and residents. Read each statement carefully and think about the extent to which you have used this care approach in the last 7 days. Place your responses in the space to the left of each statement using the following scale as a guide:
1. Never; 2. Sometimes; 3. Often; 4. Always
_____ a. Talk to residents about social events that are going on within the facility (eg., birthday parties, social activities, outings).
_____ b. Talk to residents about what is happening outside the facility (eg., current news events, weather).
_____ c. Talk to residents about their personal lives (eg., where they grew up, how many children they have).

APPENDIX B

1）了解護理對象量度表（IC-know）

下文載有多項陳述，列明各種了解院友的方法，讓您自我評估對護理對象的了解程度。請仔細閱讀各項陳述，細想一下自己對每項陳述的同意程度，然後按下列評估指引，把答案填在有關陳述左側的空格內。

1. 極不同意
2. 不甚同意
3. 尚算同意
4. 非常同意

_____ a. 我有閱讀院友護計劃（resident care plan）的個人紀錄。
_____ d. 我非常了解由我負責護理的院友。
_____ e. 我並不了解個別院友的行為模式。
_____ f. 我知道我負責護理的院友有甚麼喜好。
_____ g. 我對院友了解不足，因此感到很難與他們攀談。
_____ k. 我認識個別的院友的特點。

2）院友的自主能力及自我掌控感覺（IC-autonomy）：

以下是長期護老院護理人員對自己的一些看法及感受。身為護理人員，在所工作的護老院裡提供護理服務，您有多少看法及感受能夠從以下的陳述中反映出來？

請按照以下的評估指引，根據您的整體感覺就每項陳述給予評級。

1. 非常頻密
2. 經常
3. 偶爾
4. 甚少
5. 從不

_____ a. 因護老院的日常工作，而感到時間緊迫。
_____ b. 感到工作所在的護老院能夠協助院友獨立自主。
_____ c. 感到其他同事對照顧院友有不同看法。
_____ d. 感到院友日間有充足的活動。
_____ e. 認為工作所在的護老院能夠安排不同活動以供選擇。
_____ f. 自覺給予足夠時間讓院友自己動手辦妥事情。
_____ g. 對於自己在護老院所能提供的服務質素感到滿意。
_____ h. 認為院內有充足資源讓您提供護理服務。

3）員工相互間的溝通量表（IC-communication-SS）

下文載列多項有關員工相互間不同溝通方式的陳述。請仔細閱讀各項陳述，並回想一下在最近七日內使用有關方式的頻密程度，然後按照下列評估指引，把答案填在各項陳述左側的空格內。

1. 從不
2. 有時
3. 時常
4. 總是

_____ a. 與同事分享院友的個人資料，以便其他同事能夠理解院友的行為。
_____ b. 與同事分享幫助院友照顧自己的護理方法。
_____ c. 與其他同事傾談，希望理解院友出現行為問題的成因。
_____ d. 向主管人員反映和更改不合時宜的護理程序或慣常做法。
_____ e. 為修訂護理計劃提供建議。

4）員工與院友之間的溝通量表（IC-communication-SR）

下文載列多項有關員工與院友之間不同溝通方式的陳述。請仔細閱讀各項陳述，並回想一下在最近七日內使用有關方式的頻密程度，然後按照下列評估指引，把答案填在各項陳述左側的空格內。

1. 從不
2. 有時
3. 時常
4. 總是

_____ a. 與院友談論護老院正舉辦的社交活動（例如：生日聚會、社交活動、外出觀光等）。
_____ b. 與院友談論護老院外所發生的事情（例如：時事新聞、天氣等）。
_____ c. 與院友談論其個人經歷（例如：他們在哪裏成長、有多少名子女等）。