

## Instruments for assessing Person Centered Care in Gerontology

Teresa Martínez<sup>1</sup>, Javier Suárez-Álvarez<sup>2</sup> and Javier Yanguas<sup>3</sup>

<sup>1</sup> Consejería de Servicios y Derechos Sociales del Principado de Asturias, <sup>2</sup> Universidad de Oviedo and <sup>3</sup> Matía Instituto Gerontológico

### Abstract

**Background:** The assessment of Person Centered Care (PCC) is internationally recognised as an approach of great interest for improving the quality of care of the elderly. The aim of this research is to review the procedures and instruments used in the assessment of services using this approach. **Method:** The measurement instruments designed to assess elderly care services from PCC were reviewed, particularly residential services, day centers and home help. The main databases, research articles, and specialized websites were consulted. **Results:** Four observational instruments for the assessment of Person Centered Care are described; five for the assessment of physical space; six aimed at discovering users' opinions; one which records family opinions, and five aimed at professionals, as well as several qualitative tools for self-assessment of centers. **Conclusions:** Due to the diversity of instruments available for assessing PCC, and in order to avoid partial evaluations of attention, a combined strategy of assessment is recommended as well as integrating these measures into a broader service evaluation which includes the different strands related to care quality.

**Keywords:** Person Centred Care, gerontology service quality, assessment instruments, long term care, old people

### Resumen

**Instrumentos para evaluar la Atención Centrada en la Persona en los servicios gerontológicos.** **Antecedentes:** la Atención Centrada en la Persona (ACP) es reconocida internacionalmente como un enfoque de gran interés para mejorar la calidad de los cuidados gerontológicos. El objetivo de este trabajo es describir detalladamente los principales instrumentos disponibles para la evaluación de servicios desde este enfoque. **Método:** se revisaron los instrumentos diseñados para evaluar servicios gerontológicos desde la ACP, concretamente servicios residenciales, centros de día y ayuda a domicilio. Se consultaron las principales bases de datos y webs especializadas. **Resultados:** se describen cuatro instrumentos de observación de la atención centrada en la persona; cinco que evalúan el espacio físico; seis destinados a conocer la opinión de las personas usuarias, uno que registra la opinión de las familias y cinco la de los profesionales, así como distintas herramientas cualitativas para la autoevaluación de los centros. **Conclusiones:** debido a la diversidad de instrumentos disponibles para evaluar la ACP, y con el objetivo de evitar una valoración parcial de la atención, se recomienda una estrategia combinada, así como integrar estas medidas en una evaluación del servicio más global que incluya los diferentes ejes relacionados con la calidad asistencial.

**Palabras clave:** atención centrada en la persona, calidad de servicios gerontológicos, instrumentos de evaluación, cuidados de larga duración, personas mayores.

Person centred care (PCC) is considered a valuable approach for the improvement of care quality for older people (Nolan, Davies, Brown, Keady, & Nolan, 2004). It takes as its starting point the respect for the dignity of people needing care, giving them a central position in the care process, recognising them as whole, unique individuals, and seeking their active participation in care and true control over their daily lives. This is in contrast to care models centred on illness or on service, where a view of the problem, paternalist practices, or work criteria set the type of care. It means, to a certain extent, a new paradigm in care of older people (Martínez, 2015).

The origins of PCC lie with Carl Rogers and client centred therapy, and it is the product of many subsequent developments of

models and applications in a variety of fields. In fact, even today, PCC does not have a single meaning or a consensus definition. Although the different models and PCC-related interventions share the recognition of the user as a central agent who is active in his or her care and life, the component details and the emphasis vary depending on the field of application (Morgan & Yoder, 2012). While some approaches linked to people with disability emphasise the importance of their rights, especially self-determination and normalisation, other developments in the field of health services highlight components such as accessibility, integrity, making shared decisions or self-care, and still others, related to those with greater support needs, such as those with dementia or severe intellectual disability, underline the importance of recovering the concept of –the person– in the care of the highly dependent, stressing the importance of life story, empathy, and respect for values (Martínez, 2015).

Most authors highlight the multidimensionality of this concept (McCormack, 2004; Nolan et al., 2004). The most often cited components are the singularity of the person, individual autonomy,

subjective wellbeing, meaningful activity, social relationships, and personalised physical space, along with various organisational variables (Edvardsson & Innes, 2010; White, Newton-Curtis, & Lyons, 2008).

The approach has been the subject of particular attention in the care of people with dementia (Brooker, 2007; Edvardsson, Winblad, & Sandman, 2008; Kitwood, 1997), and emphasises that the presentation of dementia is not only dependent on neurological damage, but that other factors exist, whose interaction are determinants when it comes to understanding the behaviour and well-being of each person, factors such as personality, life history, health or immediate social environment. In addition, PCC has been the main reference for the movement for change in the models of elderly care centres, a trend which has taken off in recent decades in various countries looking to change the traditional model, which has been criticised for its marked hospital and institutional character, and for its inability to offer people an appropriate quality of life (Brownie & Nancarrow, 2013; Grabowski et al., 2014). According to this movement, traditional care centres begin from a vision which is linked to illness and deficit, offering uniform care based on the proceduralisation of tasks and predominantly clinical criteria that seriously restrict the freedom of the users (Koren, 2010; Misorski & Kahn, 2005).

The interest in PCC as an improvement strategy for care quality in gerontology services has been accompanied by the creation of instruments to evaluate it. The review performed by Edvardsson and Innes (2010) is worth highlighting, they describe several tests to evaluate PCC in care services of older people with dementia. Later, De Silva (2014), in a wide-ranging review of measuring instruments designed with this focus in the health and care fields, indicated the three types which are being used most: instruments observing care given, surveys aimed at gathering opinions and preferences of the users about their care, and surveys aimed at gathering opinions of professionals. Furthermore, various instruments have been created to evaluate the care environment in care centres for older people with dementia, which include a PCC perspective on the physical space, and recognise its influence on older people's wellbeing, especially when they have dementia (Brawley, 2006). Despite this growing interest, PCC is still a little-understood approach which is not much used in Spanish health and gerontological services. In order to promote its implementation and facilitate research in our context it is necessary to carry out evaluations which produce documented results and to have instruments that are adapted to the cultural settings, with appropriate psychometric properties.

The objective of this research is to present and describe the principal instruments designed from a PCC focus for use in elderly care services from various evaluation strategies, including the most recent validations that have been carried out in the Spanish population. That will provide, on the one hand, a broader view of research and evaluation of care quality, which up to now has been excessively focussed on material, functional, and clinical aspects. And on the other hand, the information will help to select the best tests to use both in research and in evaluation of services.

## Method

### Procedure

A search was performed for evaluation instruments for elderly care services and dementia care which had been designed from

a PCC perspective. Various databases and search portals were consulted (*Medline*, *Rima*, *Google Scholar*, combining various search terms (person centred/ centred care", "old people", "dementia" and "tools"). Specialist gerontology, dementia and health websites promoting this approach and care model were also consulted. Instruments written in English and Spanish, published between 2000 and 2014 were reviewed.

### Instruments

Instruments were selected which had been designed specifically to evaluate the level to which the service offered person centred care or which explicitly referred to that approach to care in the evaluation of its components.

### Data analysis

The results were organised by category depending on the objective of the evaluation in each measuring instrument: *I. Instruments for observing care given; II. Instruments to evaluate the physical environment in centres; III. Instruments to evaluate PCC according to the users of care services; IV. Instruments to evaluate family involvement in care; V. Instruments to evaluate PCC according to professionals.* Finally, those instruments which had been subject to validation studies were indicated and a brief description of their psychometric properties was given.

## Results

Following a thorough review, a list of the main measuring instruments for the evaluation of PCC was produced (Table 1). One of the main findings was the discovery that there many diverse measuring instruments aimed at evaluating multiple components involved in the evaluation of PCC. A detailed description of each, grouped according to their objectives, is given below.

### *Instruments for the observation of care given*

There are at least four instruments for systematic observation of care given, all of which are to be completed by external evaluators not involved with day-to-day care.

- a) *The Dementia Care Mapping (DCM;* Bradford Dementia Group, 2005). This is the most widely available PCC tool for systematic observation (Brooker & Surr, 2007; Vila, Villar, Celdrán, & Fernández, 2012; Wylie, Madjar, & Walton, 2002). It originates from Kitwood's (1997) model and permits the observation of care for people with dementia in three aspects: a) the wellbeing or otherwise of the person with dementia; b) their behaviour (23 behavioural categories); and c) interaction between the person with dementia and their care professionals, recording both personal detractions and positive events. Various quality of life indicators are produced from the observation which may be interpreted as key results for the evaluation of service quality: the potential for positive involvement, occupational variety, agitation and anxiety, neglect, and passive involvement (Vila et al., 2012). The psychometric properties of DCM have been the subject of various reviews (Brooker, 2005; Cooke & Chaudhury, 2013) and research

indicates inter-rater reliability in the region of 70% (Fossey, Lee, & Ballard, 2002; Thornton, Hatton, & Tatham, 2004). A study performed in Spanish care homes has recently been published (Villar, Vila-Miravent, Celdrán, & Fernández, 2015) in which, while indicating interest in the instrument for better understanding and improvement of day-to-day care, the results show limited concurrent validity, along with low internal consistency ( $\alpha = .55$ ) and low test-retest reliability (between 0.35 and 0.48) which calls into question its use as a research instrument in elderly care facilities in Spain. Finally, it is worth noting that the use of the DCM is not restricted exclusively to PCC, it is also popular in transversal surveys, intervention evaluations and other practices (Brooker, 2005).

- b) *The Care Observational tool* (CARES; Gaugler, Hobday, & Savik, 2013). This is a systematic observation tool with 16 items which has been used both in hospitals and elderly care facilities to discover whether professional practices are directed towards the person with dementia. The content validity evidence was collected through reviews of the instrument carried out by members of the research team as well as by pilot observation studies undertaken in care facilities and later reviewed by experts. The inter-coder reliability using Cohen's Kappa Coefficient was .77. This instrument is short and easy to use.
- c) *The Resident-centred Assessment of Interactions with Staff and Engagement tool* (RAISE; Snow et al., 2012). The aim of this instrument is also to evaluate the interaction between

*Table 1*  
Instruments to evaluate gerontological services from PCC perspectives

Instruments to observe care given				
Name	Reference	Main evidence of psychometric quality	Application context	Spanish adaptation
1) DCM	Bradford Dementia Group, 2005	Inter-rater reliability	Care home (dementia)	Villar et al., 2015
2) CARES	Gaugler et al., 2013	Inter-rater reliability, content validity.	Care home	No
3) The Observational Measure	Ellis-Gray et al., 2014	Inter-rater reliability	Dementia and carer partners	No
Instruments to evaluate the physical environment in the centres				
Name	Reference	Main evidence of psychometric quality	Application context	Spanish adaptation
4) TESS-NH y SCUEQS	Sloane et al., 2002	Inter-rater reliability	Care home (dementia)	No
5) PEAP	Lawton et al., 2000	Factorial validity, convergent validity	centres (dementia)	No
6) EAT	Fleming, 2010	Inter-rater reliability	centres (dementia)	No
7) HEAP	Gitlin et al., 2002	Inter-rater reliability, content validity	centres (dementia)	No
Instruments to evaluate PCC according to users' own judgement				
Name	Reference	Main evidence of psychometric quality	Application context	Spanish adaptation
8) Resident PC-PAL	Zimmerman et al., 2015	Internal consistency, construct validity	Care home	No
9) PELI	Van Haitsma et al., 2012	Discriminant/convergent validity	Care home	No
10) PCC toolkit	Van Haitsma et al., 2014	Pilot studies	Care home	No
11) PCQ-P	Edvardsson et al., 2008	Internal consistency, construct validity	Care home	No
12) CCCQ	De Witte et al., 2006	Internal consistency, content validity, construct validity	Care in the home	No
Instruments to evaluate family involvement in care				
Name	Reference	Main evidence of psychometric quality	Application context	Spanish adaptation
13) F-Involve and F-Important	Reid et al., 2007	Internal consistency, content validity, construct validity.	Care home	No
Instruments to evaluate PCC according to professionals' judgement				
Name	Reference	Main evidence of psychometric quality	Application context	Spanish adaptation
14) PCQ-S	Berglan et al., 2012	Internal consistency, temporal stability, construct validity.	Care home	No
15) P-CAT	Edvardsson et al., 2010	Internal consistency, temporal stability, factorial validity, convergent validity.	Care home	Sí/Yes (Martínez et al., 2015a)
16) PDC	White et al., 2008	Internal consistency, factorial validity, convergent validity.	Care home	Sí/Yes (Martínez et al., 2015b)
17) IC	Chapell et al., 2007	Internal consistency, temporal stability, content validity, construct validity.	Care home (dementia)	No
18) Staff PC-PAL	Zimmerman et al., 2015	Internal consistency, construct validity.	Care home	No

Note: For a deeper review of the evidence of psychometric quality please see the references provided.

personnel and residents by observation. No published studies have been found showing its psychometric properties, which limits its use.

- d) *The Observational Measure of person-centred care for spouses of people with dementia* (Ellis-Gray, Riley, & Oyebo, 2014). This is a recently created tool which allows the observation of the interaction of the person with dementia with their spouse. It proposes a classification system in nine behaviour categories and in each of those it identifies behaviour which is person centred and behaviour which is not. Initial validation was carried out on a small sample of couples, and demonstrated appropriate reliability; Cohen's Kappa Coefficients were: .65 for positive classification of behaviour in a given category; .81 for the absence of behaviour in a category, and .79 for the consideration of whether behaviour is centred on the person or not. This test, whose main contribution is being the first instrument for carer families of people with dementia, requires new research to generate more evidence of its validity.

#### *Instruments for the evaluation of the physical environment in centres*

Below are presented the principal measuring instruments developed from a PCC perspective for the evaluation of different domains regarding the care environment, the majority of which were created for dementia care services.

- a) *The Dementia Care Mapping Environment (DCM-ENV)*, an instrument which originates with Kitwood's model, developing the evaluation of the environmental component of the DCM (Chaudhury, Cooke, & Frazee, 2013). No studies have been found describing its psychometric properties.
- b) *The Therapeutic Environment Screening Survey for Nursing Homes (TESS-NH)* with 84 items and *The Special Care Unit Environmental Quality Scale (SCUEQS)*, abbreviated version with 18 items. The complete instrument offers an overall score evaluating 13 domains (exit control, maintenance, cleanliness, safety, orientation/cueing, privacy, unit autonomy, outdoor access, lighting, noise, visual/tactile stimulation, space/seating, and familiarity/homeliness). Studies give inter-rater reliability of .94 and .84 respectively.
- c) *The Professional Environmental Assessment Procedure (PEAP)*, a tool which evaluates nine environmental domains (Lawton et al., 2000). It was validated in 43 units for patients with dementia and demonstrated a unifactorial structure along with a clear correlation with the TESS-NH.
- d) *The Environmental Audit Tool (EAT)*; Fleming, 2010; Smith, Fleming, Chenoweth, Jeon, & Brodaty, 2012). An instrument with 72 items, grouped into 10 areas which define a positive environment for people with dementia. The stated inter-rater reliability is .97. It has been noted for its ability to discriminate environmental quality between centres as well as for its speed and ease of use.
- e) *The Home Environmental Assessment Protocol (HEAP)*; Gitlin et al., 2002), an instrument with 192 items designed to evaluate the appropriateness of dementia care units. Validation was performed in 22 units with 4 raters, 2 experts in environmental design and 2 non-experts. The

results demonstrated appropriate inter-rater reliability in both cases.

#### *Instruments for the evaluation of PCC according to the users*

Five instruments are worth highlighting, four are centred on the evaluation by the users of residential centres and one on home care services.

- a) *The Resident Person-centred practices in Assisted Living (Resident. PC-PAL)*; Zimmerman et al., 2015). A questionnaire made up of 49 items which gathers the opinion of residents in a 4 category Likert-scale. It gives information on four PCC dimensions: Wellbeing and sense of belonging (18 items); individualised care services (12 items); social relationships (10 items) and climate (9 items). There is also a version for professionals, which allows the comparison of perceptions in the latter three dimensions. It is possible to complete information on the different aspects of PCC in the centre by completing another 26 additional items, although they do not contribute to the overall scale score. The four factors explain 50% of the total test variation. Correlations between factors range from .30 to .67. Cronbach's  $\alpha$  coefficient was .96 for the scale total and between .85 and .94 for the subscales.
- b) *The Preferences for Everyday Living Inventory –PELI–* (Van Haitsma et al., 2012) and c) *The Advancing Excellence Person-centred Care Toolkit –PCC Toolkit–* (Van Haitsma et al., 2014). These are two tests created to discover the preferences of each person in care and their satisfaction in relation to the care given. The first allows 55 preferences to be recorded, classified in 5 categories: personal development activities; entertainment; self-determination; social contact; professional careers. The second is an abbreviated instrument which focuses on recording 16 preferences (8 from daily life, and 8 about activities) as well as the congruence between care preferences expressed by the users and their satisfaction with how well those preferences are fulfilled. It first evaluates the importance the person gives to each of the preferences (1. *Very important*; 2. *Somewhat important*; 3. *Not important*) and then, in the preferences which have been marked as important (Score 1), the person records the extent to which their care satisfies their preferences (1. *Totally satisfied*; 2. *Partly satisfied*; and 3. *Not at all satisfied*). This instrument gives a quality index for the service which is called the preference congruence percentage (percentage of preferences fulfilled for the users). Furthermore, it includes other indexes such as users', families' and professionals' participation in care planning.
- d) *The English Person-centred Climate Questionnaire-Patient version (PCQ-P)*. The original test, created by Edvardsson, Sandman, & Rasmussen (2008) was validated with older people cared for in hospitals. It consisted of 17 items and in the preliminary study carried out in Sweden (544 patients) a two domain factorial structure was found (safety and hospitality). It was later translated into English and validated in an Australian sample, also in hospitals (Edvardsson, Koch, & Nay, 2009), confirming appropriate psychometric properties. Recently this test has been applied to a sample of older residents in North America (6 care

homes, 189 residents) in which the authors demonstrate a three dimensional factorial structure (safety, hospitality and daily life) as well as internal consistency ( $\alpha = .89$ ), which extends its possible use beyond hospitals and into residential elderly care centres (Yoon, Roberts, Grau, & Edvardsson, 2015).

- e) *The Client-centred Care Questionnaire* (CCCQ; De Witte, Schoot, & Proot, 2006). This evaluates PCC in professional care delivered at home. It is a short questionnaire comprising 15 Likert-type items with 5 answer categories (from completely disagree to completely agree). Evidence of content validity was obtained by the evaluation of expert nurses and users. In terms of the validity of the construct, the first factor explains 58% of the total variance. Reliability estimated via Cronbach's alpha was .94. This test has been the subject of subsequent research (Muntinga, Morkink, Knol, Nijpels, & Jansen, 2014), carried out on a sample of older people receiving care at home (600) in Holland, confirming the adequacy of its psychometric properties and its utility.

#### *Instruments for the evaluation of family involvement in care*

The only instrument found which was related to this approach is the *Family involvement in care* (F-Involve and F-Important; Reid, Chappell, & Gish, 2007), a test made up of 38 Likert-type items with 4 answer categories. It evaluates two factors: the perception of the family themselves about their involvement in care (20 items) and the perceived importance of family involvement (18 items). The responses are given by the families of the older person being cared for in the centre. Evidence of content validity was obtained through experts and observation of the services. Construct validation shows that the first factor explains 44% of the total variance and the second factor 30%. In terms of reliability, Cronbach's alpha coefficient is .93 for the first factor and .85 for the second.

#### *Instruments for the evaluation of PCC according to the judgement of professionals*

Five measuring instruments have been identified, each designed to be self-completed by personnel providing direct care in the evaluated services:

- a) The English Person-centred Climate Questionnaire-Staff version (PCQ-S). The original test created by Edvardsson, Sandman, & Rasmussen (2009), was validated with older people being cared for in hospitals, similarly to the aforementioned patients' version. It consists of 14 items. In the preliminary studies, carried out on a Swedish population (600 professionals) a structure with four factors was found (safety, daily life, community and understanding). It was later translated into English and validated in an Australian sample, again in hospitals (Edvardsson, Koch, & Nay, 2010), where similar results were found. There is also a validation in a Norwegian population with a sample of 5 elderly care homes (209 professionals). This work demonstrates good psychometric properties (Cronbach  $\alpha = .92$ ; temporal stability = .76) which indicates that it can be used in residential centres (Berglan, Kirkevold, & Edvardsson, 2012).

- b) *The Person-centred Care Assessment Tool –P-CAT–* (Edvardsson, Fetherstonhaugh, & Gibson, 2010). This is an instrument made up of 13 Likert-type items with five answer categories which gathers the opinions of direct care professionals. The preliminary study leading to the development of the instrument was performed with an Australian sample ( $n = 220$ ) of direct care professionals in elderly care homes. Data from the research support the test's reliability ( $\alpha = .84$ ). Factorial analysis suggests three domains: personalised care, accessibility, and organisational support. The test-retest reliability for the whole test was .66 and for the three factors it was .79, .58 and .66. This test has been adapted and validated subsequently in care homes in Sweden (Sjögre, Lindkvis, Sandman, Zingmark, & Edvardsson, 2012) and Norway (Rokstad, Engedal, Edvardsson, & Selbaek, 2012). A version has also been adapted for China (Zhong & Lou, 2013) and recently, a Spanish version of the P-CAT was published following research using a large sample of care homes and day centres in Spain (Martínez, Suárez-Álvarez, Yanguas, & Muñiz, 2015a). All of this research confirms the good psychometric properties of this instrument.

- c) *The Staff Assessment Person-Directed Care –PDC–* (White et al., 2008). The original version of this questionnaire contained 50 items which evaluated two domains and eight factors via five-category Likert scales. The first dimension, person-directed care, includes five factors (autonomy, personhood, knowing the person, comfort care and support relations). The second dimension, support for person-directed care, covers three factors (work with residents, personal environment for residents and management/structure). The initial validation of the test was carried out with a sample of eight elderly care services in Oregon (one home-care service and seven care homes) in which 430 professionals participated. This first version demonstrated adequate construct validity in the first dimension (person-directed care) expressed in its five factors which explain 61% of the variance and in the second dimension (support for person-directed care), the three factors explain 60% of the variance. The test demonstrated good internal consistency, Cronbach's  $\alpha$  being between .86 and .90 for the five factors in the first dimension and between .74 and .86 for the three factors making up the second. A second study, also performed with a sample of North American care homes (Sullivan et al., 2012) supports the original structure and gives good results in terms of validity and reliability. There is also a reduced Korean version of the PDC (Choi & Lee, 2013) made up of a total of 30 items in seven factors (the personal environment for residents factor was removed). Two Spanish versions of the instrument have recently been developed, one for care homes which keeps the 50 original items (Martínez, Suárez-Álvarez, Yanguas, & Muñiz, 2016), and another with 47 items for day centres (Martínez, 2015). The similar results obtained in this work to other studies in terms of factorial structure and good psychometric properties mean that the test can be used to evaluate and research Spanish care centres.
- d) *The Individualized Care –IC–* (Chappell, Reid, & Gish, 2007). A 46 item instrument which evaluates dementia care through Likert scales. It has three components:



Understanding the person, Autonomy, and Communication (between professionals and residents and between professionals). Evidence of content validity was obtained through experts' opinions, a literature review, and direct observation. Evidence of construct validity demonstrates that the three factors explain 29%, 31% and 33% of the total variance respectively. Cronbach's  $\alpha$  coefficient was .77, .80, and .77 respectively. The test-retest reliability was .60, .88, and .77 in the three components. There is also a subsequent adaptation and validation for a Chinese population (Chappell & Chou, 2010).

- e) *The Staff Person-Centred Practices in Assisted Living –Staff PC-PAL–* (Zimmerman et al., 2015). This is a questionnaire made up of a total of 62 items in five PCC related areas: Assistive practices (23 items); Social relationships (23 items); Individualised care and attention (8 items); Climate (8 items); and Carer-Resident relationship (7 items). In addition, there are 40 complementary items which do not contribute to the total score but which allow more information to be gathered related to PCC. In terms of psychometric properties, the five factors explain 54% of the total variance and the correlations between the factors are between .29-.49. The test demonstrates good internal consistency ( $\alpha = .96$ ) with the five subscales being between .81 and .95.

Lastly, various qualitative tools have been found which have the principal objective of guiding gerontological services which are in the process of changing their care model. As measuring instruments the majority have limitations owing to the lack of data regarding reliability or validity, but they are nonetheless interesting for generating ideas from self-evaluation and facilitating the proposal of improvement measures by the teams themselves. The majority have been created as questionnaires to be completed in-house. They are usually very detailed instruments which, unlike the briefer instruments, allow the identification of specific improvements to be made in order to progress with implementation of the PCC approach. Furthermore, some of these tools offer lists of indicators which make it possible to monitor the progress of different components of PCC. It is worth mentioning the following: *The VIPS Framework Quality Assurance for Person-Centred Dementia Services* (Brooker, 2007); *The Person-Directed Dementia Care Assessment Tool* (Department of Health and Family Services of Wisconsin, 2006); *The Individualized Care Organizational Self-Assessment. Quality Patterns of Rhode Island* (The Rhode Island Department of Health Quality, 2008); *The Culture Change Staging Tool* (Grant & Norton, 2003); *The Culture Change Indicators Survey* (Institute for Caregiver Education, 2008); *The Artifacts of Culture Change Tool* (Bowman & Schoeneman, 2006); *The Person-Centred Care Domains of practice* (Centre for Excellence in Assisted Living, 2011), and in Spanish *Avanzar en Atención Gerontológica Centrada en la Persona* (Martínez, 2013).

#### Discussion

Evaluation instruments designed from the PCC approach are varied and incomplete, something which in part is due to an insufficient definition of the construct and to the variety of existing models. The use of just a single instrument would usually be a biased option for the evaluation of such a complex, multidimensional

construct and so it is not prudent to recommend only one option (De Silva, 2014). Various authors have recommended using an evaluation strategy which combines surveys of opinion, external observation, and objective progress indicators (Bowman & Schoeneman, 2006; De Silva, 2014; Edwardsson & Innes, 2010; Van Haitsma et al., 2014). With respect to the use of surveys of opinion, authors have indicated the importance of triangulating opinions from users, families and professional to reduce subjective bias that goes along with all self-reporting measures (De Silva, 2014).

The thorough evaluation of any psychological construct requires first checking that the instrument has adequate psychometric properties to evaluate the objectives that the evaluation aims to cover (Lane, 2014; Padilla & Benítez, 2014; Ríos & Wells, 2014; Sireci & Faulkner-Bond, 2014). In PCC evaluation, it is worth highlighting that there are a significant number of instruments which do not have this information available or for which the psychometric properties are unknown. For this reason, the selection of instruments in Table one corresponds principally to those instruments with published psychometric data, which permits the researcher or professionals to assess whether the instrument is appropriate for their needs and objectives. In addition, having the psychometric properties of the instruments available allows the comparison of PCC in different contexts and countries, something which is fundamental to accumulate evidence of the benefits of this approach over the traditional one.

One notable gap is the scant presence of users' subjective domains in existing instruments when it comes to care fulfilling their preferences and fitting their lifestyle. Apart from proposals such as those by Van Haitsma et al. (2012, 2014), the instruments reviewed pay little attention to how people's preferences are met in day-to-day care. In terms of the difficulty of discovering the opinion of those with advanced dementia, there is an absence of items or indicators that could evaluate the existence of professional practices supporting the indirect exercise of autonomy for those with severe cognitive decline, using strategies of observation and representation, avoiding limiting the right to autonomy for those who maintain the capacity of exercising it directly. It is also important to note that the majority of published instruments were designed and validated in residential contexts, and that there are almost no tests to evaluate PCC in home-care or day centre services. In addition, more studies are needed which adapt and validate different tests in the Spanish care context.

In addition, these measures aimed at evaluating the level of person centred care must be integrated with other strands of testing related to care quality. PCC must not be considered the only thing which defines service quality, instead it must be included in wider batteries of tests which give a more complete view of care service quality. In the future it will be necessary to face the challenge of producing new general measuring instruments which address evaluation by integrating different evaluation perspectives in a single instrument.

Finally, and looking to the immediate future, the evaluation of PCC faces significant technical challenges. Amongst them are: (a) coordinating evaluations which seek generalisation and comparison from a variety of questions about care that should be individualised, evaluations which consequently need common rather than different elements from each person to achieve such a comparison; (b) harmonising the tools which have transcultural adaptations, recognising the idiosyncrasies of the different care models, and reflecting those differences; (c) associating clinical

evaluation (cognitive functioning, physical functioning, social functioning etc.) with the evaluation of person centred care; and (d) incorporating measures of evaluating PCC which include the perspective of the people themselves, their families, and the professionals into an integrated package.

## Acknowledgements

This research was partially financed by the Ministry of the Economy and Competitiveness, Government of Spain References: PSI2014-56114-P y BES2012-053488.

## References

- Berglan, A., Kirkevold, M., & Edvardsson, D. (2012). Psychometric properties of the norwegian person-centred climate questionnaire forma a nursing home context. *Scand J Caring Sci.*, 26(4), 820-828.
- Bowman, C. S., & Schoeneman, C. (2006). *The development of the artifacts of culture change tool*. Retrieved from: [http://www. www. artifactsofculturechange.org](http://www.artifactsofculturechange.org)
- Bradford Dementia Group (2005). *Dementia Care Mapping. DCM 8th*. Bradford: University of Bradford.
- Brawley, E. C. (2006). *Design innovations for aging and Alzheimer*. New Jersey: John Wiley & Sons.
- Brooker, D. (2005). Dementia care mapping: A review of the research literature. *The Gerontologist*, 45(1), 11-18.
- Brooker, D. (2007). *Person centred dementia care: Making services better*. London: Jessica Kingsley.
- Brooker, D., & Surr, C. (2007). *Dementia care mapping: Principper og Ppraksis*. Birkerød, Denmark: University of Bradford & Daniae.
- Brownie, S., & Nancarrow, S. (2013). Effects of person-centred care on residents and staff in aged-care facilities: a systematic review. *Clinical interventions in Aging*, 8, 1-10.
- Centre for Excellence in Assisted Living (2011). *The person-centred care domains of practice*. Retrieved from <http://www.theceal.org>
- Chappell, N. L., Reid, R. C., & Gish, J. A. (2007). Staff-based measures of individualized care for persons with dementia in long-term care facilities. *Dementia: The International Journal of Social Research and Practice*, 6, 527-546.
- Chappell, N. L., & Chou, K. L. (2010). Chinese version of staff-based measures of individualized care for institutionalized persons with dementia. *Asian Journal of Gerontology and Geriatrics*, 5, 5-13.
- Chaudhury, H., Cooke, H., & Frazee, K. (2013). Developing a physical environmental evaluation component of the Dementia Care Mapping (DCM) Tool. In G. Rowles & M. Bernard (Eds.), *Environmental gerontology: Making meaningful places in old age* (pp. 153-174). New York: Springer Publications.
- Choi, J. S., & Lee, M. (2013). Psychometric properties of a Korean measure of person-directed care in nursing homes. *Research on Social Work Practice*, 24(6), 676-684.
- Cooke, H. A., & Chaudhury, H. (2013). An examination of the psychometric properties and a efficacy of dementia care Mapping. *Dementia*, 12(6), 790-805.
- De Silva, D. (2014). *Helping measure person-centred care*. London: The Health Foundation.
- De Witte, L. P., Schoot, T., & Proot, I. M. (2006). Development of the client- centred care questionnaire (CCCQ). *Journal of Advanced Nursing*, 56(1), 62-68.
- Dementia Services Development Centre (2011). *Dementia design audit tool*. Stirling: Dementia Services Development Centre. University of Stirling.
- Department of Health and Family Services of Wisconsin (2006). *A guide for creating quality of life and successfully refocusing behavior for people with alzheimer's disease and related dementia in long term care settings. Assessment Tool*. State of Wisconsin: Department of Health and Family Services. Division of Disability and Elder Services.
- Edvardsson, D., Fetherstonhaugh, D., & Gibson, S. (2010). Development and initial testing of the person-centred care assessment tool (P-CAT). *International Psychogeriatrics*, 22, 101-108.
- Edvardsson, D., & Innes, A. (2010). Measuring person-centred care: A critical comparative review of published tools. *The Gerontologist*, 50, 834-846.
- Edvardsson D., Koch S., & Nay, S. (2009). Psychometric evaluation of the english language person-centred climate questionnaire-patient version. *Western Journal of Nursing Research*, 31(4), 235-244.
- Edvardsson, D., Koch, S., & Nay, R. (2010). Psychometric evaluation of the English language Person-centred Climate Questionnaire- Staff version. *Journal of Nursing Management*, 18, 54-60.
- Edvardsson, D., Sandman, P.O., & Rasmussen, B. (2008). Swedish language person-centred climate questionnaire patient version: Construction and psychometric evaluation. *Journal of Advanced Nursing*, 63, 302-309.
- Edvardsson, D., Sandman, P.O., & Rasmussen, B. (2009). Swedish language person-centred climate questionnaire-staff version. *Journal of Nursing Management*, 17, 790-795.
- Edvardsson, D., Winblad, B., & Sandman, P.O. (2008). Person-centred care of people with severe Alzheimer's disease: Current status and ways forward. *The Lancet Neurology*, 7(4), 362-367.
- Ellis-Gray, S. L., Riley, G. A., & Oyebo J. R. (2014). Development and psychometric evaluation of an observational coding system measuring person-centred care in spouses of people with dementia. *International Psychogeriatrics*, 26(11), 1885-1895.
- Fleming, R. (2010). An environmental audit tool suitable for use in homelike facilities for people with dementia. *Australasian Journal on Ageing*, 30(3), 108-112.
- Fossey, J., Lee, L., & Ballard, C. (2002). Dementia care mapping as a research tool for measuring quality of life in care settings: Psychometric properties. *International Journal of Geriatric Psychiatry*, 17, 1064-1070.
- Gaugler, J. E., Hobday, J. V., & Savik, K. (2013). The CARES Observational Tool: A valid and reliable instrument to assess person-centred dementia care. *Geriatric Nursing*, 34(3), 194-198.
- Gitlin, L. N., Schinfeld, S., Winter, L., Corcoran, M., Boyce, A. A., & Hauck, W. (2002). Evaluating home environments of persons with dementia: Interrater reliability and validity of the Home Environmental Assessment Protocol (HEAP). *Disability and Rehabilitation*, 24(1-3), 9-71.
- Grabowski, D. C., O'Malley, A. J., Afendulis, C. C., Caudry, D. J., Elliot, A., & Zimmerman, S. (2014). Culture change and nursing home quality of care. *The Gerontologist*, 54(1), S35-S45.
- Grant, L., & Norton L. V. (2003). *A Stage Model of Culture Change in Nursing Facilities*. Retrieved from [http://nhqi.hsag.com/pcc/4D\\_PCC\\_Staging\\_Paper.pdf](http://nhqi.hsag.com/pcc/4D_PCC_Staging_Paper.pdf)
- Institute for Caregiver Education (2008). *Culture change indicators Survey*. Retrieved from <http://www.caregivereducation.org/index.htm>
- Kitwood, T. (1997). *Dementia reconsidered: The person comes first*. Maidenhead- Berkshire: Open University Press.
- Koren, M. J. (2010). Person-centred care for nursing home residents: The culture-change movement. *Health Affairs*, 29(2), 321-317.
- Lane, S. (2014). Validity evidence based on testing consequences. *Psicothema*, 26, 127-135.
- Lawton, M. P., Weisman, G. D., Sloane, P., Norris-Baker, C., Calkins, M., & Zimmerman, S. I. (2000). Professional environmental assessment procedure for special care units for elders with dementing illness and its relationship to the therapeutic environment screening schedule. *Alzheimer Disease and Associated Disorders*, 14(1), 28-38.
- Martínez, T. (2013). *Avanzar en atención gerontológica centrada en la persona. Instrumentos para la revisión participativa* [Advance gerontology attention focused on the person. Tools for participatory review]. Retrieved from [www.acpgerontologia.net](http://www.acpgerontologia.net)
- Martínez, T. (2015). *La atención centrada en la persona en los servicios gerontológicos. Modelos de atención e instrumentos de evaluación* [The attention focused on the person in gerontological services.

- Models of care and assessment tools]. Tesis doctoral. Universidad de Oviedo.
- Martínez, T., Suárez-Álvarez, J., Yanguas, J., & Muñiz, J. (2015). Spanish validation of the Person-centred Assessment Care Tool (P-CAT). *Aging and Mental Health, 26*, 1-9.
- Martínez, T., Suárez-Álvarez, J., Yanguas, J., & Muñiz, J. (2016). The Person centred approach in Gerontology: New validity evidence of the Staff Assessment Person-directed Care Questionnaire. *International Journal of Clinical and Health Psychology*, <http://dx.doi.org/10.1016/j.ijchp.2015.12.001>
- McCormack, B. (2004). Person-centredness in gerontological nursing: An overview of the literature. *International Journal of Older People Nursing, 13*, 31-38.
- Misiorski, S., & Kahn, K. (2005). Changing the culture of long-term care: Moving beyond programmatic change. *Journal of Social Work in Long-Term Care, 3*(3/4), 137-146.
- Morgan, S., & Yoder, L. (2012). A concept analysis of person-centred care. *Journal of Holistic Nursing, 30*(1), 6-15.
- Muntinga, M. E., Mokkink, L. B., Knol, D. L., Nijpels, G., & Jansen, A. P. (2014). Measurement properties of the Client-centred Care Questionnaire (CCCQ): Factor structure, reliability and validity of a questionnaire to assess self-reported client-centredness of home services in a population of frail, older people. *Qual Life Res, 23*(7), 2063-2072.
- Nolan, M., Davies, S., Brown, J., Keady, J., & Nolan, J. (2004). Beyond 'person-centred' care: A new vision for gerontological nursing. *International Journal of Older People Nursing in association with Journal of Clinical Nursing, 13*(3a), 45-53.
- Padilla, J. L., & Benítez, I. (2014). Validity evidence based on response processes. *Psicothema, 26*, 136-144.
- Reid, R. C., Chappell, N. L., & Gish, J. A. (2007). Measuring family perceived involvement in individualized long-term care. *Dementia: The International Journal of Social Research and Practice, 6*, 89-104.
- Ríos, J., & Wells, C. (2014). Validity evidence based on internal structure. *Psicothema, 26*, 108-116.
- Rokstad, A. M. M., Engedal, K., Edwardsson, D., & Selbaek, G. (2012). Psychometric evaluation of the Norwegian version of the Person-Centred Care Assessment Tool. *International Journal of Nursing Practice, 18*, 99-105.
- Sireci, S., & Faulkner-Bond, M. (2014). Validity evidence based on test content. *Psicothema, 26*, 100-107.
- Sjögre, K., Lindkvist, M., Sandman, P., Zingmark, K., & Edwardsson, D. (2012). Psychometric evaluation of the Swedish version of the Person-centred Care Assessment Tool (P-CAT). *International Psychogeriatrics, 24*(3), 406-415.
- Sloane, P. D., Mitchell, C. M., Weisman, G., Zimmerman, S., Foley, K. M., Lynn, M., Calkins, M., Lawton, M. P., Teresi, J., Grant, L., Lindeman, D., & Montgomery, R. (2002). The Therapeutic Environment Screening Survey for Nursing Homes (TESS-NH): An observational instrument for assessing the physical environment of institutional settings for persons with dementia. *The Journals of Gerontology. Psychological Sciences and Social Sciences, 57*(2)-S69-78.
- Smith, R., Fleming, R., Chenoweth, L., Jeon, Y. H., & Brodaty, H. (2012). Validation of the Environmental Audit Tool in both purpose-built and non-purpose-built dementia care settings. *Australas Journal Ageing, 31*(3), 159-163.
- Snow, A., Jacobs, L., Parmelee, P., Allen, R., Berlowitz, D., Palmer, J., & Hartmann, C. (2012, July). *Development of the resident-centred assessment of interactions with staff and engagement (RAISE): A nursing home quality of care observational tool*. Paper presented at the HSR&D/QUERI National Conference 2012, Transforming Veteran Healthcare Through Partner-Oriented Research, Washington, DC. Retrieved from <http://www.hsrd.research.va.gov/meetings/2012/abstract-display.cfm?RecordID=632>
- Sullivan, J. L., Meterko, M., Baker, E., Stolzmann K., Adjognon O., Ballah, K., & Parker, V. A. (2012). Reliability and validity of a person-centred care staff survey in veterans health administration community living centres. *The Gerontologist, 53*(4), 596-607.
- The Rhode Island Department of Health Quality (2008). *The individualized care pilot. The organizational self-assessment*. Retrieved from <http://www.health.ri.gov/programs/facilityregulation/individualizedcarepilot/Module1RecommendationsDilemmas.pdf>
- Thornton, A., Hatton, C., & Tatham, A. (2004). DCM reconsidered: Exploring the reliability and validity of the observational tool. *International Journal of Geriatric Psychiatry, 19*, 718-726.
- Van Haitsma, K., Crespy, S., Humes, S., Elliot, E., Mihelic, A., Curyto K., Spector, A., Esharaghi, K., Duntzee, C., Reamy, A., & Abbot, K. (2014). New toolkit to measure quality of person-centred care: Development and pilot evaluation with nursing home communities. *Journal of the Society for Post-Acute and Long-Term Care Medicine, 15*, 671-680.
- Van Haitsma, K., Curyto, K., Spector, A., Towsley, G., Kleban, M., Carpenter, B., Ruckdeschel, K., Feldman, P. H., & Koren, M. J. (2012). The preferences for everyday living inventory: Scale development and description of psychosocial preferences responses in community dwelling elders. *The Gerontologist, 53*, 582-595.
- Vila, J., Villar, F., Celdrán, M., & Fernández, E. (2012). El modelo de la atención centrada en la persona: análisis descriptivo de una muestra de personas mayores con demencia en centros residenciales [The model of person centred care: descriptive analysis of a sample of older people with dementia in residential centres.]. *Aloma, 30*(1), 109-117.
- Villar, F., Vila-Miravent, J., Celdrán, M., & Fernández, E. (2015). Assessing the well-being of patients with dementia: Validity and reliability of the Spanish version of the Dementia Care Mapping (DCM) tool. *Studies in Psychology, 36*(2), 389-412.
- White, D. L., Newton-Curtis, I., & Lyons, K. S. (2008). Development and Initial Testing of a Measure of Person-Directed Care. *The Gerontological Society of America, 48*(1), 114-123.
- Wylie, K., Madjar, I., & Walton, J. (2002). Dementia Care Mapping: A person-centred approach to improving the quality of care in residential settings. *Geriatrics, 20*(2), 5-9.
- Yoon, J. Y., Roberts, T., Grau, B., & Edwardsson, D. (2015). Person-centred climate questionnaire-patient in English: A psychometric evaluation study in long-term care settings. *Archives of Gerontology and Geriatrics, 61*, 81-87.
- Zhong, X. B., & Lou, V. W. (2013). Person-centred care in Chinese residential care facilities: A preliminary measure. *Aging and Mental Health, 17*(8), 952-958.
- Zimmerman, S., Allen, J., Cohen, L.W., Pinkowitz, J., Reed, D., Coffey, O. W., Reed, P., Lepore, M., & Sloane, P. D. (2015). A measure of Person-centred practices in assisted living: The PC-PAL. *Journal of the American Medical Directors Association, 16*, 132-137.