Maturitas 73 (2012) 167–170

Contents lists available at SciVerse ScienceDirect

Maturitas

journal homepage: www.elsevier.com/locate/maturitas

Short Communication

On the different scenarios of disagreement between self- and informant-reports on an aged adults ability to perform activities of daily living

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ARTICLE INFO

Article history:
Received 6 June 2012
Received in revised form 13 June 2012
Accepted 26 June 2012

Keywords:
Disagreement
Informants
Proxies
Activities of daily living
Aging

ABSTRACT

Background: Studies assessing physical functionality with questions on ability to perform activities of daily living (ADLs) commonly make use of self- and informant-report measures.
Objectives: Delineate the scenarios from which disagreement can arise and show evidence for the presence of disagreements when reporting on ADLs.
Method: Use information from a cross sectional study of community-dwelling minority aged adults and their informants to show how disagreement can arise in survey studies.
Results: Although disagreement between self and informant reports on ADLs exist, informants should be considered a reliable source of information.
Conclusion: Informant reports should be used with caution when assessing complex and private ADLs.

1. Introduction

Measuring an aged adult's ability to perform activities of daily living (ADLs) is important because it constitutes the most popular measure for accessing functional status in the elderly [1] and has been used for decades [2]. The ability to measure ADL performance in the aged population is important because ADL measures have been linked to mortality and other health outcomes [3,4]. ADLs measure the "severity of need" for personal assistance with activities of daily living [5] and are evaluated primarily through *self*-reports—please see Appendix A for a detail list of ADL questions.

ADLs can be rated through "observed" performance, "self" reports, and/or "informant" reports. ADL measures from observations by trained clinicians may be the preferred method; however, *self* reports are more widely used in survey studies because of their low-cost and availability [6]. Because of things like weakened physical conditions, emotional indisposition, or impaired mental states, aged adults are not always able to self report on their ability to perform ADLs—which is why *informant* reports are widely use. When both respondent and informant reports on an aged adult's ability to perform ADLs are collected, they do not always agree 100% of the time. Because secondary data sources frequently lack an objective measure (e.g., clinical ADL evaluation), it is difficult to determine which report should be trusted when a respondent–informant disagreement appears—leaving researchers with the inability to tell which report is more accurate in reporting the respondent's true functional ability. This project briefly outlines the mechanisms, causes, and possible solutions for handling ADL-reporting disagreements.

2. Respondent–informant disagreements

Many studies have investigated respondent–informant disagreement on items requiring judgments on ADLs [1,6–9]. Few have asked: what are the scenarios from which disagreements can arise? This paper adds to the literature by detailing eight disagreement scenarios in Appendix B.

Studies have asked: what are the causes of disagreement? Respondent–informant disagreements in general arise because an aged person may describe himself or herself differently than others do [7]. There are many behavioral and cognitive compensatory strategies that may play a role in how age adults self-report ADLs [10] and how their caregivers evaluate their ADL performance [11], which is why some have admonished that investigators evaluate the reliability of reports on ADLs from alternate people [8]. Respondent–informant disagreements could be caused by psychological and social factors. For example, a severely ill respondent may be motivated to miss-report ADL performance ability because he/she may want to either exaggerate (to get more help) or minimize (to avoid pity) their illness. An informant on the other hand, may *over* report a respondent's ability to perform ADLs because he/she is only present when respondent needs help—and may *under*

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http://dx.doi.org/10.1016/j.maturitas.2012.06.012

Table 1
Agreements and disagreement by activity of daily living questionnaire item.

ADL Item	Unable[a]	Able[b]	Less favorably[c]	More favorably[d]	No. of pairs	OA[e]
Basic						
Walk small room	224	408	23	33	688	0.92
Bathing	198	422	38	29	687	0.90
Grooming	53	590	11	34	688	0.94
Dressing	93	533	23	36	685	0.91
Eating	11	660	10	7	688	0.98
Bed transfer	112	507	27	39	685	0.91
Toilet	98	537	27	25	687	0.93
Instrumental						
Telephone	74	547	26	37	684	0.91
Traveling	394	217	30	44	685	0.89
Shopping	346	246	31	61	684	0.87
Cooking	215	379	28	61	683	0.87
Light housework	182	409	27	66	684	0.86
Medications	151	436	20	71	678	0.87
Finances	199	385	21	80	685	0.85
Heavy housework	473	125	28	60	686	0.87
Stairs	366	215	22	71	674	0.86
Half a mile	374	202	37	70	683	0.82

[a] Respondent and his/her informant agree the respondent is unable to do ADL.
[b] Respondent and his/her informant agree the respondent is able to do ADL.
[c] Respondent reports being able to perform ADL while his/her informant disagrees.
[d] Respondent reports being unable to perform ADL while his/her informant disagrees.
[e] Observed agreement.

report the respondent's ability to perform ADLs if he/she feels burdened and unable to care for respondent. Reporting on socially sensitive items, like toilet use, may also be more sensitive to interviewer effects and social desirability.

Most investigations in this topic have asked: do disagreements have a pattern? Yes, disagreements are likely to be lower on "hard" data questions (e.g., can you use toilet?) and higher "soft" data questions (e.g., take medicines without help?) [9]. Early work on this topic clearly note that ADL agreement differs by "upper" (instrumental-ADL) and "lower" (basic-ADL) functionalities [12]. The potential for disagreement rises as questions are less concrete, observable, and involve private behaviors [1]. The literature also shows that aged adults are more likely to rate their functional abilities more favorably than their informants [1,8,13–15]. Investigations are inconclusive on how the level of interaction between informant and respondent affects the level of agreement. Some have found that increased levels of contact between the respondent and informant increases the level of agreement—the "high-contact high-agreement" (H^c–H^a) condition [singer 9]. It is more frequently found that greater contact leads to higher levels of disagreement—the "high-contact low-agreement" (H^c–L^a) condition [16,17].

Despite their limitations, both self- and informant-reports on functional abilities remain popular elements in gerontological research and clinical settings [18]—necessitating that a clearer understanding be developed regarding disagreement scenarios, the factors causing disagreements, and patterns in disagreements. This study contributes toward advancing this scientific endeavor by outlining the difference scenarios, causes, patterns of respondent–informant disagreements when reporting on ADLs.

3. Example

I provide evidence that different types of disagreements can arise in survey studies and that in general, respondents rate their ability to perform ADLs more favorably than their informants. By using Wave-7 (2010–2011) from the Hispanic Established Population for the Epidemiological Study of the Elderly (HEPESE) data, a longitudinal study of community dwelling Mexican origin Latinos aged 65 years and above who resided in on of the five southwestern states of Arizona, California, Colorado, New Mexico and Texas [19], I provide a simple example of how ADL disagreements can arise when two information sources are compared. All data coding is generated using SAS 9.2 software (Copyright, SAS Institute Inc. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc., Cary, NC, USA).

HEPESE study respondents were asked to identify their information with the following question: "Can you please provide me with the name, telephone number, address, and e-mail address of the child or person who provides the most advice or help for you—the person who knows you best?" Table 1 displays the count of responses along four "dis/agreement categories": (column 1) both respondent and informant agree respondent is *unable* to perform ADL task; (column 2) both respondent and informant agree respondent is *able* to perform ADL task; (column 3) respondent self-rates *less* favorably than informant; (column 3) respondent self-rates *more* favorably than informant.

Disagreements show up on the "Less Favorably" and "More Favorably" columns in Table 1. In order to ascertain the degree to which respondents and informant agree on the respondent's ADL abilities, we can calculate *observed agreement* as follows: [(column 1 + column 2) ÷ (sum of columns 1 through 4) [20]. As can be seen from Table 1, "half a mile" is the instrumental ADL item with the *highest* disagreement and the basic ADL item of "eating" has the *lowest* level of disagreement.

The spider graph in Fig. 1 visually displays how aged adults do in fact rate their functional abilities more favorably than their informants. The spider diagram was created using Microsoft Excel 2007 (computer software: Redmond, Washington: Microsoft). The percent of disagreements where aged adult rates self more favorably than informant is calculated as follows: [(Less Favorably + More Favorably) ÷ More Favorably] × 100. The spider graph displays how most of the items are above 50% (i.e., more than half of the disagreements come from aged adult rating him/herself more favorably than informant).

4. Discussion

In general, informants are a reliably source of information. Informant reports should be used with caution when assessing complex and private ADLs. Informant reports should also be