Minimum Data Set: A Resident Assessment Tool for Senior Care Homes in India— Establishment of Reliability and Validity

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Abstract

This study reports the adaption of the Minimum Data Set, (MDS), a Resident Assessment Instrument (RAI), for use with the Indian population. The adapted form consists of 20 sections. The sample comprised elderly residents and caregiving professionals from three care homes. The study was carried out in six phases. The data obtained helped establish the reliability and suitability of the tool for the Indian care setting.

Keywords: aging, assessment, care home, care plan

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Diminishing traditional family support and emerging issues of inter-generational adjustment combined with other demands of modern life, make old age home a necessity for many elders in India. The benefit of greater longevity brings with it the challenges of chronic diseases and disabilities in older persons (Nair, 1995; Samanta, Chen, &Vanneman, 2015). Longevity combined with disabilities and chronic diseases have major financial and social impact on all nations specifically for developing nations like India. While life expectancy has increased, quality of life has declined for seniors in the context of informal care and family support. The concept of joint family system is becoming extinct in Indian societies. Informal support system by family members is no more an option for many families (Ramamurti, Liebig, & Jamuna, 2015). Individual perspectives on elder care among the young and affluent elders have also changed drastically. In view of these changes in the socio-cultural and familial context, there is a dire need to promote health and independence and thus improve quality of life of seniors. Preventing functional decline and promoting independence is a key to reducing the dependency and optimizing successful aging, whether seniors are aging "at home" or in a care home or old age homes (OAH).

In a formal care setting (senior care home) in India, the care delivery model is a social model, where the care is less formalized and stems from the belief that aging is inevitable and functional decline is a normal aging process. Since autonomy and independence is not the primary goal in a social model of care delivery, comprehensive assessments of the residents and formulation of individualized plan of care with measurable goals is not a requirement. Health promotion or restoration of function, prevention of disability and functional decline is very important for seniors to maintain dignity and quality of life. This will include promoting healthy lifestyle choices through education, physical activities and integrating strategies for health promotion into to healthcare systems (Chahal

& Mehta, 2013). Because degeneration and disease in old age contribute to disability and functional decline, interventions should be aimed at improving functionality and disability-free lifespan in older Indians (Ramamurti & Jamuna, 2002). This goal of health promotion and functional maintenance specifically for residents in senior care homes can only be achieved by assessing their individual needs and delivering person-centered, need-appropriate care.

Apart from providing the basic needs of elders, systematic strategies to promote self-care, improve quality of life by engaging in activities of preference, interdisciplinary assessment and documented action plan for care, ongoing monitoring and evaluation is not a priority in senior care homes. Ramamurti and Jamuna (1997) concluded that majority of old age homes were run by inexperienced personnel who had no formal training in gerontology or elder care. Ramamurti & Jamuna (2002) reported that existing facilities for long term care are very limited and education in gerontology for health care practitioners (medicine, paramedical, and nursing) is needed. Needs and challenges of Indian seniors are not that different from the rest of the elders in the world. A cross-cultural, comparative study examined physical and psychosocial status of US nursinghomes and Indian OAHs (pay-and-stay), and found that physical and mental health status of residents as well as availability of social resources of both countries were similar (Varughese & Jamuna, 2014). A notable difference between both countries was that social supports (family and friends) declined when an Indian elder moved into an OAH. Although nursing homes in USA and pay-and-stay OAHs in India were similar on many variables, predominant models of care (medical vs. social)differ in both countries. Older persons from all socioeconomic backgrounds enter senior care homes because of problems in functional, physical, or mental status. It is a known fact that many unavoidable changes related to functional status and other chronic condition can happen in later stages of life. Therefore, it is imperative that the

interdisciplinary team monitors and designs the best plan possible to maintain the health of the resident for an optimum quality of life. Conducting an interdisciplinary assessment and care planning with the participation of the resident has multi-faceted benefits. It is reported that residents' satisfaction and trust increase when they are given individual attention. Therapeutic communication is promoted between residents and staff, between staff and family, and among interdisciplinary members. When staff show interest and pay attention to individual needs of residents, family involvement in residents' care also improves. It also facilitates staff accountability in care delivery, clarity in documentation, and efficiency in meeting residents' need.

In the past two decades, nursing homes in the west, especially in USA, have undergone dramatic changes in the areas of assessment and care planning due to government regulation andconsumer pressures. Minimum Data Set (MDS), a Resident Assessment Instrument (RAI), was developed by the US Health Care Financing Administration (HCFA) in response to the nursing home reform law of Omnibus Budget Reconciliation Act (OBRA) 1987, and incompliance with the recommendation by the Institute of Medicine (IOM), 1986 (Committee on Nursing Home Regulation, IOM). Since early nineties, MDS has served as the primary clinical assessment tool for information gathering through an in-depth assessment process. RAI uses an interdisciplinary assessment approach for problem identification and care planning, as given in RAI Manual of 2013; 2002 (Centers for Medicare & Medicaid Services, 2018). Interdisciplinary team members with varied clinical background and expertise will need to complete RAI to achieve best results. A comprehensive assessment of the resident by the interdisciplinary team members will ensure the validity of information which will provide a deep understanding of the strengths and limitations of the resident to ensure the best quality of care. The HCFA mandates that MDS assessments are to be completed on admission to facility, then on a

quarterly basis, and on discharge. MDS consist of assessments of various domains, viz., cognitive, physical, psychosocial and functional status of the residents living in geriatric nursing homes or assisted living facilities for seniors. It also identifies residents' rehabilitation potentials and triggers for further decline in status. Basing on the initial assessment, the interdisciplinary care team plan for a need-based care suited for each resident. Such a plan would include rehabilitation for functional restoration, ADL assistance for daily tasks, cognitive and functional maintenance to prevent further decline, and such. After the baseline assessment on admission, a comprehensive plan of care addressing the problem identified, intervention to be carried out with measurable goals (short-term or long-term), and the date for evaluation was developed and implemented. Ongoing monitoring and evaluation of the plan is the best practice to ensure functional maintenance without deterioration.

RAI in the US opened opportunities for experimentation and adoption of MDS in other countries around the world for assessment and care planning purposes. Since its inception, MDS items were revised many times and the uses have also expanded over time. Currently, it is used in prospective payment system (PPS), Medicare and Medicaid reimbursement systems, and for monitoring the quality indicators of nursing homes acrossUS. The resident assessment instrument—Minimum Data Set 2.0 quality indicators have been systematically reviewed and its significance in elder care setting has been reported (Hutchinson et al., 2010).

Relevance of the Tool in Care Assessment

Research evidence support many positive outcomes of using MDS tool for comprehensive assessments and planning care. Improvement in staff's ability to identify residents' problems to detect areas that are under-diagnosed or undetected, and further

enhanced decision-making skills of clinicians to strategically plan interventions for identified triggers were reported as positive outcomes. Long-term care staff in USA reported the usefulness of this assessment tool in (a) providing them a holistic view of resident as person, focusing on specific domains with regard to strengths and limitations (b) providing efficient link between baseline data and care planning decision (c) facilitating intervention for functional restoration and disability prevention (Fries et al., 2015). Reliability of MDS assessment tool is established (0.7 or higher for functional status areas, 89% items achieved 0.4 or higher, and 63% had 0.6 or higher) in improving quality of care delivery, evaluation and continuous quality improvement, determining staff needs. In a broader aspect, state and federal agencies use this as a yardstick to measure performance of facility, comparison of care between facilities in terms of cost and quality in addition to policy implication.

In view of the above, an attempt was made in the research project (under US Fulbright program of 2004) with an aim at examining the relevance of Minimum Data Set-A Resident Assessment Instrument (MDS-RAI) in senior residential care homes in India.

Description of Items in the Assessment Form

There are 20 sections in total, which are classified under various domains. Each section contains multiple questions, for which responses can be coded numerically or the most appropriate responses can be checked.

1. **Section A: Identification Information (A0 100 - A02400).** To obtain key information about facility, type of assessments, and the resident (gender, date of birth, race or ethnicity, preferred language, marital status, occupation, room number, and the preference of name for addressing).
2. **Section B: Hearing, Speech, and Vision (B0 100 -B0 1200).** To obtain information about resident's ability to see, hear, and communicate. If the resident is in a persistent

vegetative state or coma, this section can beskipped.

3. **Section C: Cognitive Patterns – Brief Interview of mental status (C0 100 - C01600).** To determine residents' ability to register and recall information and attention. If the resident is unable to give responses, staff assessment for mental status should be considered.
4. **Section D: Mood (D0 100 - D0650).** To detect signs and symptoms of mood distress, and to identify risks for self-harm.
5. **Section E: Behavior (E0 100 - E01100).** To identify behavioral symptom (physical, verbal, and other symptoms including wandering) and its frequency, rejection of course and its impact on resident's safety and the safety of others. The sectional so identifies whether there is a change in the mental status compared to prior assessment.
6. **Section F: Preferences for Customary Routine and Activities (F0 300 - F0800).** To gather information about daily preferences of activities. Also, to indicate the source of information (resident, family, or significant other). If family or significant others cannot complete the interview, a staff assessment should be completed.
7. **Section G: Functional Status (activities of daily living).** To assess the functional status (self-performance) and level of assistance needed (ADL support) for each activity, functional limitation in room, walking balance, mobility devices, if any used, and the potential for functional restoration and increased capability.
8. **Section H: Bladder and Bowel.** The purpose of this section is to get information about the level of bladder training programs and bowel control or appliances to use.
9. **Section I: Active Diagnoses.** To identify all pertinent diagnoses and disease condition that has a direct correlation to current function, cognitive and behavioral status.
10. **Section J: Disease Condition.** To document all conditions including presence of pain that affects the functional status and quality of life.

11. **Section K: Swallowing/Nutritional Status.** To assess conditions that affect nutrition and hydration status of resident.
12. **Section L: Oral/Dental Status.** To determine the status of dentifrice and oral cavity of the resident.
13. **Section M: Skin Conditions.** To document skin conditions, presence of pressure ulcer, wounds or lesions, and treatment prescribed.
14. **Section N: Medications (N0 300 - N0 400).** To record the number of medications including type of injections that was received by the resident.
15. **Section O: Special Treatments, Procedures, and Programs.** To identify special treatments, procedures, and programs that wasadministered.
16. **Section P: Restraints (P0100).** To record the use of any type of restraints, the frequency of usage, and time of the day or night when it was used.
17. **Section Q: Participation in Assessment and Goal Setting.** To document who (resident/family or significant others) participated in assessment and to indicate plans for discharge to the community, if any.
18. **Section V: Care Area Assessment (CAA) Summary.** This is a summary of triggered areas and to document whether or not a plan of care was developed for each care area, and the location of supporting documentation.
19. **Section X: Correction Request.** To modify or inactivate previous assessment record.
20. **Section Z: Assessment Administration.** To document information required for billing purposes, date, and signature of persons completing theassessment.

Establishment of Reliability and Validity for Senior Care Institutions in India

MDS which was adopted in care assessment as part of Fulbright Fellowship at the Center for Research on Ageing, Department of Psychology, Tirupati, AP, India, was

assessed in terms of each section and element for face validity and appropriateness for its application in Indian Settings. The team felt that each item needs to be interpreted and explained in detail forthe purpose of research. Prior to implementation of the assessment tool in research sites, four focus groups were formed in each site. One focus group was for administrators, second one for residents, third one for staff, and the last one for consultant and educators. Open-ended questions were framed on the basis of three research variables: knowledge & attitudes on ageing, health promotion and functional decline, self-rated health and well-being. A 10-day workshop and individual training sessions were conducted on site before launching the instrument. Collaborative learning sessions, group activities, simulation exercises and hands-on training modalities were used to promote understanding and learning of the assessment and care planning process. Few residents of the homes who were interested attended the training sessions and participated in the workshop as part of the interdisciplinary team.

Process of Standardization of the Tool

Once the training sessions were completed, all disciplines were confident in conducting the comprehensive assessment process. Residents were informed and verbal consents were obtained. All residents who were cognitively able to participate involved in the assessment process. To complete a comprehensive assessment, it took an average of two to three hours depending on the acuity of care required for each resident. Team members utilized the guidelines in the manualand the guidance of the researcher to complete each section. Privacy and confidentiality ofthe residents were maintained throughout the process. After the completion of all assessments, the interdisciplinary team members, including the administrators, met to share their observations and concerns. All members unanimously agreed that the assessment process improved their clinical skills in data collection,

communication, and to regard the person in a holistic perspective. The team also felt that some sections were not applicable to the setting and residents. The items inthe MDS which were found to be irrelevant for Indian counterparts were deleted. Some items were chosen to be modified to make the terminology culturally appropriate: Section A 500 Legal; Full Name (modify); Section A 900 - Age (date ofbirth).

Method

To realize the objective, a sample of three care homes in Kerala was selected by using a purposive sampling technique. These were pay-&-stay care homes with 80-100 residents (high-end care homes) which were comparable to residential care homes in USA, with professional and non-professional personnel for various care services, with good review, and those who volunteered to be part of the project. From each residential care home 10 residents (elderly), 20 caregiving professionals such as bedside helpers, activity coordinators, exercise professionals, and administrators were selected. The sample was enrolled from three care homes on voluntary basis and by letter of consent.

The project was initiated in six phases with one week duration: Phase I – introduction of MDS-RAI, its dimensions and its relevance to the residential care homes in India; Phase II – training sessions organized for the participants (in-situ) about the administration, encountering challenges and other issues during the administration of MDS; Phase III – administration of tool on adult resident sample in each care home; Phase IV – evaluation of data obtained in Phase III; Phase V – re-administration of tool after a gap of six weeks to check its test-rest reliability which was found to be 0.89 (internal consistency across various facets carried out); Phase VI – evaluation of Phase V campaign.

The scoring was done on the basis of recommended scoring of MDS-RAI. In the next step of standardization, the final version of MDS was administered and re-administered

within a gap of 15 days to a sample of 25 residents in senior care homes identified in the study to check its relevance and suitability in the Indian care setting (Table 1).

Table 1

Paired t-test for pre- and post-testing of MDS

	Pre-test Mean (SD)	**Post-test Mean (SD)**	***t* value**
Section B	4.75(0.957)	3.50 (1.732)	1.13
Section C	15.25 (1.25)	8.25 (9.53)	1.41
Section D	0.25 (.50)	0.50 (0.57)	0.52
Section E	3.75 (3.77)	2.50 (0.57)	0.74
Section G	41.25 (23.78)	16.50 (17.82)	1.67
Section H	6.75 (2.21)	5.00(.00)	1.58
Section I	11.75 (4.78)	2.50 (4.35)	2.38*
Section J	19.50(4.43)	7.50(8.66)	2.98**
Section N	5.50 (4.12)	1.75 (3.50)	2.09*
Section O	2.50(1.00)	2.50(3.69)	000
Section Q	5.50(3.31)	2.00 (2.309)	2.94**

Note. *p<0.05, **p<0.01. Section B: Hearing, Speech and Vision; C: Cognitive Patterns; D: Mood; E: Behavior; G: Functional Status; H: Bladder and Bowel; I: Active Diagnoses; J: Health Conditions; N: Medications; O: Special Treatments, Procedures, and Programs; Q: Participation in Assessment and Goal Setting

Conclusion

In view of the absence of formal criteria to plan and extend the need-based care for elderly residents in care homes, the newly-adopted MDS will be a great application to the Indian elder care context not only for profit and non-profit care homes, but also for free care homes for the aged. This has great significance in terms of minimizing the care cost, and exclusion of unwanted domains of care tasks, as well as has very objective criteria to extend need-based care for seniors. Thus, the MDS tool is found to be suitable in the estimation of need-based care plan and facilitates promotion of independent living and quality of life of residents in care homes.

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