Original Article

Prevalence of psychiatric disorders among older adults in Jodhpur and stakeholders perspective on responsive health system

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Abstract

Background: Ageing is an inescapable reality of human existence. The elderly population of India is steadily increasing with growing mental health needs which pose many challenges for the health care system. The aim of this study is to assess anxiety, depression, and cognitive disorders among urban and rural elderly and to explore the availability of social support mechanisms and a responsive health system for elderly. **Methods:** This study is a mixed-method approach. For a quantitative study, a community-based cross-sectional survey is conducted in Jodhpur, Rajasthan. A total of 330 elderly persons aged 60 years and above are randomly screened for depression (GDS), anxiety (GAD), and cognitive impairment (HMSE). Further for a qualitative study, in-depth interviews are conducted with 7 key informants including policy and program managers, service providers, and facilitators from the state. For quantitative data analysis, Excel and SPSS are used and for Qualitative data analysis, Thematic Framework Approach is used. **Results:** The mean age of the respondents is 67.9 ± 7.8. The prevalence of severe depression is 17%, severe anxiety is 10.3%, and cognitive impairment is 51.2%. The prevalence of all the three is more in rural elderly as compared to urban elderly as well as more in female individuals as compared to males. Qualitative analysis revealed that there are challenges in early identification of mental disorders at both the levels: service providers and elderly. Psychological and financial issues are also seen in elderly who are not supported by their children. There are cases of fear for elder abuse and influence of western culture in the society. **Conclusion:** There is a sizeable prevalence of psychological issues in elderly population. Therefore, there is a need to adopt holistic and integrated psychogeriatric services for the improvement of quality of life in elderly.

Keywords: Anxiety, cognition disorders, depression, geriatrics, qualitative research

Introduction

India is in a process of demographic transition and currently in late expanding phase. Trends in life expectancy show that people are living longer with improvements in health care and they have a right to a long life in good health rather than one of pain and disability. The World Health Organization (WHO) has estimated that the proportion of the world's elderly people over 60 years will be doubled from 11% to 22% between the year 2000 and 2050.[1,2] The *"twilight years"*—the last years of someone's life is a very sensitive phase. Old age should be a time of happiness, relaxation, and contentment but sadly this is not the case with many of the elderly population. Recent studies show that about 20% of the elderly suffer from mental illnesses—anxiety, depression, and cognitive disorders being the commonest.[1,2] A meta-analysis reported the worldwide prevalence rate of

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depressive disorders in elderly population between 4.7% and 16% with comparatively higher prevalence of 21.9% in India.[3] Geriatric mental health is a neglected issue with poor sensitivity among patients and families of elderly. There is a scarcity of community-based data available on the mental health problems in the elderly from Jodhpur. The aim of this study is to assess anxiety, depression, and cognitive disorders among urban and rural elderly and to explore the perspective of stakeholders on a responsive health system.

Materials and Methods

This study is a mixed-method approach. For a quantitative study, a cross-sectional community-based survey is conducted in the rural (Keru and Dhawa) and urban (Pratap nagar) field practice areas of All India Institute of Medical Sciences (AIIMS), Jodhpur for 3 months (March to May 2019). All the male and female elderly people (≥60 years) in the study population are included in the study. Sample size is calculated assuming 57.3% prevalence using the formula $N = Z^2PQ/l^2$ where Z = 1.96, *P* = prevalence, Q = 100-P, and l = precision.[1] A sample size of 316 at 95% confidence interval, 10% relative precision, and 10% nonresponders is estimated. A total of 359 households are approached. Out of them, 29 elderly did not respond; hence, data is collected from 330 elderly using a simple random sampling with a house-to-house survey. Information is obtained from consenting respondents using pretested questionnaires containing various sociodemographic parameters, depression, anxiety, and cognitive impairment.

Depression is assessed using Geriatric Depression Scale (GDS 15 item scale). The score ranged from minimum 0 to maximum of 15. The aggregate scores are categorized as: 0–4 = normal, 5–8 = mild depression, 9–11 = moderate depression, and 12–15 = severe depression. Anxiety is assessed using Generalised Anxiety Disorder-7 (GAD-7). The total score ranges from 0 to 21. We are considering the aggregate score of 0–5 as mild anxiety, 6–10 as moderate anxiety, 11–15 as moderately severe anxiety, and 16–21 as severe anxiety.[1] Cognitive impairment is assessed using Hindi Mental State Examination (HMSE). A score of ≤23 is considered as cognitively impaired.[4] The questionnaire is translated into vernacular and validated after retranslation with the help of language experts.

For the qualitative study, to explore the availability of support mechanisms and the existence of a responsive health system, in-depth interviews are conducted. Various categories of stakeholders including policy and program managers, service providers, and facilitators from state are the key informants. Total 7 stakeholders are interviewed [Chief Medical Health Officer (CMHO); District Program Manager (DPM) of Urban Health Mission; 2 managing staff from geriatric home (Astha), and 1 from government geriatric old age home; 2 psychiatrists from district hospital, Jodhpur]. In the first visit, the consent form was filled and the interview guide was given to them. The officials were given time to think over the questionnaire and then the next visit was made. In-depth interviews are audio-recorded in phone with the help of a prevalidated interview guide. The tool contains questions related to society levels, treatment facilities, barriers in seeking mental health services, and government initiatives aimed at improving the mental health of elderly people.

Data are analyzed using Statistical Package for the Social Sciences (SPSS) version 21. Appropriate tables and graphs are prepared, and inferences are drawn using Chi-square test and logistic regression.

Ethical Issues: The study is approved by IEC of AIIMS, Jodhpur. Objectives of the study were explained to all the enrolled respondents and a written consent was obtained from each. Participants were also assured of confidentiality and they would not be affected by the study outcomes.

Results

Table 1 depicts the sociodemographic distribution of elderly respondents. A total of 330 elderly are included in the study with the mean age of 67.8 years. Majority of them are Hindu, married, illiterate, and unemployed (housewives).

Table 2 depicts that after multivariate analysis, residence, cognitive impairment, and anxiety had an independent association with depression in elderly.

Table 1: Sociodemographic characteristics of respondents

Variables	Total (*n*=330)	
	n	Percentage
Gender		
Male	134	40.6
Female	196	59.4
Religion		
Hindu	314	95.2
Muslim	16	4.8
Marital status		
Unmarried	2	0.6
Married	218	66.1
Widow	101	30.6
Widower	9	2.7
Educational level		
Illiterate	177	53.6
Primary	45	13.6
High school	73	22.1
Graduation	24	7.3
Post graduation	11	3.3
Occupation		
Farmer	16	4.8
Shopkeeper	11	3.3
Retired	98	29.7
Businessman	6	1.8
Laborer	17	5.2
Unemployed (Housewife)	182	55.2
Residence		
Urban	165	50
Rural	165	50

Table 3 summarizes adjusted odds ratio showing the association of anxiety with sociodemographic data, depression, and cognitive impairment. In adjusted analysis, only education and depression were independent predictor of anxiety.

Table 4 shows that on applying multiple logistic regression model, age, gender, residence, education, marital status, and depression were found to be strong predictors of cognitive impairment.

After analysis of the in-depth interview of key informants, the findings are summarized into specific themes: early identification of mental disorders, psychological and financial needs, elder abuse, western culture, holistic and integrated approach, services only at tertiary level, stigma, and suggestions by key informants.

- Early identification of mental disorders difficult:

  As narrated by a psychiatrist, if the mental disorders are not diagnosed in the early stage, it is very difficult to treat them. On asking about the difficulties which they face in early identification, most of them felt that because of stigma, the family is not willing to start the treatment. They are afraid that they will lose their reputation in society in doing so. One of the stakeholders said that-

"Elderly themselves don't know that they are suffering from mental health disorders and the same with their families and as a result, no psychiatrist is seen for advice."

Table 2: Association of risk factors with depression

	Depression Present		Depression Absent		*P*	aOR [95% CI]
Age, Mean±SD	68.2±8.2		67.6±7.3		0.642	-
Gender					0.167	0.80 [0.42-1.54]
Female	116	(62.7%)	80	(55.2%)		
Male	69	(37.3%)	65	(44.8%)		
Residence					<0.001	2.73 [1.45-5.13]*
Rural	125	(67.6%)	41	(28.3%)		
Urban	60	(32.4%)	104	(71.7%)		
Education					<0.001	0.89 [0.42-1.87]
Primary school or illiterate	151	(81.6%)	71	(49.0%)		
High school and above	34	(18.4%)	74	(51.0%)		
Marital Status					0.009	0.83 [0.43-1.60]
Married	111	(60.0%)	107	(73.8%)		
Unmarried/Widow/Widower	74	(40.0%)	38	(26.2%)		
Cognitive impairment					<0.001	2.96 [1.50-5.86]*
Yes (HMSE ≤23)	129	(69.7%)	40	(27.6%)		
No	56	(30.3%)	105	(72.4%)		
Anxiety					<0.001	6.80 [3.89-11.88]*
Moderate to severe (GAD ≥6)	145	(78.4%)	39	(26.9%)		
Mild	40	(21.6%)	106	(73.1%)		

Figures in round parentheses represent column-wise percentages and those in square parentheses represent 95% confidence intervals; *P* value<0.2 considered statistically significant

Table 3: Association of risk factors with anxiety

	Moderate-to-severe Anxiety		Mild Anxiety		*P*	aOR [95% CI]
Age, Mean±SD	68.0±8.1		67.9±7.4		0.893	-
Gender					0.002	1.59 [0.85-2.99]
Female	123	(66.8%)	73	(50.0%)		
Male	61	(33.2%)	73	(50.0%)		
Residence					<0.001	1.41 [0.74-2.68]
Rural	118	(64.1%)	48	(32.9%)		
Urban	66	(35.9%)	98	(67.1%)		
Education					<0.001	2.19 [1.06-4.53]*
Primary school or illiterate	153	(83.2%)	69	(47.3%)		
High school and above	31	(16.8%)	77	(52.7%)		
Marital Status					<0.001	0.81 [0.43-1.54]
Married	108	(58.7%)	110	(75.3%)		
Unmarried/Widow/Widower	76	(41.3%)	36	(24.7%)		
Cognitive Impairment					<0.001	1.34 [0.68-2.62]
Yes (HMSE ≤23)	125	(67.9%)	44	(30.1%)		
No	59	(32.1%)	102	(69.9%)		
Depression					<0.001	6.79 [3.88-11.86]*
Yes (GDS ≥5)	145	(78.8%)	40	(27.4%)		
No	39	(21.2%)	106	(72.6%)		

Table 4: Association of risk factors with cognitive impairment

	Cognitive Impairment Present		Cognitive Impairment Absent		*P*	aOR [95% CI]
Age, Mean±SD	69.5±9.3		66.3±5.5		<0.001	1.11 [1.06-1.18]*
Gender					<0.001	2.29 [1.11-4.73]*
Female	122	(72.2%)	74	(46.0%)		
Male	47	(27.8%)	87	(54.0%)		
Residence					<0.001	3.13 [1.55-6.32]*
Rural	122	(72.2%)	44	(27.3%)		
Urban	47	(27.8%)	117	(72.7%)		
Education					<0.001	15.11 [6.17-37.01]*
Primary school or illiterate	162	(95.9%)	60	(37.3%)		
High school and above	7	(4.1%)	101	(62.7%)		
Marital Status					<0.001	0.42 [0.20-0.87]*
Married	89	(52.7%)	129	(80.1%)		
Unmarried/Widow/Widower	80	(47.3%)	32	(19.9%)		
Depression					<0.001	3.07 [1.54-6.10]*
Yes (GDS ≥5)	129	(76.3%)	56	(34.8%)		
No	40	(23.7%)	105	(65.2%)		
Anxiety					<0.001	1.29 [0.65-2.56]
Moderate to severe (GAD ≥6)	125	(74.0%)	59	(36.6%)		
Mild	44	(26.0%)	102	(63.4%)		

Approximately, half of them added that lack of awareness and noncooperation of patients leads to difficulties in early identification.

- Psychosocial and financial issues:

  The majority of the key informants cited depression, dementia, loneliness, and anxiety as the main problems faced by elderly. Most of them mentioned about psychological imbalance, sense of insecurity, stress, communication gap with children, and negligence as associated problems.

One of the officials quoted that-

"Children leave their parents here and never ever come back to see them."

The issues which were felt with all stakeholders were poor interaction among family members, lack of feeling of togetherness, isolation, and having no role in decisionmaking regarding family matters. Another key informant quoted that-

"Daughters-in-law give priority to her husband and children, and elderly in homes are put on hold even for food."

Psychosocial needs of elderly include both emotional and financial support. The majority of the elderly in that area were having no source of income on their own and were fully dependent on their children financially.

- Elder abuse:

  Elder abuse is a single or repeated act which occurs within any relationship where there is an expectation of trust. Some of the stakeholder said that elder abuse can be in community by children and relatives, and in hospital settings too by the health workers. Many older people are too ashamed to report this mistreatment and they are even afraid that if they make a report, it will get back to the abuser making the situation even worse. One of the informants quoted that-

"Nowadays elderly have lost their freedom of choice around housekeeping, bedtime, and even meals. If they make suggestions, they are told to mind their own business."

- Western culture:

  Traditionally, most Indians used to live in family units in which the senior was the most important member and acted as the head of the family. As industrialization and westernization progress, it is difficult for the children to stay on with their parents and carry on with the family occupations and as a result, the nuclear family concept has increased. One of the informants quoted that-

"Children nowadays willingly move out from the place where their parents reside because they feel that parents interfere with their lives. At this point of time, they need freedom and no interference from their old parents."

But some of the informants helped us to show the other side of the coin. Nowadays "single child norm" is followed. Children who have jobs out of their parental places want that their parents accompany them. But, elderly do not want to leave their ancestral homes and friend circle.

- Services only at tertiary level:

  Most of the stakeholders said that there are no facilities to deal with mental health at primary health care centers. There are some geriatric centers but only at tertiary level. The major reason is the inadequate human resource, mental health professionals, and lack of training. Poor accessibility and nonavailability of the health services is the main barrier in this region.

Primary mental health care providers can deal with people suffering from mild-to-moderate mental health problems.

Treatment may consist of counseling from a psychotherapist and later can be referred to secondary and tertiary levels. Primary care services will be less expensive than psychiatric hospitals and families will be saved from the indirect cost of travelling. The treatment outcome will also be better.

- Stigma: A barrier in treatment:
  Stigma against the elderly with psychological problems by both public and health care community is common. Families do not come forward for mental health check-ups as they feel it would cause social stigma. One of the stakeholders told that even today people believe in superstitions, cultural beliefs, and think that the mental disorder is due to some sin or curse and go to some babas for the treatment. Another key informant quoted that elderly think-

"If people get to know that I have some psychiatric problem, they will stay away from me and will not make any relations with my family."

- Holistic and integrated approach and other suggestions:
  When respondents were asked to suggest possible changes and interventions, they suggested a holistic approach keeping in mind the "continuum of care." All the therapies—mental, social, spiritual, and physical should be included and a holistic model should be created. They believed that children, youngsters, and elderly, all should be included in mental health awareness programs. Along with the holistic approach, an integrated approach should also be there which would include preventive, promotive, and curative care. Whenever an elderly visits a hospital for some physical trauma, some questionnaire-based performa related to mental health should be also filled. This will also help in early identification of the psychological problems the elderly are facing.

Almost all the key informants said that community awareness is the most important thing to do. Details about psychological problems of geriatric population should be given in appropriate words and easy language in booklets and pamphlets. Camps and public awareness programs should be organized time to time.

When one of the spouses dies, the survivor faces problems. They can socialize through decent geriatric clubs. These clubs will present opportunities to elderly to socialize and interact with other people of their same age group. Setup of geriatric friendly clinics to promote preventive care for vaccination was also suggested.

Very few of them told that elderly should try to be more receptive of new generation's ideas. One of the stakeholders quoted that-

"Elderly people should try to develop those hobbies or interests, like music, painting, or gardening which they were unable to pursue when younger while busy in a household. They can contribute more if the daughters-in-law are employed as this would make them more satisfied and worthwhile."

Earlier grandparents were considered as an important resource for their adult children and grandchildren. They routinely provide child care, financial assistance, and emotional support and moral values to grandchildren. They also provide important stability, predictability, and be a healthy role model for their grandchildren. They can run network clubs, creche, NGOs, and even old age homes. Through this, they can get monetary help and will be active and satisfied serving society.

Some stakeholders said that family strengthening activities like *"Jagratas*," or any religious activity in which an intergenerational exchange should be increased. "Family Open Sessions" in which all members get a chance to express their views while others are receptive of these should be started. Family should involve the elderly in decision making and give their views a due consideration.

Discussion

Prevalence of depression

In this study, the prevalence of mild depression is 25.8%, moderate depression is 13.3%, and severe depression is 17% in elderly. Various authors have reported depression in elderly population ranging from 8.9% to 46.7%.[1,2,5-8] The current study shows that depression is significantly more in rural geriatric population as compared to urban and is supported by a study in Karnataka.[9] The possible reasons may be illiteracy, lack of awareness, low socioeconomic status, and low health care accessibility among rural elderly. In contrast, a study by Sengupta and Benjamin in Ludhiana reported higher depression in urban than in rural elderly and significant predictors were female sex, increasing age, nuclear family, and poverty.[5] Female elderly were found with more depression as compared to males. This finding is in sync with some studies.[2,10] One of the reasons may be better longevity in females and widowhood being one of the risk factors for depression. In Indian society, patriarchal culture is followed. The head of the family is the eldest male member. When he is alive, the wife also enjoys the same power but once he dies, the son takes over these powers. No importance is given to the views of old women and these norms are followed more in rural areas. On multiple logistic regression, residence in rural area, cognitive impairment, and anxiety are found as statistically significant factors for depression. This is in concordance with the literature.[1,5,11]

Prevalence of anxiety

In this study, the prevalence of mild anxiety is 44.2%, moderate anxiety is 27%, moderately severe anxiety is 18.5%, and severe anxiety is 10.3% in elderly. Similar to our study, some studies have shown anxiety in the range of 6.4%–57.3%.[1,2,12,13] Females were found to have more severe anxiety (11.2%) compared to male elderly (9%). This is supported by the findings of Yalcin *et al*.[14] Possible explanations for the reasons of the prevalence of anxiety among females who are mostly unemployed may be insufficient economical independency of housewives, their

lower social support opportunities, and difficulties that people of lower education level encounter trying to overcome their problems. Married elderly are found with more anxiety and this is contrary to the literature.[1] Possible reasons being uncertainty about their future plans, unexplained fear, vulnerability, and perceived insecurity. Only education (less than high school) and depression are found to be independent predictors of anxiety after multivariate analysis.

Prevalence of cognitive impairment

The prevalence of cognitive impairment in our study came out to be 51.2% in elderly. Various authors have reported cognitive impairment in elderly population ranging from 12.6% to 50%.[1,11,12,15,16] Though the questionnaire was administered in the local language, the possible reasons for the high prevalence of cognitive impairment may be low socioeconomic status, illiteracy, smoking tobacco, and drug abuse. Chronic medical conditions would have also attributed to it.[17] Female respondents reported twice more cognitive impairment as compared to male counterparts. A similar finding is reported by a study in South India by Naveen Kumar and Sudhakar.[18]

Hence, early detection of depressive symptoms in elderly people with anxiety and cognitive impairment is a cornerstone to develop preventive and rehabilitation measures.

The qualitative study explored the views and experiences of various categories of stakeholders including policy and program managers, service providers, and facilitators from the state. The study is planned to assess the challenges by the stakeholders in framing programs and increase in the utilization of current programs. The interviewee reported that the geriatric mental health services are less in a number being one of the leading reasons for severe depression in rural areas. There is no focused mechanism of screening even at mild and moderate depression levels which leads to severe depression. They also mentioned that even if such services are made available, there is a doubt that people will use them efficiently due to stigma and fear related to mental health. The findings by Loganathan *et al*. correspond to the findings of this study.[19]

Another major result of our interview is lack of training of doctors, nurses, and health workers for the screening of mental health problems. Our findings are quite consistent with the findings of other studies.[20,21] Even focused counseling for exploring geriatric mental health was never given. The reason being that the entire health system is focused toward the reproductive age group, maternal, and child health. Every year multiple programs are launched for Reproductive and Child Health (RCH) services and very less importance is given to geriatric mental health. Another reason is the perceived notion in health care providers and general public that age affects the cognitive abilities of an individual and considered as a normal phenomenon. As a result, no one is interested in these issues.

Limitations

Since it is a cross-sectional study, the correlation between cause and effect could not be identified and the GDS-15, GAD-7, and HMSE are only screening tools and provide only probable diagnoses that should be confirmed by further evaluation.

Conclusion

In this study, the prevalence of depression, anxiety, and cognitive impairment was more in rural elderly as compared to urban elderly. In-depth interviews revealed the need for building capacity of health care providers and focused health care facilities for geriatric mental health as well as programs for the same. Currently, in the ageing population, the mental health of geriatric age group is of utmost importance and it must be addressed. As a primary care physician, doctors need to be aware of the issues related to mental morbidity in terms of preventive, promotive, and curative care. The motivation of elderly by family and psychiatrists, awareness through Information Education Communication (IEC) and Behavioural Communication Change (BCC), and the work which keep the geriatric population active and satisfied should be implemented.

Declaration of patient consent

The authors certify that they have obtained all appropriate participant consent forms. In the form, the participants have given their consent for their images and other clinical information to be reported in the journal. The participants understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

References

1. Nayak S, Kar M, Panda B. Prevalence of and factors contributing to anxiety, depression and cognitive disorders among urban elderly in Odisha – A study through the health systems ' Lens. Arch Gerontol Geriatr 2019;80:38-45.
2. Manaf MR, Mustafa M, Rahman MR, Yusof KH, Aziz NA. Factors influencing the prevalence of mental health problems among Malay elderly residing in a rural community: A cross-sectional study. PloS one 2016;11:e0156937.
3. Barua A, Ghosh MK, Kar N, Basilio MA. Prevalence of depressive disorders in the elderly. Ann Saudi Med 2011;31:620-4.
4. Tiwari SC, Tripathi RK, Kumar A. Applicability of the Mini-mental State Examination (MMSE) and the Hindi Mental State Examination (HMSE) to the urban elderly in India: A pilot study. Int Psychogeriatrics 2009;21:123-8.
5. Sengupta P, Benjamin AI. Prevalence of depression and associated risk factors among the elderly in urban and rural

field practice areas of a tertiary care institution in Ludhiana. Indian J Public Health 2015;59:3-8.

6. Buvneshkumar M, John KR, Logaraj M. A study on prevalence of depression and associated risk factors among elderly in a rural block of Tamil Nadu. Indian J Public Health 2018;62:89-94.
7. Karthik C, Viswanatha PG, Ranganath TS, Sushmitha P. A study to estimate the prevalence of depression among the inmates of select old age homes in Bangalore city, India. IJCMPH 2016;3:1803-6.
8. Pilania M, Bairwa M, Khurana H, Kumar N. Prevalence and predictors of depression in community-dwelling elderly in rural Haryana, India. Indian J Community Med 2017;42:13-8.
9. Akila GV, Arvind BA, Isaac A. Comparative assessment of psychosocial status of elderly in urban and rural areas, Karnataka, India. J Family Med Prim Care 2019;8:2870-6.
10. Laksham KB, Selvaraj R, Kameshvell C. Depression and its determinants among elderly in selected villages of Puducherry – A community-based cross-sectional study. J Family Med Prim Care 2019;8:141-4.
11. Giri M, Chen T, Yu W, Lü Y. Prevalence and correlates of cognitive impairment and depression among elderly people in the world's fastest growing city, Chongqing, People's Republic of China. Clin Interv Aging 2016;11:1091-8.
12. Seby K, Chaudhury S, Chakraborty R. Prevalence of psychiatric and physical morbidity in an urban geriatric population. Indian J Psychiatry 2011;53:121-7.
13. Wang Z, Shu D, Dong B, Luo L, Hao Q. Anxiety disorders and its risk factors among the Sichuan empty-nest older adults: A cross-sectional study. Arch Gerontol Geriatr 2013;56:298-302.
14. Kirmizioglu Y, Doğan O, Kuğu N, Akyüz G. Prevalence of anxiety disorders among elderly people. Int J Geriatr Psychiatry 2009;24:1026-33.
15. Goldberg SE, Whittamore KH, Harwood RH, Bradshaw LE, Gladman JRF, Jones RG, *et al.* The prevalence of mental health problems among older adults admitted as an emergency to a general hospital. Age Ageing 2012;41:80-6.
16. Reddy NB, Pallavi M, Reddy NN, Reddy CS, Singh RK, Pirabu RA. Psychological morbidity status among the rural geriatric population of Tamil Nadu, India: A cross-sectional study. Indian J Psychol Med 2012;34:227-31.
17. Waldstein SR. Health effects on cognitive aging. The aging mind: Opportunities in cognitive research. 2000:189-217.
18. Kumar ND, Sudhakar TP. Prevalence of cognitive impairment and depression among elderly patients attending the medicine outpatient of a tertiary care hospital in South India. Int J Res Med Sci 2013;1:359-64.
19. Loganathan S, Iyengar V, Chowdappa SV, Varghese M. Population trends and public awareness of healthy and pathological ageing in India: A brief overview. Asian J Psychiatr 2017;29:49-53.
20. Sin GL, Yeo D, Koh HJ, Lee J, Ng LL. Training eldercare workers in mental healthcare. Singapore Med J 2018;59:28-32.
21. Prakash O, Kukreti P. State of geriatric mental health in India. Curr Transl Geriatr Exp Gerontol Rep 2013;2:1-6.