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Original Article

Nursing Section

Effectiveness of Educational Programme on Knowledge regarding Abuse and Age-related Changes among Elderly Population

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ABSTRACT

Introduction: Age-related changes are a universal and regular process of ageing. Normal ageing produces changes in structures and functions of organs, and abuses is widespread among the elderly population and is a highly complicated problem.

Aim: To assess effectiveness of educational programme on knowledge regarding abuse and age-related changes among elderly population.

Materials and Methods: A quasi-experimental research study was conducted in India from 1st December 2019 to 30th December 2019, through a community-based survey in Padmashree Institute of Nursing in Kommaghatta Rural community, Bengaluru, India. This survey was conducted among 60 elderly people using a systematic random sampling technique. An educational programme was conducted as an intervention to impart knowledge to the elderly. Questionnaires were used to assess the knowledge of abuse and age-related changes. Data was analysed by Statistical Package for Social Science (SPSS) version 20.0.

Results: The study findings showed that in the pretest level of knowledge, none of the subjects had adequate knowledge, whereas, post-test in the educational programme, the majority had moderately adequate knowledge (76.7%). The pretest mean score was 49.7% which showed adequate improvement in the post-test score level of 70.6%, which was statistically significant (p-value <0.001).

Conclusion: The study finds evidence that nurses working in the community setting needs to use educational programmes to improve knowledge regarding abuse and age-related changes among the elderly, which helps in preventing elderly abuses.

Keywords: Ageing, Elderly abuses, Structured questionnaire

INTRODUCTION

Ageing is an inevitable developmental phenomenon bringing along several physical, psychological, hormonal and social changes [1]. Elderly is the term used for the age above 60 years. According to the data of the present century, about 280 million world's population belongs to the age group of 60 years and above. In developing countries, the percentage of elderly was less previously as compared to the current situation, as per the recent survey the population of elderly has been increasing [2].

Elder individuals have physiological changes that occur in all organs [3]. These physiological changes (musculoskeletal changes, cardiovascular changes, respiratory changes, digestive system, urinary system, vision, hearing, integumentary and central nervous system) are expected as part of ageing and may begin in early adulthood [4]. These changes leads to major public health issue which may cause a burden to the family and country. These changes in body composition increase the older adult's risk of developing a wide range of chronic disorders [5-8].

Elderly abuse is inappropriate behaviour or harm to the elderly or older people [9]. Abuse can happen anywhere, like within families, hospitals, healthcare centres, and old age homes [10]. In India, abuse against the elderly is a fundamental challenge. It can be done by their children, daughter-in-law, son-in-law and/or caregiver. Common abuses to elders are physical, psychological, emotional, financial, abandonment, neglect, etc [11].

Globally, the prevalence of elder abuse is projected to increase in many countries as the ageing population has rapidly increased whose needs may not be fully met due to resource constraints. The number of victims may rapidly increase if the proportion of elderly abuse remains unchanged. A significantly less population is aware of elderly abuse, especially in developing countries like India [12].

According to Help Age India organisation conducted survey to identify crimes against the elderly in 2014, the survey report showed that half of the elderly experienced abuse. Family members cause 77% of elderly abuse, 32.5% are abused by their relatives, 21% by friends and 20% by neighbours [13].

According to recent data in Karnataka State, the population of the elderly is estimated to be about eight lakhs, and Bangalore has the highest percentage of elderly abuse and shame in the community. The overall report of India shows that Bangalore tops in elderly population facing abuse in different forms. The survey conducted among the elderly shows overall abuse to be 16%, verbal abuse of 12.5%, financial abuse of 8.5%, and physical abuse of 1.5%. The elderly also experienced multiple of abuse [14,15].

A recent study shows that about 15.7% of the elderly found some form of abuse [16]. In India, elderly abuse most commonly occurs in the female gender [17]. Many national and international agencies recommend an age-friendly environment for the elderly [18,19]. Child abuse is common and recognised as compared to elder abuse in India context. Abuse in the elderly population was not noticed, neglected and only few research studies were conducted in India compared to western countries cited above. This present study research investigator wants to emphasise the elder population's knowledge on self identification of abuse and age-related changes. Imparting knowledge on abuse make elder population recognise and aware of it.

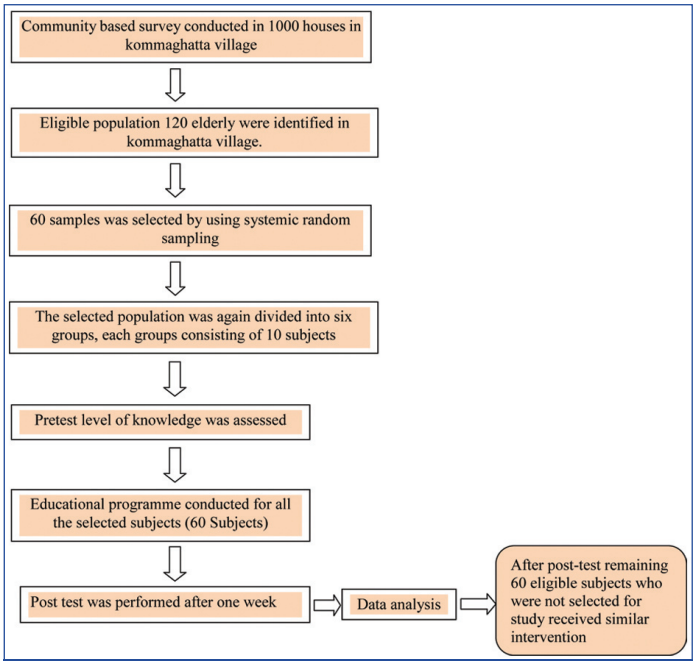
MATERIALS AND METHODS

This quantitative research was conducted to assess the effectiveness of the educational programme on knowledge regarding abuse and age-related changes among the elderly. The research design used in the study was a quasi-experimental -one-group pretest and post-test design. Pretest was conducted on same day intervention

administered and post-test was performed after one week, the total duration of data collection was four weeks.

The study was approved by the research ethical committee Padmashree Institute of Nursing and formal permission was obtained from the concerned authority of Sulikere PHC (registration number 05_N293_94681 30/03/2019) and informed consent was obtained from the subjects. The study was conducted in Kommaghatta village, Bengaluru, Karnataka, India from 1st December 2019 to 30th December 2019.

The research investigator performed an extensive community-based survey to identify the elder subjects above 60 years. Total 120 elderly and caregiver were identified, and out of them, 60 subjects were selected for the study using systematic random sampling [Table/Fig-1].



[Table/Fig-1]: Sample selection and data collection for the study.

Sample size calculation: The first subject was selected using a random sampling technique followed by an interval of two subjects. The following formula was used for sampling technique:

K=N/n,

Where N=Total population

n=sample size

k=120/60=2,

So, samples were allocated into six groups, and each group had 10 elderly subjects

Educational Programme

The study was conducted for the duration of four weeks. The researcher obtained permission from the concerned authority of the rural community {Primary Health Center (PHC)- Sulikere in Bengaluru} and the informed consent from the subjects. The eligible subjects were selected based on systematic sampling technique; pretest was conducted by using structured knowledge questionnaires.

Followed by the pretest an educational programme covered abuse and age-related changes among the elder population. This programme involved audio-visual aids such as flashcards and charts on knowledge regarding age-related changes and elder abuse among the elder population. The duration of the programme was 30 minutes for each group which consisted of 10 members. At the end of the session, information booklets were distributed to the participants.

Post-test was performed after one week duration by using the same knowledge tool. After completion of the study remaining 60 all the eligible subjects who have not been selected through sampling technique samples received similar intervention.

Measurement of Outcomes

The tool consist of 28 questionnaire items with four domains such as general information regarding age-related changes (two items), knowledge regarding age-related structural changes (eight items), knowledge regarding age-related physiological changes (nine items), and knowledge regarding elderly abuse (nine items). Section A included a demographic questionnaire to obtain information regarding age, gender, religion, educational status and previous occupation. Section B included a structured knowledge questionnaire to assess the knowledge regarding age-related changes and elderly abuse [Annexure 1]. Interpreting the score (<50%=inadequate knowledge, 50-75%=moderately adequate knowledge, and >75%=adequate knowledge) [20]. A high score 50% and above indicates higher knowledge, and a low score below 50% indicates lower level of knowledge.

The tool reliability was obtained by using split half method score was 0.87. The tool was reliable to conduct the study.

STATISTICAL ANALYSIS

Statistical Package for Social Science (SPSS) version 20.0 was used to analyse the data. Paired t-test was used to analyse the mean difference in the knowledge score between pretest post-test and p-value <0.05 was found to be statistically significant.

RESULTS

Total 60 subjects were enrolled and majority of them were in the age group of 61-70 years 51 (85%). There were more females 37 (61.7%) than males. The demographic characteristics showed that out total, 45 (75%) of the participants were having primary education and 20 (33.3%) elderly were private employees. Other characteristics has been given in [Table/Fig-2].

S. No.	Demographic variables	Frequency	Percentage
1.	**Age (years)**		
	a) 61-70	51	85.0
	b) 71-80	7	11.7
	c) 81 and above	2	3.3
2.	**Gender**		
	a) Male	23	38.3
	b) Female	37	61.7
3.	**Religion**		
	a) Hindu	59	98.3
	b) Muslim	1	1.7
4.	**Educational status**		
	a) Primary	45	75
	b) Secondary	10	16.7
	c) PUC	3	5.0
	d) Graduate and above	2	3.3
5.	**Previous occupation**		
	a) Government employee	7	11.7
	b) Private employee	20	33.3
	c) Business	15	25.0
	d) Daily wages	18	30.0
6.	**Marital status**		
	a) Married	47	78.4
	b) Unmarried	-	-
	c) Widower	5	8.3
	d) Divorced	8	13.3

7.	**Family Income Rs per month**		
	a) Less than 5000	14	23.3
	b) 5000-10000	27	45.0
	c) 10001-15000	13	21.7
	d) Above 15000	6	10.0
8.	**Types of family**		
	a) Nuclear family	7	11.7
	b) Joint family	53	88.3
	c) Extended family	-	-
9.	**Food pattern**		
	a) Vegetarian	12	20
	b) Non Vegetarian	48	80

[Table/Fig-2]: Distribution of elderly according to their demographic characteristics (N=60).
Question 10 and 11 not shown

The (acquired result of the) pretest level of knowledge was inadequate as it shows less than 50% of frequency level i.e. 24 (40%) [Table/Fig-3]. Total 36 (60%) elderly are aware about the abuses and age-related changes in moderately adequate level. The study shows that none of the subjects have adequate level of knowledge that is above 75% of knowledge level among the elderly. On the contrary, the results of the post-test showed a great variation that is around 46 (76.7%) had adequate level of knowledge, 14 (23.3%) have a moderately adequate level of knowledge, and none of the subjects have an inadequate level of knowledge. This shows that after the administration of educational programmes, the majority of elderly have received an understanding about the need of the knowledge regarding abuse and age-related changes and among elderly in a moderate level of knowledge as compared with the pretest results.

Level of knowledge	Pretest		Post-test	
	Frequency	Percentage	Frequency	Percentage
Inadequate (<50%)	24	40.0	-	-
Moderately adequate (50-75%)	36	60.0	46	76.7
Adequate (>75%)	-	-	14	23.3
Overall	60	100	60	100.0

[Table/Fig-3]: Level of knowledge regarding abuse and age-related changes among elderly in the pretest and post-test (N=60).

The baseline mean score was 13.93 and in the post-test mean score was 19.77. The difference in mean score was 5.84 which indicates that there was an improvement in the level of knowledge after administration of education programmes among the study population [Table/Fig-4]. Educational programmes have a positive impact on increasing the knowledge level, which influences the improvement of Quality of Life (QoL) among the elder population.

Aspects of knowledge	Max score	Pretest			Post-test		
		Range	Mean±SD	Mean %	Range	Mean±SD	Mean %
General information	2	0-2	1.35±0.54	67.5	0-2	1.65±0.51	82.5
Knowledge regarding elderly abuse	9	3-6	4.43±0.87	49.2	5-9	6.42±1.10	71.3
Knowledge regarding structural changes	8	2-6	3.77±0.98	47.1	3-7	5.48±0.96	68.5
Knowledge regarding physiological changes	9	3-6	4.38±0.82	48.7	4-8	6.18±0.94	68.7
Overall	28	11-17	13.93±1.51	49.7	15-25	19.77±2.28	70.6

[Table/Fig-4]: Range mean and SD of pretest and post-test knowledge regarding abuse and age-related changes among elder population (N=60).

The overall mean difference was 5.84, standard deviation was 2.29, the mean difference percentage was 20.9%, and paired t-test value was 19.70. These scores show a highly significant difference at p-value <0.001 level. In addition, there was statistical significance in all aspects of knowledge at p-value <0.001 level [Table/Fig-5]. The highest mean percentage was identified in the aspects of knowledge regarding elderly abuse and the lowest percentage in general information. This trend shows that most subjects were unaware of elderly abuse, and after educational programmes, the subjects gained a high knowledge about elderly abuse. The interventions improved the level of knowledge among the elderly, resulting in decreased abuse in the elderly and increased QoL.

Aspects of knowledge	Max. score	Paired t-difference			t-test value	p-value
		Mean	SD	Mean%		
General information	2	0.30	0.76	15.0	3.0348	<0.001
Knowledge regarding elderly abuse	9	1.98	1.33	22.1	11.517	<0.001
Knowledge regarding structural changes	8	1.71	1.32	21.4	10.007	<0.001
Knowledge regarding physiological changes	9	1.80	1.14	20.0	12.157	<0.001
Overall	28	5.84	2.29	20.9	19.702	<0.001

[Table/Fig-5]: Comparison of pretest and post-test level of knowledge regarding abuse and age-related changes among elder population (n=60).
A p-value <0.05 was considered significant

DISCUSSION

The study was undertaken to identify the impact of educational programmes on rural community elderly on abuse and age-related changes. According to recent data, the prevalence of elderly abuse in India has increased in recent decade [21]. Study results revealed that the educational programme had improved the knowledge regarding abuse and age-related changes, there was significant improvement in the mean score from 49.7 to 70.6 after administration of intervention (mean difference 20.9). The educational programme was statistically significant in the post-test level of knowledge at p-value <0.001.

The findings of similar randomised controlled trials, conducted the combinations of interventions included education and case scenarios study results showed improvement of participants' level of the knowledge as compared to the baseline knowledge level [22]. A study performed among students' reaction to the material presented in the context of their previous knowledge of elder abuse and study results showed that the level of knowledge increased from 28.5% to 53.5% [23]. Another study done by West A et al., showed the significant difference between mean scores of pre and post-tests (22.77 to 25.35) in knowledge of elder abuse in medical students' [24].

The systematic review conducted on efficacy of community based elder abuse interventions on level of knowledge study was performed by multidisciplinary interventions and psychological interventions, results of study showed that there was rise in the level of knowledge as compared to baseline and study identified that there was scarcity of studies on abuse among older population [25]. The above result suggests a need to enhance knowledge by using new strategies regarding age-related abuse and age-related changes. The elderly who had received an educational programme had a better understanding of abuse.

Most elderly and family members may not be aware of elderly abuse and age-related changes. Hence, providing an educational programme about abuse and age-related changes can contribute to better compassion on knowledge in families and the communities. Furthermore, emphasising the knowledge of elderly abuse among the public, it helps to make a better place for the elderly. Educational programmes can be conducted in the hospital and other healthcare settings by involving the family members to enhance their knowledge and improve the quality of life of the elderly.

Technology-based awareness programmes can be conducted by involving the student nurses in public and voluntary agencies. A previous study conducted on nurses' ability to recognise elder abuse induced by family members showed significantly increased scores from 255.96±26.55 and 224.85±35.11 after the intervention [26]. The findings of present study are the basis for professional nurses and students to conduct further research studies. In addition, nursing researchers should conduct interactive sessions with people above 60 years on psychological problems and how to overcome them.

Limitation(s)

The present study has some limitations. The level of knowledge can differ based on their educational background. The study involved specifically to elderly population. So, the study cannot be generalised, hence the study involves only one group of people and no randomisation.

CONCLUSION(S)

The proposed educational programme effectively improved the knowledge regarding abuse and age-related changes among the elderly. However, there is a need to conduct an awareness programme or educational programme in the hospital setting, home care, old age home and community or healthcare settings to improve and enhance the knowledge of the elderly and the healthcare providers. This change can positively impact the health and safety of the elderly.

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ANNEXURE 1

SECTION A

DEMOGRAPHIC PERFORMA

1. **Age**
   a) 61-70 years
   b) 71-80 years
   c) 81 years and above
2. **Gender**
   a) Male
   b) Female
3. **Religion**
   a) Hindu
   b) Muslim
   c) Christian
   d) Others
4. **Educational status**
   a) Primary education
   b) Secondary education
   c) PUC
   d) Graduate and above
5. **Previous occupational status**
   a) Government employee
   b) Private employee
   c) Business
   d) Daily wages
6. **Family income**
   a) Less than 5000 per month
   b) 5000-10000 per month
   c) 10001-15000 per month
   d) 15001 and above per month
7. **Type of family**
   a) Nuclear family
   b) Joint family
   c) Extended family
8. **Marital status**
   a) Married
   b) Unmarried
   c) Widower
   d) Divorced
9. **Food pattern**
   a) Vegetarian
   b) Non Vegetarian
10. **Source of information regarding age-related changes and elderly abuse**
    a) Yes
    b) No …….

    If yes
    a) Mass media
    b) Family/friend
    c) Health personnel
11. **Are you getting any pension/monetary support from the government?**
    a) Yes
    b) No

SECTION B

Structured knowledge questionnaire for the effectiveness of educational programme on knowledge regarding age-related changes and elderly abuse among elderly in a selected rural Community, Bengaluru .

A. **General information regarding age-related changes and elderly abuse**

1. **Which age group is considered as an elderly age group?**
   a) 30-40 years
   b) 41-50 years
   c) 51-60 years
   d) 61-70 years
2. **What do you mean by age-related-changes?**
   a) Physiological changes
   b) Psychological changes
   c) Pathological changes
   d) All of the above

B. **Knowledge regarding age-related structural changes among elderly**

3. **What is the structural changes in musculoskeletal system?**
   a) Collapsing of vertebra
   b) Loss of joint
   c) Loss of bone cartilage
   d) Hardening of the bone
4. **Which of the following body posture changes occurs in elderly?**
   a) Bending backward
   b) Lateral bending
   c) Bending forward
   d) Slow movement
5. **What is age-related structural changes in cardiovascular system?**
   a) Decreased of heart muscle
   b) Decreased posterior wall thickness
   c) Increased cardiac size
   d) Increased lipid deposition
6. **What is the structural changes in respiratory system?**
   a) Decreased in size and shape of the lungs
   b) Increased expansion of ribcage
   c) Increased the weight of the lungs
   d) Increased in size and shape of the lungs
7. **What is the structural changes in digestive system?**
   a) Increased stomach thickness
   b) Decreased muscles tone of stomach
   c) Increased size of the liver
   d) Decreased of intestinal wall
8. **What is the structural changes of urinary system?**
   a) Increased in size of kidney
   b) Increased in size of bladder
   c) Decreased in size of kidney
   d) Thinning of small artery in kidney
9. **Which of the following is the structural changes of the eyes?**
   a) Flattening of the eyes
   b) Pupil become wide
   c) Bulging of the corneal surface
   d) Retinal become detached

10. **What is the structural changes in nervous system?**
    a) Increased of neuron
    b) Enlarged ventricles
    c) Decreased size of the brain
    d) Thickness of the cortex

C. **Knowledge regarding age-related physiological changes among elderly**

11. **What is the common physiological changes in musculoskeletal system?**
    a) Loss of muscles strength
    b) Loss of bone density
    c) Regeneration of bone cartilage
    d) Loss capability in movement
12. **What is age-related physiological changes in cardiovascular system?**
    a) Decreased blood pressure
    b) Increased cardiac output
    c) Increased blood pressure
    d) Increased cardiac function
13. **Which of the following physiological changes occur in respiratory system?**
    a) Increased gas exchange
    b) Increased cough efficiency
    c) Decreased muscles strength
    d) Increased muscles strength
14. **What physiological changes occurs in digestive system?**
    a) Reduced appetite
    b) Difficulty in swallowing food
    c) Decreased absorption
    d) All of the above
15. **What is the physiological changes in the urinary system?**
    a) Inability to control urine
    b) Infrequent urination
    c) Ability of urethral functioning
    d) Ability to empty the bladder
16. **What are the physiological changes of vision in elderly?**
    a) Blurred vision
    b) Cloudy of the lens
    c) Double vision
    d) All of the above
17. **Which of the following is physiological changes of hearing ability?**
    a) Increased hearing ability
    b) Decreased hearing ability
    c) Loss of ear wax
    d) Absence ringing sound in the ear
18. **What is the common physiological changes of integumentary system?**
    a) Increased secretion of sweating
    b) Increased muscles tone
    c) Decreased subcutaneous fat
    d) Increased skin sensation
19. **What is the physiological changes in central nervous system?**
    a) Ability to grasp the objects
    b) Increased smell and taste
    c) Slowing of thought and memory
    d) Increased reflexes

D. **Knowledge regarding elderly abuse**

20. **What is the meaning of elderly abuse?**
    a) Physical harm
    b) Emotional harm
    c) Mistreatment
    d) All of the above
21. **What is the reason of elderly abuse?**
    a) Memory problems and physical disabilities
    b) Elderly with complete healthy
    c) Good relationship with children
    d) Elderly with independent life
22. **How will you identify elderly abuse?**
    a) Friendly with family members.
    b) Loneliness and refusal to talk
    c) Communicate properly with neighbour
    d) Dependent elderly
23. **Which of the following is an example stealing money, misusing funds or possession?**
    a) Neglect
    b) Financial abuse
    c) Emotional abuse
    d) Physical abuse
24. **What it is mean physical abuse?**
    a) Act of neglecting
    b) Act of using harsh words
    c) Act of stealing money
    d) Act of violence such as slapping
25. **Which of the following is an example of blaming?**
    a) Financial abuse
    b) Emotional abuse
    c) Sexual abuse
    d) Physical abuse
26. **What is the meaning of neglect?**
    a) Humiliating
    b) Verbal assault
    c) Depriving of proper care leaving at risk
    d) Stealing money
27. **What is self neglected also known as?**
    a) Harm by self
    b) Harm by others
    c) Care by others
    d) Self care
28. **How to prevent elderly abuse?**
    a) Notify to helpline
    b) Enforcement
    c) By awareness and education programme
    d) All of the above