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The Effect of Ageing on Quality of work in Health Professionals

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Abstract
Topic: *The effect of ageing on quality of work in health professionals.*
Background & Objectives: *This research regarding ageing response and wellbeing on Health Professionals is important to ensure high quality health care services. The research focuses on qualifying the data to acknowledge the Health Professional's quality of work, satisfaction rate and risk of burnout due to occupational stress, by a simple self-assessment questionnaire as a tool. In recent days, expectations and perception of individuals differ concerned with the health care services provided by junior or senior Health Professionals. Every Health Professional wishes to provide quality work outcome, effective medical/therapeutic care and avoid medical litigation. So it is necessary to rule out and analyze the effects of Ageing, Physical capabilities and Psycho Social predictor of the Health Professional influencing Work Ability. Therefore, the objective of the study is to assess the work ability index, Rapid Assessment of Physical Activity score and Psycho Social Index Predictor score amongst health professionals as per their age group.*
Methods: *A Non-Experimental Study using convenient sampling of 429 Subjects of various health care professionals have been assessed with Self-assessment questionnaires. Completed questionnaires were received from 429 subjects out of 450 subjects. The inclusion criteria was Indian health care professionals above the age of 30 years of both gender who are directly involved in full time professional work which includes Nurses, Dentists, Physiotherapists, General Practitioners and Medical Specialists. The scores were entered as per the three out-come measures of Self-assessment questionnaires namely Rapid physical activity questionnaire, work ability index and psycho social index predictor. The correlation analysis has been done as per age and type of health professional.*
Results:*General Practitioners age group was significantly higher. Physiotherapists age group was significantly lower ($F=31.265$, $p<0.001$). The duration of experience of General Practitioners and Nurses was significantly higher ($F=34.27$, $p<0.001$). Physiotherapists had significantly higher scoring than other professionals with regard toRapid assessment of physical activity questionnaire. The correlation results of Rapid physical activity questionnaire and work ability index results are found to be significant ($r = 0.499$, $p < 0.01$) which means, as physical activity scoring increases Work Ability Index also increases.*
Conclusion: *Physiotherapists had significantly higher scoring in physical activity questionnaire than other professionals. Work ability index was found to be significantly declining with increasing age. If Physical activity scoring increases work ability index also increases. Psycho social index Predictor was significantly declining with increasing age. The correlation results of Rapid physical activity questionnaire and work ability index results are found to be significant.*
Keywords: *Rapid physical activity questionnaire – RAPA; Work ability index – WAI; Psycho social index Predictor – PSI.*

I. Introduction

Occupational health services focuses on the medical model and normally involves medical personnel such as nurses, physicians and other health care professionals, ergonomists, hygienists, safety professions, etc. Often referred to in the WHO context as Basic Occupational Health Services (BOHS). "A Professional is someone who can do his best when he/she doesn't feel like it" - Alistair Cooke, a famous American Journalist. Mostly the functions of Health Professionals are overlapping and flexible (Driscoll 2007). Health care professionals in this report are defined as professionally trained categories, such as doctors, nurses, clinical officers, midwives, Laboratory technicians, etc. [1]

The ability to work is the fundamental basis of well-being for all of us. Nevertheless, our work ability will deteriorate if we ignore taking care of our health. Many factors affect work ability, and we can influence several of them through our own activity with simple measures. We can influence both our own life-style and our work environment. The best characteristics indicating a great Health Professional are also the ones that make it difficult to maintain healthy relationships and their overall well-being (Myers, 2001). In case a satisfactory decline happens with the Health professional's quality of work it would lead to decrease in quality of patient care. The Medical Profession has an obligation to ensure that its members are able to provide safe

effective health care. In terms of challenge, capacity is a big issue. To achieve this it is important to seek basic self - input leading to self - correction. A timely motivational feedback is mandatory for Health Professionals with all age groups.

The traits and characteristics that are perceived to indicate a great health professional (e.g. to excise self-control, perfection and dedication at work) are also the ones that make it difficult to maintain healthy relationships and their overall wellbeing which indirectly affects the satisfaction of work and psycho social status of the professional (Myers, 2001). Thus with the decline in health professional's satisfaction ends up with a decrease in quality of the patient care provided.

Old Studies acknowledges the wellbeing of the Health Professional to preserve burnout, improve the quality of care they provide to their patients, reduce medical errors, and improve patient satisfaction through feedback analysis. To preserve the quality of their work performance, Health Professionals have a responsibility to maintain their health and wellness, to offer community excellence, compassion and integrity in their services.

The main message of the 2016–17 Healthy Workplaces Campaign is Safe and healthy working conditions throughout the whole working life which is said to be good for workers, business and society as a whole. The organization Arogya World works to prevent non-communicable diseases such as diabetes, heart disease, cancer and chronic lung diseases through health education and lifestyle change. Arogya World targets occupational health for chronic disease prevention because work is where so many people spend a large part of their day. The2016–17 Healthy Workplaces Campaign has four key objectives: Promoting sustainable work and healthy ageing from the start of the working life; preventing health problems throughout the working life; providing ways for employers and workers to manage occupational safety and health in the context of an ageing workforce and encouraging the exchange of information and good practice.[2, 3]The Outcome measures of this project provides a more complete frame work of the Health Professional's quality of work in connection to his/her wellbeing and work performance outcome.

Aim: To study the influence of ageing on quality of work in health professionals through a self-assessment tool.

II. Objectives

To assess the work ability index amongst various health professionals; To predict the effect of health professional's age on quality of work outcome; To assess Rapid Assessment of Physical Activity score and its influence on health professional's age& work ability.

Purpose of the study:

In recent days, expectations and perception of individuals differ concerned with the health care services provided by junior or senior Health Professionals. Every Health Professional wishes to provide the best quality work outcome, effective managementof patients and avoid medical litigation/negative feedback. So it is necessary to rule out and analyze the effects of Ageing, Physical capabilities and Psycho Social predictor of the Health Professional influencing Work Ability which is a fundamental and essential requirement.

Work Ability Index: The four determinants of work ability essential for maintenance and promotion of work ability under one roof are - Health & Functional capacities; Education &Competence; Values, Attitudes & Motivation and Work environment. The worker's family, his social life and society too have an influence on the individual's work ability. Based on this concept, a measurement tool - The Work Ability Index (WAI) which is a key function of continuous Quality Management System was framed. In the present scenario, those aged 65+ represent the fastest growing segment of the Indian population and is expected to continue. We face a crises in giving new learners adequate access to experience based learning and providing timely feedback. There exists an increased demand of older Health Professionals. The way Health Professionals learn is rapidly changing because of technological, sociological, and pedagogical advances, but learning-by-doing is becoming progressively harder to accomplish in the face of competing value systems and organizational culture.

Usually, the Health Professionals Quality of Work is assessed by Patients feedback / Successful completion of work / financial uplift / Superior's or Employer's feedback, etc. The new segment of this research deals with a self-answering assessment tool which is a cornerstone of self-directedlearning. To ensure healthier community through quality care the patient's needs and health professional's skill sets should be matched which can be achieved through maintenance of health and wellness of the health professionals.

III. Methods

The study protocol was reviewed by the institutional ethical committee of Krishna Institute of Medical Sciences Deemed University, Karad, Maharashtra. After seeking the approval and ethical clearance, data was collected from the various Indian health care professionals. Participants included in the study were briefly explained about the nature of the study and the self-administered questionnaires. The informed written consent was taken from each subject and subjects were assessed for inclusion and exclusion criteria. Both Male

&Female Health care professionals above the age of 30 years who are directly involved in full time professional work were included in the study. The targeted Indian population includes Nurses, Dentists, Physiotherapists, General Practitioners and Medical Specialists. Qualified Health Professionals who have changed the profession or involved into Business are excluded from the study. Health Professionals from other nations and Non Resident Indians are also excluded from the study. Health Professionals with any form of Disability or chronic sickness interfering daily lifehave not been considered for the study. The subject identity and reports provided is kept confidential. The self-assessment questionnaire has been filled up by individual Health professional as per the inclusion criteria to their true feelings and completed questionnaires was got back for further analysis.

The study is a community approach with complete feasibility of subjects involving no risk factor or need of any equipment. No risk factors are evident in this research work. It was a communicative trial between the Health Professional and the Researcher. The study would be beneficial to the Health Professionals in self-acknowledging his quality of work and thereby the society will be benefitted in a large scale. Informed consent is received from every individual subject as per rules. The research has no human trials or risk involvement. The questionnaires were explained and distributed to 450 subjects and out of which 429 subjects submitted the completed questionnaires. 21 subjects have not submitted due to their personal reasons and so have not participated in the study.

Out-Come Measures: The three out-come measures of the study are as follows:-Rapid Physical Activity Questionnaire (RAPA - Total score of 10) is a self-administered health behavior scale with physical activity as a primary content area which includes two components (RAPA 1: Aerobic with a score of 7 and RAPA 2: Strength & Flexibility with a score of 3 which makes a total score of 10). The scale includes the light, moderate and vigorous physical activity intensity levels. With the scoring the subjects were classified as sedentary, under active or active. Any scoring less than 6 is said to be suboptimal.

Work ability index (WAI - Total score: 7 to 49) is a questionnaire / self-assessment tool which can be completed by the subjects themselves or with the involvement of any health care professional. The tool gives a measure of work ability of employed individuals with a total of 10 questions. The tool was developed in 1980s by Finnish occupational clinicians which is used to measure the work ability of employees, and on the basis of results obtained, to develop measures to prevent, preserve and promote employee efficiency in work ability. The tool has been translated into more than 26 languages till date for the purpose of research. The tool comprises of 10 questions covering 7 dimensions which gives information about the current state of health estimating work ability and its effectiveness. The score is calculated with the weightage of answers. The seven dimensions of work ability index are - Current work ability in comparison with your lifetime best; Work ability in relation to demands of the job; Number of current diseases diagnosed by a clinician; Estimated work impairment due to disease; Sick leave over the last year; Own prognosis of work ability two years from now and Mental resources.

The WAI was developed in 1998 by a working group consisting of members of Finnish Institute of Occupational Health (FIOH) and The Finnish Post Ltd, led by Professor JuhaniIlmarinen, departmental director of FIOH. The tool is available from a number of websites and has been used and disseminated largely by occupational safety and health institutes from all over Europe over the past 15 years. It has been translated into 26 languages, which is simple, easier, more valid and a reliable tool.The work ability index is an instrument to be used in occupational health care. It is easy and quick to use. The data collected are kept confidential at the individual level and used only for occupational health care purposes.The work ability index forms the basis for further measures. The occupational health personnel can, in cooperation with the worker, draw up an individual program to help maintain and improve work ability if checked earlier. The professional skill of safety personnel and management may be needed to help decrease risk factors at work, and the employer's support is needed to ensure any psychological and economic conditions. Activities to maintain work ability result in benefits to both the employee and the employer. The WAI score is highly dependent on age and population-based reference values for young employees are needed. [4]

Psycho Social Index Predictor (PSI - Total Score: 0 To 20) is a self-rated 5 item questionnaire based on 0 to 4 points likert scale. 0 represents poor score and 4 represents best score. The five items are - Active life style; Healthy eating habits; Sleeping pattern; Supportive relationship and Work home balance each of them to be scored in the range of 0 - 4. The total score is 5 items x 4 points which equals to 20 points.

In common stress can come from good and bad experiences. Whether the effects of stress are positive or negative depends on how we perceive an event that changes our lifestyle. If we feel we have the capacity to deal with an event, our reaction will be positive, and stress can help us to be alert, motivated, and productive. Stress becomes a problem when we feel overwhelmed and we feel that we cannot handle an event. Job stress or work-related stress occurs when the demands of work exceed our capacity and low level of resources to adequately cope with them. It is often made worse when employees feel they have little support from supervisors and colleagues, and when they have little control over their work or how they can cope with its demands and pressures.[5]

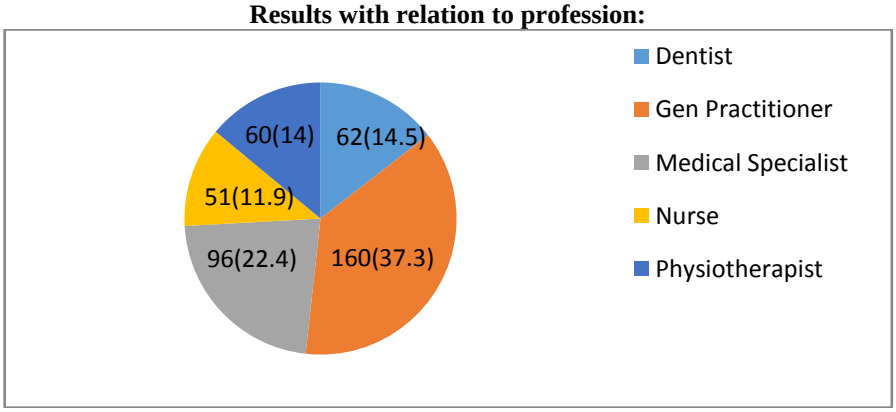
Study Procedure: The study is a Non-Experimental study design conducted upon 429 subjects using the self-assessment questionnaires. A literature review of a single issue or question that attempts to identify, select and synthesize all high quality research evidence which are so relevant is available for this study. Systematic reviews of high-quality randomized controlled trials stand to be the "gold standard" for evidence-based medicine.The demographic data was collected following the individual informed consent. The scores of three self-administered questionnaires (Rapid physical activity questionnaire; work ability index and psycho social index predictor) were noted down. The scores entered in the master chart was taken for statistical analysis. The following statistics was used for analysis of the data.

Statistics used: Correlation (Pearson Correlation Coefficient); p Value (If p Value < 0.05, the respective test is said to be significant; ANOVA followed by Turkey's multiple comparison test and Chi-Square test. The Software used is SPSS Analysis in XL format.

Data analysis and interpretation:

Profession	Frequency	Percent
Dentist	62	14.5
General Practitioner	160	37.3
Medical Specialist	96	22.4
Nurse	51	11.9
Physiotherapist	60	14
Total	429	100

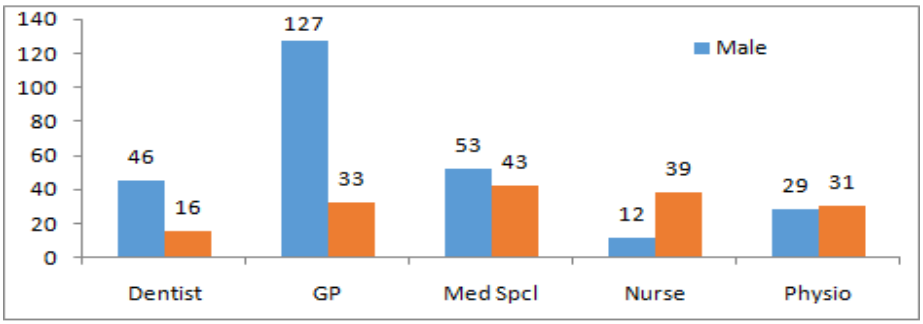
Results with relation to profession:



Interpretation:
Total participants were 429 majority were General practitioners (37.3%) less proportion of nurses (11.9%).

Results with relation to gender:

Profession	sex		Total
	Male	Female	
Dentist	46 17.20%	16 9.90%	62 14.50%
General Practitioner	127 47.60%	33 20.40%	160 37.30
Medical Specialist	53 19.90%	43 26.50%	96 22.40%
Nurse	12 4.50%	39 24.10%	51 11.90%
Physiotherapist	29 10.90%	31 19.10%	60 14%
Total	267 100.00%	162 100.00%	429 100.00%



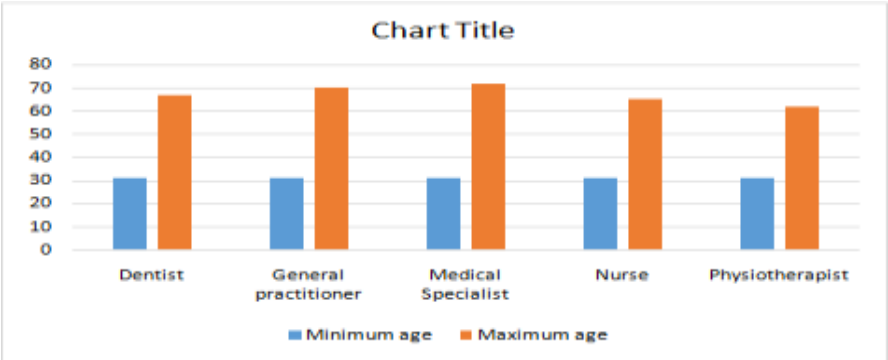
Interpretation:

Significantly higher proportion of male general practitioners (47.60%). High proportion of female medical specialists (26.50%) as well as female nurses (24.10%) participated in the study.

Results with relation to age:

Profession	Total Number	Minimum age	Maximum age	Mean	Std. Deviation
Dentist	62	31	67	47.53	8.955
General practitioner	160	31	70	54.85	9.154
Medical Specialist	96	31	72	48.03	11.115
Nurse	51	31	65	49.22	8.193
Physiotherapist	60	31	62	39.77	7.155
Total	429	31	72	49.49	10.484

F=31.265, p<0.001



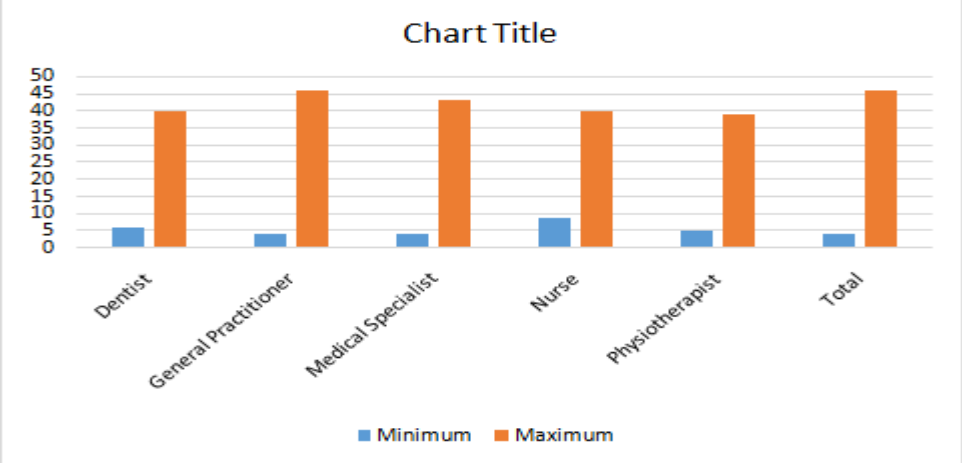
Interpretation:

Age of Medical Specialists and general practitioners was significantly high in comparison to participants from other professions. Physiotherapists were youngest.

Results with relation to experience:

Profession	N	Minimum	Maximum	Mean	Std. Deviation
Dentist	62	6	40	22.79	9.112
General Practitioner	160	4	46	29.32	8.841
Medical Specialist	96	4	43	21.28	11.392
Nurse	51	9	40	27.47	8.812
Physiotherapist	60	5	39	13.95	7.536
Total	429	4	46	24.21	10.704

F=34.278, p<0.001



Interpretation:

Duration of experience was mostly similar amongst general practitioners & nurses. However their experiences was significantly high as compared to other participants of the profession.

Results with relation to rapid assessment of physical activity questionnaire (RAPA) profession wise & sum of RAPA 1 - aerobics + RAPA 2 - flexibility & strength:

Profession		RAPA1	RAPA2	Total
Dentist	N	62	62	62
	Minimum	1	1	2
	Maximum	7	3	8
	Mean	4.74	1.58	6.32
	Std. Deviation	1.736	0.560	1.800
General Practitioner	N	160	160	160
	Minimum	1	0	1
	Maximum	7	3	9
	Mean	3.51	1.64	5.15
	Std. Deviation	1.690	0.755	2.069
Med Specialist	N	96	96	96
	Minimum	1	0	1
	Maximum	7	3	8
	Mean	4.15	1.57	5.72
	Std. Deviation	1.789	0.628	2.004
Nurse	N	51	51	51
	Minimum	1	0	1
	Maximum	7	3	8
	Mean	3.80	1.37	5.18
	Std. Deviation			
Physiotherapist	N	60	60	60
	Minimum	2	1	3
	Maximum	7	3	10
	Mean	5.37	1.62	6.98
	Std. Deviation	1.414	0.555	1.255
	ANOVA F Value	15.320	1.511	11.816
	p Value	< 0.001	0.198	< 0.001

Interpretation:

There was no significant difference in RAPA 1 of General practitioners, medical specialists & nurses. However RAPA 1 of physiotherapists was significantly higher than other professions. There was no significant difference in RAPA 2 of participants from various professions. Total RAPA was significantly high amongst Physiotherapists as compared to general practitioners, medical specialists & nurses. However total RAPA of Physiotherapists, followed by Dentists was higher as compared to other professions.

Results with relation to rapid assessment of physical activity questionnaire (RAPA) age group wise & sum of RAPA 1 - aerobics + RAPA 2 - flexibility & strength:

Age Group		RAPA 1	RAPA 2	Total
31 – 40 Years	N	110	110	110
	Minimum	4	1	6
	Maximum	7	3	10
	Mean	5.68	1.62	7.30
	Std deviation	1.049	0.507	0.819
41-50 Years	N	107	107	107
	Minimum	1	0	1
	Maximum	7	2	8
	Mean	5.45	1.64	7.08
	Std deviation	1.151	0.503	1.065
51-60 Years	N	136	136	136
	Minimum	1	0	1
	Maximum	6	3	9
	Mean	2.76	1.57	4.33
	Std deviation	1.169	0.933	2.037
>=61Years	N	76	76	76
	Minimum	1	0	2
	Maximum	5	3	7
	Mean	2.43	1.49	3.92
	Std deviation	1.024	0.683	1.219
	ANOVA F value	249.785	0.802	160.835
	p value	<0.001	0.493	<0.001

Interpretation:

Age wise RAPA 1 and total RAPA (RAPA 1 + RAPA 2) was found to be significantly declining as age was increasing, However there was no significant difference in RAPA 2 of participants belonging to various age groups.

Results of work ability index (WAI) & psycho social index predictor (PSI) with relation to profession:

Profession		WAI	PSI
Dentist	N	62	62
	Minimum	28	5
	Maximum	45	17
	Mean	37.82	13.50
	Std deviation	3.774	2.231
General practitioner	N	160	160
	Minimum	25	4
	Maximum	47	18
	Mean	37.28	12.26
	Std deviation	4.006	2.943
Medical specialist	N	96	96

	Minimum	26	6
	Maximum	47	17
	Mean	38.93	13.39
	Std deviation	4.722	2.296
Nurse	N	51	51
	Minimum	29	8
	Maximum	46	17
	Mean	38.76	13.29
	Std deviation	3.259	1.921
Physiotherapist	N	60	60
	Minimum	28	7
	Maximum	47	18
	Mean	40.22	13.33
	Std deviation	3.902	1.856
	ANOVA F value	6.865	5.254
	P value	< 0.001	< 0.001

Interpretation:

WAI of physiotherapists was significantly high as compared to gen. practitioners & dentists. PSI of dentists was higher, however PSI of general practitioners was significantly less as compared to other professions.

Correlation results of WAI &PSI:

Age Group		WAI	PSI
31-40Years	N	110	110
	Minimum	35	11
	Maximum	47	18
	Mean	41.44	13.91
	Std deviation	3.227	1.431
41-50 Years	N	107	107
	Minimum	33	10
	Maximum	46	16
	Mean	39.28	13.83
	Std deviation	2.528	1.495
51-60 Years	N	136	136
	Minimum	26	7
	Maximum	43	18
	Mean	36.49	13.46
	Std deviation	3.820	1.947
>=61 Years	N	76	76
	Minimum	25	4
	Maximum	43	17
	Mean	35.70	9.49
	Std deviation	4.457	2.812
	ANOVA F value	57.699	102.444
	p value	<0.001	<0.001

Interpretation:

WAI was found to be significantly declining as age increases. PSI of dentists was higher. PSI was significantly declining as age increases.

IV. Results

Results with relation to profession & gender:

Overall majority of the participants where general practitioners (37.5%) & less proportion of nurses (11.9%). The male general practitioners was found to be significantly higher proportion followed by female medical specialists and female nurses in the study.

Results with relation to age:

Age of Medical specialists &general practitioners was significantly higher in comparison to participants from other professionals. Physiotherapists was found to be youngest in the study.

Results with relation to experience:

Duration of experience was significantly higher amongst general practitioners & nurses compared to other participants of other professions ($F = 34.278$, $p < 0.001$).

Results with relation to Rapid assessment of physical activity questionnaire:

Rapid assessment of physical activity was significantly higher among physiotherapists, secondly for dentists as compared to other professionals.

Correlation results of rapid assessment of physical activity (RAPA) with relation to age:

RAPA 1(Aerobics) was found to be significantly declining as age was increasing. There was no significant differences in RAPA 2(Flexibility & Strength) of participants belonging to various age groups.

Results of work ability index (WAI):

WAI of physiotherapists was significantly higher compared to other professionals in this study. WAI was found to be significantly declining as age increases.

Results of psycho-social index predictor (PSI):

PSI predictor of dentists was found to be higher however, PSI predictor of general practitioners was significantly less as compared to other professionals. PSI predictor was significantly declining as age increases.

Correlation results of RAPA & WAI:

It is found to be significant ($r = 0.499$, $p < 0.01$) which means as RAPA increases WAI also increases.

V. Discussion

Based on the concept of work ability, A Measurement Tool - The Work Ability Index (WAI) - has been developed to assess an individual's perceived work ability. Today, the WAI is implemented internationally and translated in almost 26 languages. Current perspectives in assessment: On the basis of large clinical assessments and statistical analysis, they have identified a short set of questions which finally result in a score indicating the employee's work ability. [6]

The Physiotherapists age group was significantly lower. Physiotherapists has shown significantly higher score of Rapid Physical Activity than other professionals. As it is a growing profession almost all the participants were young and it might be the specific reason behind.. Another issue to be recognized is experiencewhich may compensate declined capacity and Productivity is most often not depending on age. Age and work experience also improve the valuable social capital of older workers. The workplace and work experience compensates for the decline of some basic cognitive processes such as memory functions and psychomotor skills by which Promoting active ageing in the workplace. Older workers are an important part of the workforce of modern societies and their numbers will increase in coming decades. Older workers have different skills and competences compared with other generations. Without their participation and guidance in working life, a shortage of professional, structural and poor networking capacities will arise. Also, the transfer of their silent knowledge to younger generations is important. The strongest combination of competence in the workplace is based on the different strengths of different generations. Thus older workers frame an asset in working life and in society especially in the Medical fraternity. The positive changes with Aging are strategical thinking, wisdom, Ability to think over and motivate, Motivation to learn, Work experience and less absenteeism excluding short spells.

Individual differences increase with age. Physical capacity decreases with age but psychological and social functions remain almost same during working life. Older learn as good as younger. Negative aspects are stressed and positive aspects underestimated among older workers. The need for recovery increases with age and it consumes more time duration with ageing. Mid-life work demands would be able to predict functional disabilities in old age. Promotion of work ability is also a public health issue. Extensive research on the work ability of older workers has identified the core factors affecting individual work ability. The research findings can be depicted in the form of a 'work ability house' with four factors namely Health and functional capacities; competence; values, attitudes and motivation &working life. [7, 8]

Work ability can be evaluated by the Work Ability Index (WAI), a subjective survey instrument that consists of seven items. The WAI score ranges from 7 to 49; the higher the better. The WAI score is classified into poor,

moderate, good and excellent. The WAI has a high predictive value of those having a poor WAI at age 45–57 years, about 60% were on a work disability pension 11 years later. [9, 10, 11]

The correlation results of "RAPA" and "WAI" results are found to be significant ($r = 0.499$, $p < 0.01$). The study showing effects on Age and Gender on Physical performance concluded the decline in physical performance were parallel in men and women at all ages. So the study signifies the importance of improving physical capacity among Indian health professionals with ageing. It was found to be important to identify factors influencing the performance of professional nurses if the quality of health care delivery was to be improved. [12]

The Physical capacity decline is twice at 40 years and four-times at 80 years as compared to 20 years of age, with even greater age-related declines noted in both genders - Effects on Age and Gender on Physical performance. [13, 14, 15]

WAI was found to be significantly declining with increasing age. In this study WAI of Physiotherapists was significantly higher than General Practitioners and Dentists. The age group of physiotherapists was significantly lower compared to other health care professionals. A study on Prevalence and incidence rates of diseases and work ability in different work categories of municipal occupations has concluded that the Mean WAI of young employees was about 10 points higher than the corresponding value for 44 to 58 year-old municipal employees. Moreover, the lower 15th percentile for young employees was about 10 points higher than for older municipal employees. [16]

The work ability index is a remarkable marker which pays to maintain and enhance skill towards improving work ability at all phases of work life. The factors that weaken work ability begin to accumulate in middle age and are seen in workers from about 45 years of age. Positive efforts should be invested in the maintenance of work ability and functional capacity for productive future outcome. This will assist in improved functional capacity with workers as they retire and enter the third phase of their life, named as the "third age". The "third age" can represent a meaningful, independent and active 10–20 years of life after retirement. The quality of retirement life remains good, and society benefits through lower healthcare expenses. [17, 18, 19]

The self - administered questionnaire has an influence upon reflective thoughts of the subject by which motivation is improved and said to be a cognitive outcome. The bio psycho social approach to health care professionals highlights the importance of their wellbeing adding a meaning to life & work. The negative outcomes include burn out, depression & anxiety, positive & negative emotions, stress (physical & mental) etc. [1]

The study has shown that female nurses are in higher age group and higher in number. In India since long years nursing care has been provided by female population in majority till date. In the southern part of India, maximum females have the passion of serving in nursing care. Nowadays male nurses are coming up.The society has a major responsibility in taking care of the work ability of nursing professionals. A study in Namibia indicated that nurses, comprising the backbone of health services, are overloaded with work, demoralized, showing signs of burnout and complained about no recognition for their contributions. Issues of performance and factors affecting performance are not adequately addressed in Namibia.[20, 23]

In India identified health challenges and needs include - timely, efficient health care services; poor human resource management; poor performance of health personnel resulting in poor quality of services; negative attitudes and low motivation of health care workers.**[20]**The WAI score is highly dependent on age and population-based reference values for young employees are needed. [21]

In common the Reforms for a longer work life can be concluded in five ways. Attitudes towards ageing must be changed (attitudinal reform). The awareness level of managers and supervisors in age related issues needs to be improved (management reform). Better age and life course-adjusted, flexible working life is needed (work life reform). Health services should meet the increasing needs of older workers (reform of occupational health services). Improvement of horizontal and vertical co-operation between key actors is needed (co-operation reform). [22]

The facts regarding strategies for action in relation with self-assessments of lifestyles will help to determine areas in which we may need changes to promote optimal health, wellness and fitness. Health, functional capacity and work ability are related with each other in physical, Psychological and social aspects. If a health condition reduces one's physical, Psychological or social functional capacity, it may also lead to reduced work ability in many cases (WHO 2001). The WAI has been used as the outcome variable in work-site intervention studies and rehabilitation interventions in rehabilitation centers. Soininen (1995) found that an 8-month work-site physical exercise program in policemen improved their health and physical work capacity but had no effect on the WAI. Pohjonen and Ranta (2001b) reported that a 9-month work-site physical exercise intervention among female home care workers prevented the early decline of their work ability during the 5-year follow-up.[24, 25]

Physical activity is explained as any bodily movement produced by the skeletal muscles that results in increased energy expenditure. Physical activity can be in any form as exercise or occupational physical activity or household physical activity (Oja 1995, Franklin et al. 2000). In common it can be justified as Self-selected

activities, which includes all leisure, occupational, or household activities that are at least moderate to vigorous in their intensity which could be planned or unplanned activities of everyday life. In addition, the evidence of the beneficial effects of physical activity on psychological well-being is increasing rapidly.

Limitations of the study:

As per the feasibility the study has been conducted. So equal number of individual professionals was lacking. The organizational demands on employees differs with different work environment even in spite of similar subjects. The study has to be specific in relation to intensity of work to consider it.

Future recommendation:

Development of internet based brief self-reporting assessment tools to enhance standardization of health care. To establish standardized reforms for a longer work life and acknowledging age sensitive measures.

VI. Conclusion

WAI was found to be significantly declining with increasing age. The correlation results of "RAPA" and "WAI" results are found to be significant. Thus the study concludes that it is possible to sustainably improve work ability - even at older age - if the right measures are taken. Thus the research application has proved as a health promotion model from the Physiotherapist's perspective.

References

[1]. Cesar Orsini, [1 2,*]Vivian I. Binnie,[3] and Sarah L. Wilson[4]Jeeph. Journal of educational evaluation for health professions 2016; 13:19. Published online 2016 May 2. Doi: 10.3352/jeehp 2016.13.19. PMC 4863137.

[2]. World Health Organization. Healthy Workplaces: A Model for Action: For Employers, Workers, Policymakers and Practitioners; 2010. Available from: http://www.who.int/occupational_health/publications/healthy_workplaces_model.pdf. [Last cited on 2014 Jun 23].

[3]. Arogya World is registered in Pennsylvania, USA, as a non-profit organization. It is a 501(c) 3 tax-exempt organization, and has been deemed a public charity by the Internal Revenue Service (Employee Identification Number 27-2091051). Contributions made to Arogya World are tax-deductible to the full extent permitted by law. The organization does business as Arogya World. 2016 -17 Healthy workplaces campaign.

[4]. Kujala V[1], Remes J, Ek E, Tammelin T, Laitinen J. Classification of Work Ability Index among young employees. Journal of Occupational Medicine (Lond). 2005 Aug; 55(5):399-401.

[5]. De-Stress Your Workplace - Ottawa Public Health, City of Ottawa. Stress in the workplace. 2001-2010. Website: http://city.ottawa.on.ca/residents/health/environments/workplace/stress_en.html.

[6]. The Work Ability Index, WAI (Tuomi et al. 1998). deZwart BC, Frings-Dresen MH Test-retest reliability of the Work Ability Index Questionnaire, Occup Med(Lond) 2002;52:177-181.

[7]. von Bonsdorff, M.E., Kokko, K., Seitsamo, J., von Bonsdorff, M.B., Nygård, C-H., Ilmarinen, J., Rantanen,T. 'A 28-year follow-up study on differences in midlife physical and mental work strain according to work ability trajectories', Scandinavian Journal of Work, Environment & Health 2011, 37(6), 455–463.

[8]. vonBonsdorff, M.B., Seitsamo, J., Ilmarinen, J., Nygård, C-H., von Bonsdorff, M.E., Rantanen, T. 'Midlife work ability predicts late-life disability: A 28-year prospective follow-up', Canadian Medical Association Journal 2011. DOI:10.1503/cmaj.100713.

[9]. Ilmarinen, J. Towards a longer worklife. Ageing and the quality of worklife in the European Union, Finnish Institute of Occupational Health, Ministry of Social Affairs and Health, Helsinki, 2006.

[10]. Ilmarinen, J. 'Aging and Work: An International Perspective', in: Sara J. Czaja and Joseph Sharit (eds) Aging and Work. Issues and Implications in a Changing Landscape, The Johns Hopkins University Press 2009, 51–73.

[11]. Nygård, C-H., Savinainen, M., Kirsi, T., Lumme-Sandt, K. Age Management during the Life Course, Tampere University Press, Tampere 2011.

[12]. Factors affecting performance and productivity of nurses: professional attitude, organisational justice, organisational culture and mobbing. FusunTerzioglu, SafiyeTemel, FatmaUsluSahan. Journal of Nursing Managementvol: 24 issue: 6 first page: 735 year: 2016 doi: 10.1111/jonm.12377

[13]. VaninaBongard – Ann Y. McDermott, American Ageing Association/Published online: 23 June 2007.

[14]. Improving health worker performance: In search of promising practices. A report by MarjoleinDieleman and Jan Willem Harnmeijer& KIT – Royal Tropical Institute - The Netherlands. WHO Evidence and Information for Policy, Department of Human Resources for Health, Geneva, September 2006.

[15]. An assessment of level and intensity of physical activity © 2006 University of Washington Health Promotion Research Center and Safe Health Work. 2016 Mar; 7(1): 43–48. Published online 2015 Dec 15. doi: 10.1016/j.shaw.2015.10.005PMCID: PMC4792919.

[16]. Web site: http://depts.washington.edu/hprc/rapa

[17]. Ilmarinen J, Tuomi K, Klockars M: Aging and work ability index: A 10-year follow-up of municipal employees. In: The paths of productive aging. Proceedings of the XIVth UOEH IIES International Symposium and the IEA Technical Group for Safety and Health Conference, 19–21 October 1995.Taulor & Francis, Kitakyushu 1995, 300–306.

[18]. Work Ability Index: KaijaTuomi, JuhaniIlmarinen, AnttiJahkola, Lea Katajarinne, ArtoTulkki. Finnish Institute of Occupational Health Helsinki 1998. 2nd revised edition. ISBN 951-802-202-X / ISSN 0357-5519

[19]. Ilmarinen J, Tuomi K: Work ability of aging workers. Scand J Work Environ Health 18 (1992):suppl 2, 8–10.

[20]. Ilmarinen J, Tuomi K: Work ability index for aging workers. In: Aging and work. Ed. by J Ilmarinen. Proceedings 4. Institute of Occupatonal Health, Helsinki 1993.

[21]. Awases, M.H., Bezuidenhout, M.C. &Roos, J.H., 2013, 'Factors affecting the performance of professional nurses in Namibia', Curationis 36(1), Art. #108, 8 pages. http://dx.doi.org/10.4102/ curationis.v36i1.108. The Authors Licensee: AOSIS Open Journals.

[22]. Kujala V[1], Remes J, Ek E, Tammelin T, Laitinen J. Classification of Work Ability Index among young employees. Journal of Occup Med (Lond). 2005 Aug;55(5):399-401.

[23]. Work Ability Index seminar - Mines and Energy Department of Employment, Economic Development and Innovation, Queensland Government. JuhaniIlmarinen, Philip Taylor, Elisabeth Brooke, Christopher McLoughlin, Tia Di Biase. Business Work and Ageing Centre for Research, Swinburne University of Technology, Melbourne. Wednesday 29 April 2009.

[24]. Job satisfaction of nurses in Jimma University Specialized Teaching Hospital, Ethiopia. NebiatNegussie. Journal of the Egyptian Public Health Associationvol: 91 issue: 1 first page: 15 year: 2016. doi: 10.1097/01.EPX.0000480719.14589.89.

[25]. Pohjonen T. Age-related physical fitness and the predictive values of fitness tests forwork ability in home care work. J Occup Environ Med 2001a; 43: 723-730.

[26]. Pohjonen T, Ranta R. Effects of worksite physical exercise intervention on physical fitness, perceived health status, and work ability among home care workers: five-year follow-up. Prev Med 2001b; 32: 465-475.