How to Cite:
Mehdi, Z., & Nasser, R. N. (2022). German nurse and healthcare workers staffing: Their professional education and training outcomes. *International Journal of Health Sciences*, *6*(S5), 596–613. https://doi.org/10.53730/ijhs.v6nS5.8331

German nurse and healthcare workers staffing: Their professional education and training outcomes

Zafar Mehdi
Dhofar University, Salalah, Oman

Ramzi Naim Nasser
Lusail University, Lusail, Qatar
Corresponding author email: rnasser@lu.edu.qa

***Abstract*---**Continuing professional training is a significant part of modern Germany healthcare services and is often considered to improve care quality of the residents in their late years. To maintain and improve the quality of care in nursing home, German education system has different care training programs. This paper investigates the association between the type and the amount of continuing professional education and training of nurse staffing and care workers and their outcome variables. Cross-sectional data, from German Socio-economic data panel (G-SOEP) 2010 were used for analysis purpose. This dataset includes the household and individual information. Each individual 16 years of age or older in the household is surveyed for all partial samples (institutionalized households in both West and East Germany). The sample size of participants was 24481 in survey wave of year 2010. Data were collected using face-to-face interview and the computer assisted interview questionnaires had been used. In this survey data, the number of Nurses and Care Workers was 571. The multiple regression analysis was used to examine the association between independent and outcome variables. The study found that some years of further and additional training of nursing staff and care workers has positive association with employment status, average employment income variables. The findings of the study suggest nurse staffing and care workers level and their professional additional training can improve quality of life of older adults and employment's income.

***Keywords*---**Nurse staffing, healthcare workers, continuing, professional training, long-term care, quality patient care, employment outcomes.

Introduction

In many countries where the quality of life is among the highest; the proportion of the ageing elders is growing faster than the rest of the population. Germany is experiencing an ageing population and a shortage of skilled care workers (Falkenstein, 2022). There is a great demand in hospitals, facility-based nursing homes and home care settings for health workers to manage, supervise and provide long-term care services to elderly people. In addition, to the shortage of health workers, the advancement in healthcare technology and changing healthcare environment make demands on healthcare workers to stay abreast of their knowledge and skills. Health care institutions require health workers to update their health skills, knowledge, and general competencies within the hospitals, home care settings and residential care facilities they are employed in. Many health care workers go through on-the-job training, but others take up training on voluntary basis to further their careers in the field.

Professional development as in training of care workers and nurses in long-term care sectors is becoming an interest among research circles and policy makers. This interest stems from the demand for health workers. The effects of further training of health care workers on the long-term care sector is still unclear. Questions to the intercourse of training and employability of health workers and staying employed is debatable and rests on further empirical evidence for evaluation.

In the last few decades, the effectiveness of further training of nurses has been discussed in the scientific literature and has been emphasized that nurses must be lifelong learners and keep updating their knowledge and skills over the course of their careers (see Mlambo, et al., 2021). Lifelong learning has been identified as an element of professionalism in healthcare because of the ever-changing nature of medical technology, the emergence of new diseases, standards, and new medical treatments (Griscti & Jocono, 2006; Baryamureeba, 2007; Kessler, & Tolia, 2010). Healthcare workers work schedules are demanding, especially in elderly homes. The work conditions to support geriatrics allows for little opportunities or time for professional development and life-long training programs (Muliira, et al., 2012). While many health services provide care workers such as elder carers and care assistants on-the-job training, other advanced training would require that elder carers and care assistants seek outside the job training. In Germany, and other developed economies, care workers compared to nurses working in hospitals, the latter are often busy providing care services whether social or psychological; they may not have the time and opportunities for training and are among the lowest paid workers (Stone, R., & Wiener, 2001).

There are several reasons for healthcare workers to participate in further training programs. For one, training and continuous professional development; provide better patient care, adds to the credibility of the healthcare organization as well as increase the likelihood of career advancement of health carer.

It is underlined in the scientific literature that post-basic education and training of nurses and elder carers, accounts for faster career progression especially for those who undergo nursing management courses and advanced degrees

(SchöEmann & Becker, 2015). Along with the increasing population of elderly people, skilled care workforce is also aging and demands exceeds far more than needs. The long-term care sector has difficulty in recruiting and retaining skilled care workers (Kemper, et al., 2008). As care workers provide the bulk of elder care services, updating their professional knowledge and skills are essential for the elderly quality care service.

Vocational and Further Training of Nurses and Care Workers

According to the German Federal Law, nurses must have a basic nursing professional training from hospital-based nursing institutions leading to a vocation training diploma (Level 5, European Qualification Framework) before registration as nurses (i.e., licensing). The program requires 2100 hours theory, 2500 hours supervised practical work and then passing a set of the state exams. The period and depth of post-basic or further training is decided by each German State. Each State Boards of Nursing are legislative and are given the authority to license and discipline the nursing profession, they establish the post-basic qualification for nurses, elder carers and care assistants. They specify and assure a standard of quality care for all its practicing healthcare workers (Cassier-Woidasky, 2013).

An individual seeking to work in the health care profession, they must complete a compulsory education at intermediate/high school, then pre-nursing students attend a preparatory nursing school for at least two years where the educational program revolves around foundational courses as in biology, chemistry, and other science-based courses. Following the two years they can enroll in a university affiliated to a hospital to receive a vocation training diploma (Level 5, European qualification framework). This extends for three-year which includes professional practice (practicums) in health care setting followed by state exam. Also, post-basic training allows for nurses to enroll in intensely specialized and critical care training, post-basic training can go up for two years for intensive or anesthesia nurse training. Post-basic training for general and pediatric nurses includes on the job training through courses which run from 1 to 6 month in a specialty, and receive a certification in a specialization area or they complete a one-year program post-diploma to receive a bachelor degree and qualify as registered nurses (Cassier-Woidasky, 2013).

Elder carers are also required to complete three-years vocation training diploma (Level 5, European qualification framework) in elder care and pass the state exam similarly to nurses and pediatric nurses. Elder carers can choose to enroll in a further training from 1-month to 12-month leading to a specialization. Further training during their employment is encouraged for a specialization that goes from one month to six months. Elder carers can take a one-year post vocational training diploma to receive bachelor's degree to register as nurses and work as trainers or in administrative health related tasks. The nurse assistant educational program does not require the stringent requirement of a nurse education. A nurse assistant education can be a few months care training or a maximum six-month qualification post-general education. Also a provision enabling existing nurse assistants to start their nurses/pediatric nurse training (Robinson, & Griffiths, 2007).

Since 2003, long-term care sector has operated under the Geriatric Nursing Act, underwritten by the Ministry of Family Affairs (Gospel, 2011). The German Vocational Training Act of 1970 governs many of the health sectors with exception to long-term care (elderly homes). Under this act, elderly care workers' training is like the general nursing program being a three year face-to-face (with some elements taken as on-line) educational program taking up 4100 hours with theoretical and practical components mostly in form of specialty courses in theory and practical work in a chosen area (Cassier-Woidasky, 2013).

In Germany nurse regulatory bodies work similarly as the Nursing Regulatory Bodies in the US. They are named as "Deutscher Berufsverband für Pflegeberufe"- the German Organization of Nursing Professionals. These organizations specify the educational and occupational standards, basic level nursing education and nursing standards, nurse dispositions, competencies and knowledge requirements to practice as professionals (post-registration) in the healthcare settings. The German Land/state regulates further training for nurses and elder carers mostly in the form of specialty courses. As an example, this would be in courses as operating services, psychiatry, rehabilitation, oncology, nurse manager and ward manager. These programs are run from a few days and extend to two-year additional training in a chosen area. Before 2015 there were 12 post basic nurse specialization courses in Germany. Each nursing specialty requires two years additional to the post-basic training on full time nursing in a specialization with varying course load (Bentall, 2014). The Care Development Act 2015 underline that each state is responsible for the training needs and introduced additional basic training for nurse care staff that work in long-term care settings to provide care for clients. This includes care as in pediatric nursing or nursing in intensive care and anesthesia. The further or additional professional training for healthcare staff, nurses, elder carers and care assistants aim to conjure the skills needed to improve the quality of care and fill the gaps needed in quality care. Many health workers continuing further training find an opportunity to progress in their career and specialize in a field of their choice (Robinson & Griffiths, 2007). The SR Education Group (2014) referred to some common areas of nursing; critical care, cardiac nurses, medical/surgical nurses, oncology nurses, orthopedic nurses, and primary care nurses' courses. These specialty courses vary in the degree of training depending on their needs in healthcare settings. The information about the education structure of nurse staffing is contained in Figure 1.

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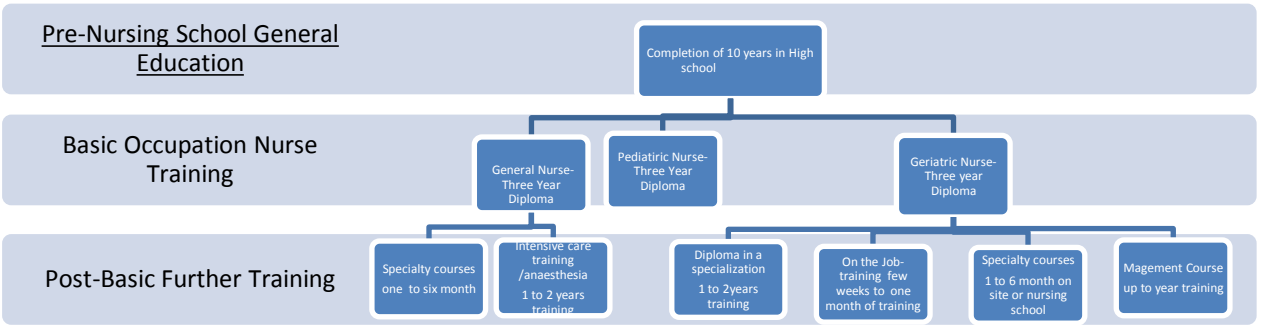

Figure 1. Education Structure for Nurse staffing and care workers in Germany

Several universities in Germany offer post-graduate studies leading to a master's degree and doctoral degree in nursing. Nurses who continue towards a master's degree do comparatively less practical work compared to those who receive professional 3-year diplomas and continue their professional practice (Robinson, & Griffiths, 2007; Theobald, 2017). If nurses choose to become nurse teachers or researchers, they need to continue toward a master's or PhD degrees. As most master's degree programs require that nurses complete their basic occupational training capped with professional practice leading to a registered nurse.

Elder Carers, Nurse Care Assistants Training and Further Training

Elder care is considered a branch of nursing in Germany. Elder carers' (elderly care nurses) primary function is "social" and is not part of the nursing profession (European Commission, 2000). Elder carers can opt to be registered but are not required to have the qualification to practice in nursing homes and home care centers. Since 2003 elder carers basic training required a three-year professional training post general education-- vocation training diploma (Level 5, European qualification framework). The training is oriented toward social care rather than medical or healthcare (Theobald, 2014).

Nursing care assistants work under the direction of nurses and elder carers within the long-term care residential care facilities and home and residential care in public and private sectors (Burau, Theobald,, Blank, 2007). The healthcare assistants need 6 to 12-month training in healthcare as well as on-the-job training during their service to work as care assistants and sometimes a few months training is permissible (European Commission, 2000). For some cases those without the basic education or low skilled care workers, on the job training, is provided for few months or more. There is also nursing care assistants who are tasked to monitor client's health, they serve as aids to a nurse by taking the temperature, pulse, weight, blood pressure, and perform data entry tasks. Healthcare assistants also assist other medical professionals in all areas of the health profession whether as an audiologist-dentists, dermatologists and others non-intrusive branch of health. The healthcare assistant's job is to aide and assist in diagnostics and pre-screening. Healthcare assistant or nursing

assistants or healthcare aides work in all care settings, such as hospitals, clients' home and residential care facilities. Formal carers have similar job title such as personal assistant carers and they work at similar care work settings. Although elder carers are not recognized as medical professionals, they can also be admitted undertaking training courses to become nurses or nursing care managers. Elder carers like nurses are also required to complete three-years (Level 5, European qualification framework) and pass the state exam vocation training diploma. Those who take on additional and further training and a number of years of experience in their profession both nursing care assistants and elder carers can become managers and move completely into administrative tasks. In many cases, the specialized nurses may have an advantage in the labor market, but this does not mean that the nurse or the elder carer will have the privilege to take on a senior post.

Further professional training has become an essential and mandatory part of the of nursing profession. In the long-term residential care sector, training in geriatrics and gerontology continues to lag significantly behind the demand (Bardach & Rowles, 2012) The German Lander stipulates that Initial "licensing" of nurses and elder carers, meets the healthcare professional qualifications to care for individuals in long-term care settings but the demands of carers far exceed the supply. Even with such great demands, many nations are strictly abiding to the professional through licencing and certification of carers. Thus, updating the knowledge and skills are essential to meeting the needs of the clients in the healthcare and long-term care fields (Aylward, et al., 2003; Cassier-Woidasky, 2013).

There are a number of challenges that abound. The idea of recruiting low skilled workers and training them on sight to satisfy the demands in hospitals, long-term care facilities and home care settings is still unclear. As a baseline, there is a need to understand the current state of health workers to generalize, especially those who are low-skilled and don't have the training needed to qualify them as registered practitioners. The review of literature revealed that there is limited empirical research being conducted on educational needs of care workers and their impact on quality of clients care as well as on their career development (Clarke, & Donaldson, 2008). Further, most of the studies have been conducted on the impact of staffing level (nurse-patient ratio) on quality of patient care (Bardach & Rowles, 2012). It seems that the long-term care facilities have largely been overlooked where mostly nursing staff's knowledge and skills in geriatrics and gerontology and its intersection with employability (Bardach & Rowles, 2012).

In this study we seek to understand the relation of training/further training and its employment factors among German health care workers. It is believed that as the years of education increase, the probability of earnings rises. But many more drop from the profession because of lack of incentives as in salary increase and occupational progression. The study explores the relation of educational training and post basic training among other socio-demographic factors on the impact on nurse, elderly carers and care assistants' employment. The study will understand these factors and their relation and explore the impact of education and further education in the continuation of the health workers (nurse, elderly carers and care assistants) particularly in the occupational success.

Methods and Data

The data were obtained from the German Socioeconomic Panel (SOEP) Data. The German Socioeconomic Panel (SOEP) is a wide-ranging longitudinal survey of private households in Germany. The same respondents had been interviewed every year since 1984 according to the German Institute for Economic Research (Deutsches Institut für Wirtschaftsforschung- International German Socio-economic Panel) (DIW, 2014) the survey has continuously been revised in response to current social changes in Germany. The dataset includes the household and individuals' information. As described by DIW (2014) the original G-SOEP sample began in 1984 and includes two German random samples. Each individual 16 years of age or older in the household was surveyed in both West and East Germany. Systematic sampling technique was used in this survey. The sample size or number of participants or respondents was 24481 in survey wave of year 2010. Data were collected using face-to-face interview from 1984 to 1997 and since 1998 the computer assisted interview questionnaires have been used.

The care workers have three categories, Nurses, Elder carers and Care Assistants and the sample size of the care staff was 572 employed in hospitals, nursing homes and home care settings. In order to analyze the association between independent and outcome variables, general Loglinear Analysis procedure was used. The loglinear analysis uses the frequency counts of observations falling into each cross-classification category between two variables. The dependent variable is the number of cases (frequency) in a cell of the crosstabulation. This procedure estimates maximum likelihood parameters of hierarchical and nonhierarchical loglinear models using the Newton-Raphson method. The procedure is like the multiple linear regression, with the exception that the response variable is binomial. The result produces each variable on the odds ratio of the observed event of interest. The main advantage is to avoid confounding effects by analyzing the association of all variables together.

Results

Demographics

Demographic characteristics of care workers (nurses, elder carers and care assistants) include age, gender, nursing education, employment status, wages and salary and employment earnings. The data from the survey contained in Table 1 indicate that nurses are older than elder carers and the care assistants. 51.5% of nurses, 36.4% elder carers and 43.4% of care assistants are 46 years and older and remaining are under 45 years and younger. The gender distribution has more female healthcare staff. There are 86.8% nurses, 91.8% elder carers and 86.9% care hassistants females as comapred to males in the German care settings.

Regarding post-basic professional training, 14.6% of nurses, 6.1 % of elder carers and 12.7% of care assistant had completed some further-professional training beyond their basic occupational training. The data in Table 1 depict that 5.9% of nurses, 9.5% of elder carers and 16.4% of care assistants are unemployed at the time of the survey. However, the unemployed rate among care assistants is

relatively high. A 95.4% and a large majority of nurses, 92.2% elder carers and 73% care assistants are earning 3500 Euro per month and above. Since 2010, new the national minimum wages for care workers came into force in Germany (Joynes, 2011) and the national minimum wages rates are declared binding as posted by the Workers Act by decree of the Ministry of Labor. These rates applied to all employees. According to Posted/employed Workers 2010 ACT, the minimum wage rates for care workers in 2013 is between 8 to 9 Euros per hour.

The data in Table 2 show the amount of further training from 6 months to 2 and more years of nurses, elder carers and care assistants. The data indicate that 2.7% of nurses had one year of further training, elder carers have 0.9% and care assistants had undergone no further training. The percentage of 9.1% nurses who acquired more than two or more years of further training is significantly higher than 3.0% of elder carers and 5.7% care assistants. The percentage of care assistants who had gone through further training for six months is 2.5% and nurses, 1.4% and care assistants less than 0.9%.

Employment Outcomes of Care Workers

The findings in Table 3 suggest that care workers' age, marital status and post-basic years of education are significantly associated with employment status of nurses and elder carers including care assistants. There is a positive association between the age of care workers and their status of employment which implies that older care workers had higher levels of employment than the younger care workers. The rate of employment is higher among the care workers who are 46 years and older as compared to those care workers who are younger than 45. The odds ratio for age of nurse is 4.507 which means that there is 51% probability for older nurses (46 years old and above) to be employed than the younger age group. Similarly, there is 99% likelihood of older elder and care assistants to be employed than the younger age groups.

Table 1
Background and Demographics of Nurses and Care workers

Characteristics	Nurses %	Elder carers %	Care Assistants %
Age (in years)			
45 and under	48.9	63.6	56.6
46 an older	51.1	36.4	43.4
Total	100	100	100
Gender			
Male	13.2	8.2	13.1
Female	86.8	91.8	86.9
Total	100	100	100
Level of Care Training			
Basic training	85.4	93.9	87.7
Post-basic training	14.6	6.1	12.7
Total	100	100	100

Employment status			
Employed	94.1	90.5	83.6
Unemployed	5.9	9.5	16.4
Total	100	100	100
Wages per month			
Up to 3480 Euro	4.5	7.8	27.0
3500 Euro and above	95.4	92.2	73.0
Total	100	100	100
Annual Earnings			
Up to 25000 Euro	53.9	82.7	82.8
More than 25000 Euro	46.1	17.3	17.2
Total	100	100	100
Annual Overtime			
No overtime	78.1	84.0	82.8
Overtime	21.9	16.0	17.2
Total	100	100	100

Source: Computed from German SOEP 2010 Dataset.

Table 2
Distribution of Nurses and Care Workers by their Years in Education in Germany

Nursing Education and Training (Number of years in Education)	Nurses % N=219	Elder Carers % N=493	Care Assistants % N=121
High School Education	4.6	19.9	16.4
Basic Occupational Training	79.5	73.2	68.9
6 months further training	1.4	0.9	2.5
1year further training	2.7	0.9	0.0
2-years further training or more	9.1	3.0	5.7
Total	100	100	100

Source: Computed from SOEP Data 2010

Table 3
Employment Outcomes of care workers in Germany by their age, marital status and further years in training

	Nurses		All Care Workers: Elder carers and care assistants	
Source	Odds Ratio	P-value	Odds Ratio	P-value
Age	4.507	0.000	2.999	0.021
Gender	0.262	0.000	0.324	0.007
Further training	1.960	0.012	2.487	0.006

Source: Computed from German SOEP 2010 Data

Marital status is included in the logistic regression analysis and found that there is a negative relationship between single care workers and employment status. This implies that single care workers are less likely to stay employed than those who are married. The married care workers, mostly 89% females, have high rate of employment. The odds ratio, for single nurses is *OR*=0.262 and for elder carers and care assistants together is *OR*=0.324. This data indicate that married nursing staff are more likely to remain employed than single nurses. The data in Table 3 show that there is *OR*=0.262 or 26% likelihood that single nurse and *OR*=0.324 or 32% likelihood that a single elder carers are to stay employed than those of married nursing and elder carers respectively. The data analysis shows that the additional years of nursing at post-basic level training are positively and significantly related with the status of employment. This relationship indicates the higher years' experience increase through additional years of training, it is more likely for nursing staff to stay employed than those staff who had no additional training. The odds ratios for further training of nurses and elder carers are *OR*=1.960, *p*=0.012 and *OR*=2.487, *p*= 0.006 respectively. The odds ratios suggest that there is 96% more chance for nurses and 49% more chance for elder carers who had additional and further training, to stay employed then those nurses and elder carers who had no additional training at post-basic level.

Table 4
Average Monthly Wages of Nurses and Care Workers (by their age, gender & amount of their further training)

	Nurses		All Care Workers	
Source	Odds Ratio	P-value	Odds Ratio	P-value
Age	1.831	0.038	1.623	0.141
Gender	0.884	0.420	0.927	0.884
Further training	1.117	0.810	0.799	0.671

Source: Computed from German Socio-economic Panel Data 2010

Monthly Wages and Further Training

The comparative empirical findings from the logistic regression analysis contained in Table 4 indicates the effect of age, gender and further training in the form of years of education and training. Age of the nurses has positive impact on their monthly wages and salaries as indicating from the analysis an *OR*=1.83, *p*=0.08 implies 83% (*p*=0.038) chance that German nurses who are 46 years old or above, are more likely to have higher monthly salaries than those who are 45 years old or younger. There is no significant relation between gender and monthly wages. Age, gender and further training had no significant effect on wages.

Annual Labor learning and Further Training

Similar to average monthly income, annual employment earning is used as a dependent variable in relation age, gender, and education and training (see

results in Table 5). Age was strongly related with annual labor earning with statistically significant *OR*=1.889, $p<0.0001$. There was also a strong relationship between age and annual labor earnings for elder carers and care assistants with *OR*=1.56, $p=0.057$. is not strongly associated on annual employment earnings of nurses and elder carers. However, additional training of nurses is significantly related and the odds ratios of nurses and elder carers is *OR*=2.047, $p=0.05$ and *OR*=2.56, $p=0.05$ respectively that suggest and elder carers in Germany had a positive relation with their annual labor earnings. The odds ratios highlight that the *OR*=1.89 times or 89% more chance older nurses (46 years old and above) have higher annual earnings than those who are 45 years old and younger. Regarding further training, the nurses who received some amount of post-basic additional training with *OR*=2.047 times or 4% more often to have higher annual earnings than the nurses with no further training and equally, elder carers and care assistants who received some post-basic additional training, with *OR*=2.559 times or 55% more likely to have higher annual earnings than the elder carers and care assistants who had no further training. The results suggest that further training is a good indicator to higher annual wages that further training is not only helpful to find a better paid job, but also for more opportunities to have overtime and a robust addition to their basic salary. The annual employment earnings include annual salaries, overtime money and annual bonuses.

Table 5.
Annual labor earnings by age, gender and further training

	Nurses		All Care Workers	
Source	Odds Ratio	P-value	Odds Ratio	P-value
Age	1.889	0.001	1.555	0.057
Gender	0.789	0.445	1.107	0.789
Further training	2.047	0.049	2.559	0.050

Source: Computed from German Socio-economic panel data 2010

Discussion

This study investigated the relationship between the variables of gender, age, marital status, and training (educational and professional) on employment status and income. Income is measured through average monthly wages and annual labor earning. *T*he main findings showed that German healthcare workers age and further training is directly related to employment. In detail, those older healthcare workers are more likely to be employed than those younger ones and those who are married are more likely to be employed than those who are not. It may be that single and younger nursing staff keep looking for better career opportunities and change their employers for advancement of their career. Whereas married and older nursing staff seemed less likely to keep changing their employers and care settings and stick to the job.

While on the job demands and further training take a toll on the healthcare workers, many health workers may stick to the job and go for further training to earn money to meet their expenses than those who are married. The findings showed however, that those who are not married (single, divorced, separated and divorced) where more likely to be unemployed than those you are married. Those - single care by workers may find the workload too demanding and their commitment to the job wanes as the demand increase for the pay they receive. While on the other hand, those older and married, are likely to be committed to family and financially pinned thus, stay on the job. Basic professional Nursing Training and post-basic training is necessary for nurse staff practice in hospitals and long-term care settings and part of nursing career trajectory. As many healthcare workers performance is judged by the knowledge and professional practice with the provisions of healthcare they provide to their clients.

The increased years of training i.e., experience of the healthcare workers (nurses, elder carers and care assistants) was strongly related to being employed. However, further training of care workers is not significantly associated with rise of average monthly wages. Those who were older and married were more likely to be employed for a longer period. With a higher number of years of care work experience is positively associated with the annual earnings. Two important explanations might come to the fore. Firstly, healthcare workers may be reluctant in taking up on the job training or outside training because they may find that further training is not concomitant with wages and does not significantly improve their overall wages. Secondly, it maybe that annual wage increase may be due to overtime work and out of the job employment, thus leaving little time to pursue further professional training.

The significance of training cannot be underlined more. It is well documented that *increased post-basic training is concomitant with pay increase leading to positive incentive for healthcare workers (Mehdi et al., 2019). But, when such training comes at the cost of an increased workload, it might impact the healthcare workers continuation and the quality service they provide especially for the elderly*. A recent study by Aiken et al., (2003) suggests that further professional development and training had a positive association with quality of patient care. A study (Aiken, et al., 2011) found that staffing level is associated with quality of care, but the impact of such training of registered nurses is rather murky. While the pendulum goes both ways, there is substantive evidence on work knowledge, skills and its impact on providing on-time management of medication, drug administration and overall quality of clients' care (Clark, et al., 2005; Adami, & Kiger, 2005). Those factors related to "good" practice as in appropriate staffing level, professional care and knowledge of polypharmacy medical drug use, healthcare workers can meet the required levels of care and may provide health and social support to meet the needs of elderly population. We argue that "good" practice for elderly is realized through geriatrics and retraining and in support for nursing and training beyond post-registration level (after beginning the job) (Mehdi, 2015).

Elder carers and care assistants further training results showed the strong relation with annual income, these results may include income due to overtime. We assume it is due to overtime as the German Socioeconomic Panel does not

report such data. Although training among nurses and elder carers had no impact on monthly wages, a statistically significant relationship with annual wages is shown. This relationship might not exclude such factors as overtime and out of the job earning. But significantly, it suggests that increased earnings with years of training and further professional development are prerogatives to retain health workers in the health system and a moral harbinger to quality health service to clients and particularly the elderly (Mehdi, 2015). Healthcare institutions might also find it financially difficult to support training of staff. While desiring to maintain the regiment of work and maintaining strict work hours to have few opportunities for further training. However, those who do enjoy such an opportunity, do so to advance their careers and to gain an occupational advantage by seeking management degree and subsequently seek administrative positions (Steinmetz, 2014).

The health workers' may increase their monthly salary due to overtime. While overtime maybe desired by many healthcare workers, studies however have shown that working overtime lowers the probability of remaining employed (Knaebel, 2015) and as a result, health worker leave work altogether. One of the most important aspects of a job especially for healthcare employee is the wage it pays. Wages allow nurses and other care workers to make a living from their employment. Their wages also provide incentives to be productive and loyal to an employer (Euro Foundation, 2015). They described that the monthly salary of nurses in Germany, with three-year diploma, is between 1800-3000 Euros before taxes per month; depending on their qualification and with additional training i.e., qualification, reaches 3500 Euros per month. Since 2010, German new national minimum wages for care workers came into force (Hayes et al., 2006) and the national minimum wages rates are declared binding as posted by the Workers Act by decree of the Ministry of Labor. These rates applied to all employees. According to Posted/employed Workers 2010 ACT, the minimum wage rates for care workers in 2013 are between 8.00 to 9.00 Euro per hour. Thus, offering top-up on the salary of healthcare workers is an incentive and pushes health workers to work extra hours and often drive to burn out. Some of the younger health workers find the whole occupation not worth the effort to continue, and thus leave the occupation all together.

Overtime confirms previous peer reviewed research on nurses and doctors working hours, that in addition to arduous working hours and commuting time, overtime adds another burden for healthcare workers to extend their work hours leading many healthcare workers (namely, healthcare workers for elderly clients) to discontinue training. The high turnover rates among healthcare workers have substantive implications for the services provided for the elderly clients, but also for the working conditions of the remaining staff in the same institution. Those remaining staff are shorthanded and overworked, leading to several human errors in drug administration, social and physical support for the elderly; thus, diminishing morale in the workplace and subsequently leading many health workers to leaving the profession (Aylward et al., 2003)

The literature increasingly suggests that investment in further professional education and training of nurses as those in healthcare and long-term care provide a trajectory for professional growth and quality care. Professional

development is related to further professional education and training because further qualification of nurses, elder carers, and care assistants advance their knowledge, skills and competencies. While in some situations in the long-term care, staff receive little or no training (SchöEmann & Becker, 2015). Studies focusing on the return to education consistently demonstrate increased benefit in employment, advancement and lifetime earning potential with increased education and training (Becker, 1993). Regarding the economic impact of education, the literature indicates that individuals with greater education are more likely to achieve greater lifetime earnings, net of the costs of the additional education, than those with less education.

The human capital frame underlines that investment in further education increases care workers' productivity and in return, they have better chances of employment, promotion and earnings (Aiken, et al., 2003) with further training and advanced education, care workers are likely to increase their earnings, have er choice of careers, broad employment opportunities as well as provide the quality of life and care for their clients. The increasing and growing demand for skilled home and residential care workers in most "ageing" countries such as Germany, they all experience problems in recruiting enough skilled care workers to meet the demand for aged care. Despite the need for care workers, additional training in the long-term care setting, and further training opportunities are lacking for most unskilled care workers who deliver care services. Consequently, ensuring the quality of patient care in nursing homes requires professionally trained and skilled care workers. Germany like other developed countries is investing in further professional education and training for all professions in the healthcare sector and long-term care. The outcomes of these investment in educational opportunities, are suggestive that training will have impact on quality care and continuation at work.

Conclusion

The study found that further training of care workers in Germany has positive association with their employment status. However, further training of care workers is not significantly associated with the rise of average monthly wages. The number of years in the professional are positively associated with the annual earnings. The implication of the results suggest that further education and training is a good predictor for employability and re-employability of care workers in Germany. Twelve months prior to the survey, the care workers who had some further trainings were employed throughout the year than the care workers who had no further training and remained unemployed. It advocates that further training of care workers is crucial in staying current in professional knowledge and skills and remain active in their employment. Healthcare organizations also like to retain those employed care workers who keep updating and developing their professional skills and perform well in their practice. But the field and the literature are still lacking in the area, as little is known about the impact of nurses' professional education particularly, in the content as well as the form of the courses and training covered to fulfill the learning outcomes needed to care for the clients especially the elderly (Laal, 2011).

Regarding wages, it is likely that the monthly wages rate increases with the number of years in practice, noting that the increase is not due to the type and period of further training. However, further qualification can be a harbinger to finding a better paid job in different or care settings. Regarding the age, older care workers might have no, or lower amount of further training and have relatively higher monthly salary because of working there for a long time than those care workers who have higher amount of further training but a smaller number of years in care practice in healthcare and long-term care sectors. Therefore, the relationship between further training and monthly salary of care workers was not significant and currently reflects the 70% of the care workers in Germany had no further training. What are the many option for the Lander and (The German Public Health Association). What could materialize and what options for health workers are there who missed on opportunities of post-basic training. A study by CSEP (2011) suggests that lifelong learning opportunities for those who missed out on earlier learning to update basic skills and also offer learning opportunities at more advanced level (Laal, 2011) and that learning and providing evidence of the learning becomes part of the occupational practice of health workers. as a process of continuous skills and knowledge development to enhance the quality of life of clients and employment prospects (CSEP, 2011).

One of the most important points in labour market is to think of a set of marketable skills of care workers as a form of human capital in which care workers such as nurses, elder cares and care assistants at home care and residential care workers make a variety of investment. Advanced training is an important component of human capital that workers acquire after schooling, and it is associated with some set of skills useful for a particular industry or useful with a particular technology. As result of further training care workers are capable to work better and have better opportunities for employment, promotion, and earnings in healthcare market. Further education and training of care workers might have an impact on work situation, like part-time and full time, temporary and permanent employment, number of hours per week, earnings, and unemployment. In long-term care sector, it is likely that higher education is not rewarding for low paid immigrant workers. Research by Fischer (2000) has suggested that new approaches to further training as on-site professional development programs without the disruption of work regimen of healthcare workers and care for older adults would encourage health workers to commit themselves and open the trajectory for career advancement. The increase in care needs and shortage of skilled nursing staff has become a compelling healthcare issue in home care sector in Germany. To address this issue, it may be beneficial to recruit skilled healthcare workers or provide further training to low skilled healthcare workers to meet home care demands.

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