



## Relationship between partnership working and employees' productivity in a University of Medical Sciences in the South of Iran

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### ABSTRACT

**Introduction:** Partnership working plays an important role in the health system, results in delivery of coordinated packages of services to patients, and reduces the impact of organizational fragmentation.

**Method:** The study aimed to determine the relationship between partnership working and productivity in the employees of a university of medical sciences in the south of Iran.

**Results:** According to the result, partnership and productivity scores were  $51.1 \pm 6.7$  and  $51.9 \pm 13.4$ , respectively. Partnership working had a positive relationship with productivity ( $r = 0.333$ ,  $P = 0.001$ ) and age of the employees ( $r = 0.142$ ,  $P = 0.007$ ). There was a negative relationship between the employees' productivity with age and job position in ZAUMS ( $P = 0.009$  and  $P = 0.001$ , respectively). The nurses had the highest score of productivity (mean= $60.7 \pm 13.3$ ). Moreover, employees with an Ph.D. degree (9 persons) had the highest scores of partnership and productivity in ZAUMS ( $53.6 \pm 3.1$  and  $56.8 \pm 6.3$ , respectively).

**Conclusion:** Enhancement of partnership working could increase the employees' productivity in the health system. It is recommended that younger persons should be used in universities of medical science. Moreover, supportive staff should increase their partnership working to enhance the individual and organizational productivity.

**Keywords:** Partnership, Productivity, Medical Science University

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### Introduction

In health systems, successful implementation of any role development relies on strong partnership working among managers, employers, clinicians and education providers in the short and longer term to ensure sustainability (1). Partnership working is less focused on rigid structures and much more on relational factors like trust and goodwill (2). Jones and Barry demonstrated that the evidence of effectiveness of partnerships was a contested research area and claimed that synergistic measures would be an appropriate proxy for effectiveness in organizations (3). Some studies highlighted the importance of partnership working on health system (4, 5). Partnership working can support delivering coordinated packages of services to individuals, reduce the impact of organizational fragmentation (minimize the impact of any inappropriate incentives that result from it), bid for or gain access to new resources, align services provided by all partners

based on the needs of users, make better use of resources, stimulate more creative approaches to problems, and influence the behavior of partners (6). In addition, partnership working is widely advocated in order to implement strategies to influence the wider determinants of health and health inequalities, thus securing the population health improvement (7-9). On the one hand, good communication between providers, opportunities for education, clear definition of roles and responsibilities and continuous support are some key factors that could enhance partnership working among the employees in the health system (5). On the other hand, partnership working affects the organizational output such as employees' productivity (10).

Productivity means maximizing scientific usage of human resource, facilities, capital and meanwhile decrease production expenses and development markets (11). Moreover, some factors influence workforce productivity following as: behavior and true leader, training courses, staff training, clear guidelines and rules and regulations

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for all functions, sufficient authority for employees, high quality of working life and employees' participation in decision making (10).

Some studies have focused on the process of partnership working (how well are services working together?), not on the outcomes of partnerships (do they make a difference to services or to outcomes for users and care providers?) (12). Moreover, a recent systematic review highlighted the limited evidence on partnership working in the health system (13). Therefore, the aim of this study was to determine the relationship between partnership working and employees' productivity in a university of medical sciences in the south of Iran. The findings of the study could be helpful for health care managers in the personnel recruitment process and increase in the employees' productivity in the health system.

## Methods

This was a cross-sectional study conducted in Zahedan University of Medical Sciences (ZAUMS) in 2015. ZAUMS is located in Zahedan, as the capital of Sistan and Balochestan province in the southeast of Iran and provide health care services in five cities in the province. The study population consisted of all the employees of ZAUMS who worked in Zahedan (1790 persons). Multi-stage sampling method was used in the present study. Initially, all the official sections of ZAUMS (hospitals, health centers, supportive departments and faculties) were considered as strata (stratified sampling). Then, four blocks (wards) were selected randomly from each cluster strata. (There is a need to note that in the hospitals we selected the nurses because physicians and other clinical staff did not participate in the study). Subsequently, through random sampling, 370 samples were selected to participate in the survey from all blocks proportional to the number of the blocks. Inclusion criteria were all personnel of ZAUMS who worked in 2015 for the University and worked in Zahedan city (the capital of Sistan and Balochestan province); the exclusion criteria were working in other regions of the province (those who worked in the other four cities) and unwillingness to participate in the study.

Data collection instruments were two standard questionnaires 1) Partnership working is a validated questionnaire whose validity and reliability were confirmed in a previous study (14). The questionnaire contained 20 questions with four-point Likert scale. In the questionnaire, 1 represented completely disagree and 4 represented completely agree. Among the 20 questions, six questions (10, 13, 14, 16, 18 and 19) were reverse. 2) Hersey & Goldsmith Workforce Productivity Questionnaire as a validated questionnaire (15) consisting of 21 questions with Likert scale (1=very little, 5= very much) were used. It covers seven dimensions of workforce productivity including ability, clarity, organizational support, assessment, validity, motivation and environment management.

The questionnaires were distributed among the participants by researchers who tried to attend for clarification if needed and after one week the questionnaires were collected by

the researchers. According to the researchers' follow-up and participants' cooperation, all questionnaires were returned to the researchers.

## Ethical Considerations

This study was approved by the Ethics Committee of Zahedan University of Medical Sciences (ZAUMS), Zahedan, Iran. The assurance of confidentiality and anonymity of the participants were other ethical issues in the study. All participants were informed about the purpose and design of this research, and that their participation was voluntary.

## Data Analysis

Mean scores of the partnership working and productivity were calculated through descriptive statistics. Besides, Pearson correlation 2-tailed, one way ANOVA, T-tests and regression model were used to determine the relationship of the two main elements and differences among them with demographic variables. In the study used of SPSS, version 21, and the level of significance was considered as 0.05.

## Results

Of 370 participants, 245 were female (66.0%). The mean age of the participants was  $34.6 \pm 8.4$  years and most of them were married ( $n=318$  or 85.9%). The other demographic variables are shown in Table 1. Moreover, the mean score of productivity was  $52.1 \pm 15.0$ . The scores of productivity and partnership working for each demographic variable are shown in Table 1. In addition, there was a relationship between partnership working and age of the employees ( $P=0.007$ ,  $r=0.142$ ) (Table 1).

As shown in Table 1, the nurses had the highest score of productivity in ZAUMS ( $60.7 \pm 13.3$ ). In addition, employees with Ph.D. degree practiced more partnership working than others groups ( $53.6 \pm 3.1$ ). Besides, health workers in ZAUMS had partnership working more than the other staff ( $53.4 \pm 5.4$ ).

According to Table 2, there was a negative and significant difference between productivity dimensions and age of the staff in ZAUMS. Moreover, five dimensions of the employees' productivity (ability, clarity, organizational support, assessment and validity) had a statistically significant difference with partnership working ( $P=0.001$ ) (Table 2).

The demographic variables (age, sex, marital status, education, Job position and Job experiences) and employees' involvement were analyzed using regression and enter method. The results showed that age, education level, job and partnership working of the employees had a statistically significant relationship with productivity. According to Table 3, the personnel who had Ph.D. degree had higher productivity score than those with associate degree in ZAUMS ( $P<0.05$ ). Moreover, productivity score in primary health worker and nurses was higher than the other groups ( $P<0.05$ ) (Table 3).

**Table 1.** Mean of partnership working and productivity based on the demographic variables of the University's staff in Zahedan in 2015

Demographic variables			Partnership working		Productivity	
	Category	Frequency (%)	Mean± (SD)	P value	Mean±(SD)	P value
Gender	male	125(33.7)	53.3(6.1)	0.72	51.5(15.3)	0.753
	female	245(66.3)	50.7 (5.7)		52.4 (14.9)	
Married	Single	52 (14.1)	51.0 (5.0)	0.34	53.4(12.0)	0.032*
	Married	318(85.9)	51.6 (6.1)		51.9 (15.5)	
Education	Associate de- gree	103(27.8)	52.8 (4.8)	0.025**	53.5 (13.2)	0.060
	BS.	207(55.9)	50.8 (6.0)		52.3 (16.1)	
	M.S.	51 (13.7)	51.8 (7.4)		47.0 (14.2)	
	PhD.	9 (2.4)	53.6 (3.1)		56.8 (6.3)	
Job position	Education staff	17 (4.5)	51.2 (5.5)	0.001***	40.2 (10.2)	0.001****
	Nurse	151(40.8)	51.7 (5.4)		60.7 (13.3)	
	Support staff	85(22.9)	48.8 (6.6)		38.4 (11.4)	
	Primary health worker	118(31.8)	53.4 (5.4)		52.6 (11.5)	
Job experiences	> 5	96(25.9)	51.1 (6.3)	0.116	53.8 (15.3)	0.616
	5-10	106(28.6)	50.6 (5.7)		52.6 (16.2)	
	10-15	58(15.6)	52.0 (4.5)		50.6 (13.0)	
	15-20	52(14.1)	52.1 (7.1)		50.3 (12.5)	
	< 20	59(15.9)	53.0 (5.6)		51.7 (16.5)	

\* F= 4.65, \*\* F= 3.158, \*\*\* F= 10.494, \*\*\*\* F= 64.505

**Table 2.** Relationship between age and partnership working with productivity in ZAUMS in 2015

Productivity dimension	Partnership working		Age	
	P value*	r	P value*	r
ability	0.001	0.264	0.001	-0.186
clarity	0.001	0.212	0.001	-0.194
Organizational support	0.001	0.186	0.145	-0.077
assessment	0.001	0.182	0.036	-0.110
validity	0.001	0.271	0.267	-0.058
motivation	0.818	-0.14	0.177	-0.083
environment compatibility	0.180	0.082	0.473	-0.44
productivity	0.001	0.333	0.004	-0.152

\* Correlation is significant at the 0.05 level (2-tailed).

**Table 3.** Regression between demographic variables and partnership working with employees' productivity in ZAUMS in 2015

Variables	B	SE	t	P value
age	-0.394	0.151	-2.609	0.009
Sex(male/female)	1.260	1.607	0.784	0.434
Marital status(married/ single)	-.254	2.122	-0.120	0.905
Education1(bachelor/associate's degree)	-1.38	1.254	1.23	0.127
Education2(MS/associate's degree)	2.441	0.890	3.021	0.003
Education3(PhD/associate's degree)	3.567	1.023	4.3564	0.001
Job status1(educational staff/ primary health worker)	1.561	0.894	1.54	0.013
Job status 2(nursing/ primary health worker)	-1.54	0.73	-1.956	0.035
Job status3(support staff / primary health worker)	0.89	0.954	0.994	0.216
partnership working	0.973	0.125	7.790	0.001

## **Discussion**

The study aimed to determine the relationship between partnership working and productivity among the personnel of ZAUMS in the southeast of Iran. Partnership working had a statistically significant relationship with productivity. In fact, the employees who had more partnership had more productivity in the organization. Productivity in universities of medical sciences is a very important issue because it is related to human life and it can promote the health of the community. Khajehfard found that there was a direct relationship between the personal and organizational factors of virtue of the managers and organization productivity (11). Raza found that there was an impact of organizational culture on the employee's performance and organizational outcome. He recommended improvement in the employees' culture in order to improve productivity (16). Another study (Nawab et al., 2011) showed that job satisfaction had the highest impact on the employees' commitment and productivity (17). According to Dixit's study (2012), sustained productivity improvement depends on the enterprise's human capital (the skills, knowledge, competencies and attitudes of the individual employee of the enterprise) (18). Based on the partnership benefits for organizations (19), especially in health care centers (20), managers should pay attention to it to increase the organization's productivity.

According to the results, younger staff had higher productivity than the older ones. Letvak, in confirmation of this finding, stated that older nurses had less productivity than younger ones (21). The younger staff may have more motivations to work in the health system. Positive approach of the employees towards the organization motivates the employees to achieve organizational goals; this eventually leads to achievement of productivity and towards the optimum goal of organization-profit maximization (16). Moreover, Dixit found that the employees' commitment is significantly related to sustained productivity (18). Therefore, it is recommended that health managers should use younger staff in the health system.

According to the findings of the study, nurses and health workers (those hands-on employees) had higher productivity than the two other groups (supporting groups). Since, the nurses' work is related to patients' care and their life directly, it shows that they should have more productivity in a way that they can take care of patients. In line with this study, Balsdon found that the nurses should work effectively and identify the opportunities to use their role in different ways to increase their effectiveness (22). Bahrami found that there was a significant multiple correlation between organizational trust and productivity among the nurses (23). Eastaugh indicated that productivity varies widely among the 39 hospitals as a function of staffing patterns (24).

The study showed that partnership working in the employees with the highest education degree was higher in the university. It showed that educated personnel had higher partnership with others and probably they knew that partnership was essential to sustainability of organizations. Taro found that partnership provides a basic model for structuring collaborations in global health area (25). In

addition, Lakhoo stated that Global Health Partnerships are an excellent initiative in establishing specialized services in countries with limited resources (26). In the same line, Downie indicated that partnership not only enhances the communication between the educated staff, but also fosters the development of staff knowledge (27). On the other hand, having higher education level could not explain the personnel's productivity, because those with PhD degree had the highest productivity score; however, employees with associate degree had higher scores than those with MS degree. In this regard, Ahaki in a study found that education is not a determining factor for employees' productivity in organizations (28). Therefore, there is a need to conduct further studies to survey this issue in more detail.

The results showed that productivity significantly was higher in the single staff rather than married ones. Probably, the single staff spends more time with their colleagues than married employees, who like to be more with their family.

According to the findings of the present study, partnership in the supportive staff was lower than other groups. The main goal of supportive staff is to support other employees such as clinical departments and they have high workload. For example, employees in the accounting department need to work on the details of financial documents; on the other hand, they have a fixed procedure and maybe it leads to having lower partnership with others. Taylor-Robinson found that cultural issues such as a lack of shared values and language, the inherent complexity of intersecting oral collaboration for public health, and macro issues including political and resource constraints are barriers of partnership working (29). Since successful partnerships shared a number of characteristics such as: clarity about goals and purpose, awareness of staff roles and responsibilities and having a clear strategic overview of the performance through robust monitoring and evaluation (30), all employees in the health system should have partnership working to deliver better quality services to community and lead to health promotion.

Factors supporting good partnership working included good communication between providers; clear definition of roles and responsibilities; opportunities for shared learning and education; appropriate and timely access to specialist palliative care services; and coordinated care (31). It is recommended that the mentioned elements should be improved to increase the partnership working in organization.

## **Limitations**

Physicians and other clinical staff were not included in the study since they were not willing to participate. With this explanation, this study does not cover all the staff in the hospital which should be considered in generalizability of the findings.

## **Conclusion**

According to the study results, partnership working had a positive relationship with productivity; therefore, enhancement of partnership working could increase

the employees' productivity in the health system. It is recommended that the authorities use younger individuals in medical science universities. Moreover, supportive and education staff should increase the partnership working among them through sharing learning and education and more communication to increase productivity in the system. Further studies are recommended to be done in other medical universities, in other organizations, and in different cultures and their results should be compared with the findings of this study.

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### Competing Interest

None declared.

### References

- Duffy K, Blair V, Colthart I, Whyte L. Role development: barriers, enablers and the function of a national organisation. *Nurs Manag (Harrow)*. 2014 Jun;21(3):31-7.
- Hunter D, Perkins N. Partnership working in public health: the implications for governance of a systems approach. *J Health Serv Res Policy*. 2012 Apr;17 Suppl 2:45-52.
- Jones J, Barry MM. Exploring the relationship between synergy and partnership functioning factors in health promotion partnerships. *Health Promot Int*. 2011 Dec;26(4):408-20.
- Henwood M. Effective partnership working: a case study of hospital discharge. *Health Soc Care Community*. 2006 Sep;14(5):400-7.
- Gardiner C, Gott M, Ingleton C. Factors supporting good partnership working between generalist and specialist palliative care services: a systematic review. *Br J Gen Pract*. 2012 May;62(598):e353-62.
- Glasby J, Dickinson H, Miller R. Partnership working in England-where we are now and where we've come from. *Int J Integr Care*. 2011 Jan;11 Spec Ed:e002.
- Smith KE, Bambra C, Joyce KE, Perkins N, Hunter DJ, Blenkinsopp EA. Partners in health? A systematic review of the impact of organizational partnerships on public health outcomes in England between 1997 and 2008. *J Public Health (Oxf)*. 2009 Jun;31(2):210-21.
- Wildridge V, Childs S, Cawthra L, Madge B. How to create successful partnerships-a review of the literature. *Health Info Libr J*. 2004 Jun;21 Suppl 1:3-19.
- Petticrew M, Platt S, McCollam A, Wilson S, Thomas S. "We're not short of people telling us what the problems are. We're short of people telling us what to do": an appraisal of public policy and mental health. *BMC Public Health*. 2008;8:314.
- Mohammadi M, Esfandnia A, Fathinia R, Mohammadi E, Rezaei S, Taft V. Model of Factors affecting Labor Productivity in the Areas of Staff Kermanshah University of Medical Sciences. *Spectrum*. 2014;3(8).
- Khajehfard S, Ansari ME, Valikhani M. Recognition and Categorization of the Factors of Service Virtue and Examination of Its Impact on Organization's Productivity. *Arth prabandh: A Journal of Economics and Management*. 2014;3(6):28-43.
- Dowling B, Powell M, Glendinning C. Conceptualising successful partnerships. *Health & social care in the community*. 2004;12(4):309-17.
- Smith K, Bambra C, Joyce K, Perkins N, Hunter D, Blenkinsopp E. Partners in health? A systematic review of the impact of organizational partnerships on public health outcomes in England between 1997 and 2008. *Journal of Public Health*. 2009;31(2):210-21.
- Khademi AR, Ghaderi M, Ali M, Pouya M. Investigation of Cardio-Respiratory Fitness, Stress and Body Mass Index of Public Employees Regarding Working Partnership. *Advances in Environmental Biology*. 2012;6(3):1051-5.
- Moammai H, Amini M, Dargahi H, Mashayekh M, Janbozorgi M. Strategic Thinking Measurement among Staff Managers of Tehran University of Medical Science. *Journal of Health Administration*. 2013;16(53):73-84.
- Raza H, Anjum M, Zia SM. The Impacts of Employee's Job Performance Behavior and Organizational Culture on Organizational Productivity in Pharmaceutical Industries in Karachi. *Interdisciplinary Journal of Contemporary Research In Business*. 2014;5(12):385.
- Nawab S, Bhatti KK. Influence of employee compensation on organizational commitment and job satisfaction: A case study of educational sector of Pakistan. *International Journal of Business and Social Science*. 2011;2(8):25-32.
- Dixit V, Bhati M. A study about employee commitment and its impact on sustained productivity in Indian auto-component industry. *European journal of business and social sciences*. 2012;1(6):34-51.
- Khammarnia M, Kassani A, Peyvand M, Setoodezadeh F. Systemic Thinking and Partnership Working: A Cross Sectional Study in a Medical Sciences University in Iran. *Journal of health sciences and surveillance system*. 2016;4(1):27-31.
- Duffy JR, Culp S, Sand-Jecklin K, Stroupe L, Lucke-Wold N. Nurses' Research Capacity, Use of Evidence, and Research Productivity in Acute Care: Year 1 Findings From a Partnership Study. *Journal of Nursing Administration*. 2016;46(1):12-7.
- Gupta SN, Letvak SA. Differences in health, productivity and quality of care in younger and older nurses. 2013.
- Balsdon H, Wilkinson S. A trust-wide review of clinical nurse specialists' productivity. *Nursing management (Harrow, London, England: 1994)*. 2014;21(1):33-7.
- Bahrami S, Hasanpour M, Rajaeepour S, Aghahossemi T, Hodhodineghad N. The relationship between organizational trust and nurse administrators' productivity in hospitals. *Iranian journal of nursing and midwifery research*. 2012;17(6):451.
- Eastaugh SR. Hospital nurse productivity enhancement. *Journal of health care finance*. 2006;33(3):39-47.
- Taro T, Yao C, Ly S, Wipfli H, Magee K, Vanderburg R, et al. The Global Surgery Partnership: An Innovative Partnership for Education, Research, and Service. *Academic medicine: journal of the Association of American Medical Colleges*. 2015.
- Lakhoo K, Msuya D. Global health: A lasting partnership in paediatric surgery. *African Journal of Paediatric Surgery*. 2015;12(2):114.
- Downie J, Orb A, Wynaden D, McGowan S, Zeeman Z, Ogilvie S. A practice-research model for collaborative partnership. *Collegian*. 2001;8(4):27-32.
- M A, A Hd, A N. Relashioship between job and education level by employee productivity in oil company in Ahvaz Iranian journal of Public Administartion Mission 2013;3(5):43-53.
- Taylor-Robinson DC, Lloyd-Williams F, Orton L, Moonan M, O'Flaherty M, Capewell S. Barriers to partnership working in public health: a qualitative study. *PloS one*. 2012;7(1):e29536.
- Hunter D, Perkins N. Partnership working in public health: the implications for governance of a systems approach. *Journal of health services research & policy*. 2012;17(suppl 2):45-52.
- Gardiner C, Gott M, Ingleton C. Factors supporting good partnership working between generalist and specialist palliative care services: a systematic review. *British Journal of General Practice*. 2012;62(598):e353-e62.