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Research Article

Employee Satisfaction with Onsite Clinic and Collaborative Care Pharmacy

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Abstract

Background: On-job-productivity loss (presenteeism), voluntary non-attendance at work (absenteeism), work-related injuries, and the wage replacement cost of disability are major factors promoting the need for employer-based onsite health clinics.

Objective: To determine employee satisfaction with an employer-based clinic and pharmacy.

Design: One-group pre-test-post-test research design.

Setting: One utility company in South Eastern United States.

Participants: A convenience sample of employees (n = 20) working for the utility company.

Methods: Company employees were emailed an informational letter announcing the study, including instructions on how to participate. Consent was sought by a research assistant, not associated with patient care, to avoid perceptions of coercion. Participants were given a pre- and post-care survey to complete privately before and after their scheduled appointment.

Results: Ten participants showed no change in perception of quality of care and service; Ten participants gave higher quality of care and service ratings following use of the on-site clinic and pharmacy. The median change score was +0.50, which was statistically significant with the sign text (p = .002, two-tailed). Results reflected a higher degree of patient satisfaction and more positive perceptions of care based on the use of the employer-sponsored onsite clinic with pharmacy.

Conclusions: Results suggest participants' satisfaction and positive perceptions of care increased once participant experienced the services of the onsite clinic and pharmacy. As a result, employees are more likely to seek treatment. Companies may benefit from increased attendance and higher productivity when accessibility to a health care provider and medications to treat an acute illness exist.

Keywords: Collaborative care; Employer-sponsored clinic; Onsite pharmacy; Patient satisfaction

Introduction

Healthcare access is a major barrier for the underserved communities [1]. Several private and public organizations are bridging the gap of regional healthcare access through partnering with a local healthcare organization and providing care to working communities through employee-sponsored onsite clinics. The long-term goal is to promote a healthier workforce within the community. In the 1980's workplace clinics, usually found in

large companies, existed primarily to treat occupation related injuries; however, many went out of business due to the decrease in manufacturing jobs [2]. In the past decade, there has been a resurgence of onsite clinics with a new focus on health promotion, wellness, and primary services as research suggest employer-based clinics may reduce healthcare cost and increase worker productivity [2,3].

Review of the Literature

In 2017, one-third of employers in the United States with over 5,000 employees offer general medical worksite clinics, which is a 24% increase since 2012 [4]. Onsite clinics are less prevalent among mid-sized companies with 500 and 4,999 with 16% offering medical clinics. Research suggest employers with onsite clinics received high marks on employee satisfaction (83%) and utilization of facilities (78%). While not all employers measured the clinic's impact on employee health, respondents were satisfied with the clinics ability to help control chronic conditions (60%) and reduce modifiable health risks (58%) [4].

Research of onsite clinics in the United States suggest organizations who operate onsite clinics and fund collaborative services like onsite pharmacies as part of their own health insurance plan, benefit from lower health care costs, reduction of emergency room/hospital visits, and absenteeism [3,5]. Studies also suggest employers implementing onsite and or near-site clinics as a strategy to improve the health of their employees, promote access to medical care services, control health care cost, increase productivity; thus, motivating participation in workplace programs and reduction of frequent emergency room visit [6].

Theoretical Framework

The Health Belief Model (HBM) explores what people perceive or believe to be true about themselves regarding their health and behaviors [7]. The HBM identifies four components of individual perception guiding health behaviors: "perceived seriousness, perceived susceptibility, perceived benefits, and perceived barriers" [8]. Additionally, the HBM considers "cues to action, motivating factors, and self-efficacy," along with modifying variables such as age, educational level, gender, and ethnicity as elements that guide individuals' decision making [8]. This study fits the HBM because survey questions are linked to patient perceptions, which through the use of Likert-scales determines perceived seriousness, benefits, and barriers that might be encountered at an onsite health care clinic.

Methods

This study used a one-group pre-test-post-test research design where study participants completed measures of satisfaction and perception of overall quality of care both before and after receiving clinic and pharmacy services [9]. Statistical analyses of the data aimed to determine if patient satisfaction and perceptions improved from pre-test to post-test.

Setting

The study was conducted in the Eastern United States, at an onsite, Occupational Health Clinic. The clinic has less than 500 employees who work to provide electric, gas, water, and sewer services to a community of nearly 180,000 inhabitants. The clinic opened in 2008 as a collaborative effort between the utility company and the local hospital to provide employees and eligible dependents free health care services and medications for conditions such as work-related injuries, minor cuts, muscle pain, common cold, influenza. In addition, employees can choose to participate in preventative screening and have annual physicals completed onsite. The clinic also provides short term management of chronic diseases for newly hired employees before they establish care with a new primary care provider.

Participants

All employees were emailed an information letter announcing the study and its procedures, including instructions on how to participate should they desire when scheduling a visit with the clinic. All persons who entered the clinic during the data collection period were asked by a research assistant if they would like to participate or learn more about the study. All willing employees completed the consent and demographics questionnaire. Participants completed the pre-test in a private room after checking in. The post-test survey was completed privately and collected upon conclusion of the visit. A convenience sample of 20 full-time employees agreed to participate in this study. Inclusion criteria included 1) Employment at the utility company; 2) Enrollment in company sponsored health plan; and 3) 18 years of age or older. Three demographic items were included in the pre-test survey to provide subsequent sample description. Participants ages ranged from 19 to 59 with a mean of 41.90 years (SD = 10.83). There were 14 males (70%) and 6 females (30%). The majority of participants described themselves as White/Caucasian (85%) with three (15%) Black or African American.

Sample Size

Prior to beginning the study similar projects of equal size assessing employee satisfaction and perception of onsite clinic and pharmacy were not found to inform sample size calculation. Because this is a small company that used convenience sampling, it was reasonable to expect a small effect size. With data from the 20 participants in this study, Cronbach's alpha was extremely strong, $\alpha = 0.97$, at both pre-test and post-test. These findings add further support that, as a tool of scientific measurement, the PSS is reliable.

Data Collection Procedures

All employees were emailed an informational letter

announcing the study and its procedures, including instructions on how to participate when they schedule a visit with the clinic. All persons who entered the clinic during the four-week data collection period were asked by a research assistant, a Registered Nurse, if they would like to participate or learn more about the study. All willing employees were given the PSS pre-test, including directions and an initial question to ensure informed consent. Participants completed the pre-test in a private room after checking in for their scheduled visits. Pre-tests were collected immediately after completion. The post-test survey was completed privately upon conclusion of the visit.

The pre-test and post-test surveys were marked with identifying numeric codes so that post-test surveys could be matched with their corresponding pre-tests. No personal identifying information was collected, and all responses were anonymous. In addition, no sensitive personal information was asked of participants.

Survey responses were compiled into an Excel spreadsheet and imported to IBM SPSS [10] for further analysis. Descriptive statistics (means and standard deviations for continuous variables, frequency counts, and percentages for categorical variables) were calculated for demographic items for the purposes of a sample description. A Cronbach's alpha coefficient was calculated to evaluate the reliability of the nine-item PSS measure of patient satisfaction. Means and standard deviations were used to describe patient satisfaction at pre-test and post-test, and a paired-samples t test was used to evaluate pre-test/post-test changes in mean satisfaction levels. Means and standard deviations were also used to describe perceived quality of care and services at pre-test and post-test. Finally, Cohen's dz was computed to measure the overall effect strength of improvements in patient satisfaction. G*Power software (Version 3.1.9.2) was used to perform this calculation [11].

Complete data (i.e., both pre-test and post-test surveys were completed) were obtained from 20 patients. The data were screened for out-of-range and missing values by generating frequency distributions for all variables [12]. There were no missing values and no apparent data entry errors.

Interpreting the PSS. The PSS consisted of 10 five-point rating scales. The first nine items measured patient satisfaction with pharmacy services. Ratings across these nine items were summed to provide a patient satisfaction total score. The items measuring patient satisfaction were worded such that lower numerical ratings reflected higher satisfaction and high ratings reflected lower satisfaction. To take advantage of the human tendency to interpret higher numerical scores as indicative of a greater amount of the attribute being measured [13], the nine items measuring patient satisfaction were reverse-scored with the resulting anchors: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree. Total scores were then calculated by summing the reversed ratings. Total satisfaction scores could range from 9 through 45, with higher scores indicating greater patient satisfaction.

Cronbach's alpha coefficient was calculated for the nine-item patient satisfaction portion of the PSS to evaluate the internal consistency and reliability of those items. Moon et al. [14], the developers of the PSS, reported that the instrument displayed good reliability, but an instrument that shows good psychometric qualities with one population or setting may not show those same qualities in a different population or setting. With data from the 20 participants in this study, Cronbach's alpha was extremely strong, $\alpha = 0.97$, at both pre-test and post-test. This finding adds further support that, as a tool of scientific measurement, the PSS is reliable.

The tenth item of the PSS was also a 5-point rating scale used in assessing perceived quality of care and service. This item was worded in such a manner that low ratings reflected greater perceived quality of care and service and high ratings reflected lower perceived quality. Ratings on this item were also reverse scored so that higher ratings would indicate greater perceived quality of care and service, with the resulting anchors: 1 = poor, 2 = fair, 3 = neutral, 4 = good, 5 = excellent. Because this single rating scale item was used alone to measure quality of care and service, scores could range from 1 to 5.

PSS pre-test/post-test changes in patient satisfaction. Changes in patient satisfaction from pre-test to post-test were evaluated using a paired-samples t test. Table 1 provides descriptive statistics for patients' pre-test and post-test satisfaction ratings on each of the nine items of the PSS measure of patient satisfaction. Table 1 also shows pre-test and post-test patient satisfaction total scores and changes from pre-test to post-test.

PSS Items and Total	Pre-test Scores				Post-test Scores				Change Statistics (Post-test – Pre-test)					
	Min	Max	*M*	*SD*	Min	Max	*M*	*SD*	*M*	*SD*	*t*	*df*	*p*	*dz*
1	2	5	4.15	0.88	4	5	4.63	0.50	0.53	0.84				
2	2	5	3.80	1.11	3	5	4.55	0.61	0.75	0.85				
3	2	5	4.10	0.91	4	5	4.70	0.47	0.60	0.82				
4	2	5	3.80	0.95	3	5	4.50	0.69	0.70	0.86				
5	3	5	4.15	0.75	3	5	4.65	0.59	0.50	0.83				
6	2	5	3.65	1.18	3	5	4.65	0.59	1.00	1.12				
7	3	5	4.00	0.73	4	5	4.65	0.49	0.65	0.67				
8	3	5	4.05	0.76	3	5	4.60	0.60	0.55	0.69				
9	3	5	4.05	0.83	4	5	4.55	0.51	0.50	0.61				
Total	24	45	35.75	7.33	32	45	41.25	4.41	5.50	6.31	3.90	19	.001*	0.87

Note. * Two-tailed significance level. PSS items have a possible range of 1-5. PSS Satisfaction total scores have a possible range of 9-45. Change scores have a possible range of -36 to +36. Interpretation of Cohen's dz statistic in Dattalo [15] is: .20 = small effect, .50 = medium effect, .80 and higher = strong effect.

Table 1: Pre-test Scores, Post-test Scores, and Changes from Pre-test to Post-test for PSS Items and PSS Patient Satisfaction Total Scores with Significance Tests and Effect Strengths (N = 20).

On the individual items of the PSS patient satisfaction scale, changes from pre-test to post-test (Calculated as post-test minus pre-test) could take on values ranging from -4 points to +4 points, with negative values indicating declines in satisfaction from pre-test to post-test, 0 indicating no change, and positive values indicating increased satisfaction from pre-test to post-test. The sample in this study showed increased satisfaction on all nine items of the PSS, with average changes on those items ranging from .50 to 1.00 points see Table 1. While these changes may not appear to be large, changes in the positive direction were limited by the fact that pre-test satisfaction levels were quite high, leaving only limited room for improvement at post-test.

The overall possible range of change scores (Post-test minus pre-test) for patient satisfaction was -36 points to +36 points, with negative values indicating declines in satisfaction from pre-test to post-test, 0 indicating no change, and positive values indicating increased satisfaction from pre-test to post-test. Patient satisfaction at pre-test averaged 35.75 points (SD = 7.33) on a 9 to 45-point scale. Satisfaction at post-test averaged 41.25 points (SD = 4.41) on the same scale. The improvement from pre-test to post-test averaged only 5.50 points and was limited by the already high levels of patient satisfaction seen at pre-test. Despite this, the change from pre-test to post-test in patient satisfaction was shown by a paired-samples t test to be statistically significant, t (19) = 3.90, p = .001 (two-tailed); (Table 1). Cohen's dz measure of effect strength, calculated using G*Power software (Version 3.1.9.2), showed that dz = 0.87 which represents a strong effect [11,15].

PSS pre-test/post-test comparison of perceived quality of care and service. The number of patients who rated the quality of care and service as 4 = good or 5 = excellent increased noticeably from pre-test to post-test. This resulted in an increase in the mean rating from M = 4.10 (SD = 0.91) at pre-test to M = 4.90 (SD = 0.31) at post-test. While this does not appear to be a large increase, the magnitude of the increase was limited by the relatively high mean at pre-test.

Ten patients (50%) showed no change from pre-test to post-test in their quality of care and service ratings. However, the other 10 patients (50%) gave higher quality of care and service ratings at post-test. The median change score was +0.50 which was found to be statistically significant using the sign test (p = .002, two-tailed).

Implications for Practice

In accordance with the HBM, results of the study indicated that participants' satisfaction and positive perceptions of care increased once they experienced services of the onsite clinic

and pharmacy. Findings from this study were consistent with prior studies suggesting that when barriers to care are removed, individuals are more likely to seek treatment. As a result, companies may see benefits of increased attendance and productivity [3,16].

Limitations

There were identifiable limitations for this study. First, timing was a stumbling block to gathering a large sample size. The study was only open for four weeks and two days and relied on a convenience sample of participants (N = 20) who scheduled appointments during this timeframe. A longer timeframe may have yielded a larger sample size. In addition, the study utilized only one clinical site. Increasing the number of clinical sites across diverse locations, along with widening the study timeframe, could help establish the generalizability of results [17]. At present, this practice study possesses limited generalizability. Furthermore, the study did not analyze sample size demographics and thus, is unable to assess whether or not participant demographics played a role in patient satisfaction and perceptions of care.

Recommendations for Future Research

The limitations of this study provide a strong platform on which to build future research. Expanding this study to multiple employer-sponsored onsite clinics and pharmacies could provide a wider cross-section of data to analyze. Further research could also examine usage trends across patient demographics. Other inquiries could investigate onsite clinic marketing initiatives and their impact on employee participation.

Results indicated increases in participant satisfaction after utilizing the clinical and pharmacy services. Further study could investigate overall clinic utilization and ways to promote employee usage. Additionally, more research is needed to fully explore the beneficial impacts of employer-sponsored onsite care as well as patient and provider understanding of available services. Continued research may yield strategies to better streamline interprofessional care delivery, increase medication compliance, and increase overall employee productivity.

Conclusion

The findings of this study demonstrate an overall increase in patient satisfaction and perceptions of care after participants utilized an employer-sponsored onsite clinic and pharmacy. This study reflects that organizations who sponsor onsite clinics with pharmacy provide improved access to health care services that is convenient and cost effective to its employees.

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Conflict of Interest

Declarations of interest: none.

Ethical Approval

This study received approval from the University & Medical Center Institutional Review Board at East Carolina University.

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References

1. United States Census Bureau (2017) Quick facts: Greenville city, North Carolina.
2. O'Keefe LC, Anderson F (2017) Benefits of on-site clinics. Online Journal of Issues in Nursing 22: 1-10.
3. Burton WN, Chen CY, Li X, Schultz AB (2017) The association of employee engagement at work with health risk and presenteeism. Journal of the American College of Occupational and Environmental Medicine 59: 988-992.
4. National Association of Worksite Health Centers [NAWHC] (2019) NAWHC-Mercer 2018 Worksite Medical Clinics Survey.
5. Ostovari M, Yu, D., Yih Y, Steel-Morris CJ (2017) The impact of an on-site clinic on utilization of preventive services. Journal of Occupational and Environmental Medicine 59: 615-623.
6. National Association of Worksite Health Centers (2016) Onsite clinics are a key component to a successful health benefits strategy.
7. Taylor C, Lillis C, LeMone P (2001) Fundamentals of nursing the art & science of nursing care (4th Edition) Philadelphia, PA: Wolters Kluwer/ Lippincott Williams & Wilkin.
8. Hayden JA (2009) Chapter 4: Health Belief Model. In Introduction to health behavior theory (1st Edition) Sudbury, MA: Jones and Bartlett Publishers, LLC Pg. No 31-44.
9. Campbell DT, Stanley JC (1963) Experimental and quasi-experimental designs for research. Belmont, CA: Wadsworth.
10. IBM Corp (2017) IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.
11. Faul F, Erdfelder E, Lang A, Buchner A (2007) G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Behavior Research Methods 39: 175-191.
12. Tabachnick BG, Fidell LS (2013) Using multivariate statistics. Boston, MA: Pearson.
13. Miller LA, Lovler RL (2016) Foundations of psychological testing (5th Edition) Thousand Oaks, CA: Sage.
14. Moon J, Kolar C, Brummel A, Ekstrand M, Holtan H, et al. (2016) Development and validation of a patient satisfaction survey for comprehensive medication management. Journal of Managed Care and Specialty Pharmacy 22: 81-86.
15. Dattalo P (2008) Determining sample size: Balancing power, precision, and practicality. New York, NY: Oxford University Press.

16. Ostovari M, Yu D, Xie S, Ye Q, Katare B, et al. (2015) Bridging the gap between population needs and barriers into onsite clinic use. Proceedings of the Human Factors and Ergonomic Society Annual Meeting 60: 1809-1812.

17. Melnyk BM, Fineout-Overholt E (2015) Evidence-based practice in nursing & healthcare: A guide to best practice (3rd Edition) Philadelphia, PA: Wolters Kluwer/Lippincott.