BURNOUT AND EMPOWERMENT AMONG HEMODIALYSIS (HD) NURSES (RN) IN QUEBEC

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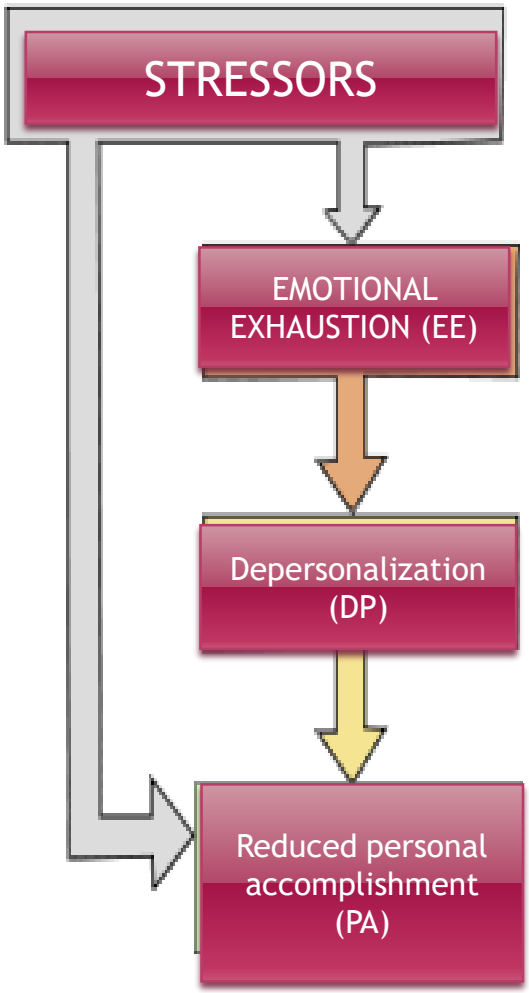
Burnout



- EE: Extreme physical and intellectual fatigue & demotivation
- DP: Detachment from others, negative feelings or loss of empathy for patients
- Reduced PA: Negative self-evaluation of competencies and accomplishment & inability to achieve concrete results at work

Maslach & Jackson (1981, 1986)[1]

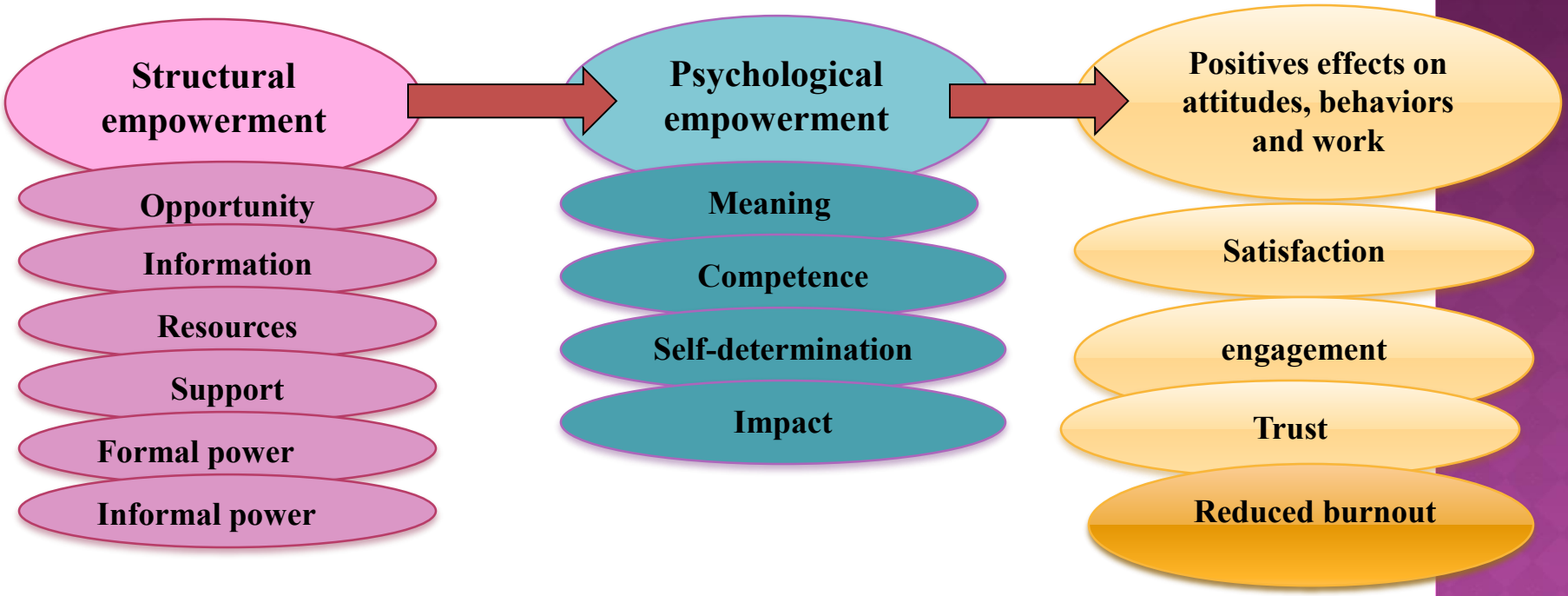
Empowerment of nurses - 2 key concepts

Structural Empowerment (SE)	Psychological Empowerment (PE)
Structures of the working environment that promotes; empowerment[1-2] and sharing of real power[3]	Individual characteristics of empowerment; set as motivational cognitions shaped by the work environment reflecting on the work role
increasing the well-being and productivity[1-2]	**providing a sense of control over life situations[4]**

*** Symbolizes « control over the practice » [5]**

Kanter (1977, 1993)[1] ; Laschinger et al. (2001)[2] ; Laschinger & Haven (1996)[3] ; Spreitzer (1995)[4]; Page (2004)[5]

Conceptual framework



Kanter's theory of structural power in organization (1977, 1993)
actualised by Laschinger et al. (2001)
integrating Spreitzer's theory of psychological empowerment (1995)

SE: STRUCTURAL EMPOWERMENT
POWER & STRUCTURES[1,2]

Formal power

- Job providing flexibility/creativity/visibility

Informal power

- Relationships & networking with peers/managers

Opportunities

- Learn & professional development

Information

- Knowledge about the organization

Support

- Feedback/guidance

Ressources

- Time/material

Kanter (1977, 1993)[1]; Laschinger (2001)[2]

PE: PSYCHOLOGICAL EMPOWERMENT
INDIVIDUAL CHARACTERISTICS (COGNITIONS) OF EMPOWERMENT[1,2]

Meaning

- Value given to job

Competence

- Belief in ability to perform work tasks

Self-determination

- Sense of choice to do job

Impact

- Belief own action influence outcomes of work

Spreitzer (1995)[1]; Laschinger (2001)[2]

Study Context

Portrait of Hemodialysis (HD) RNs

- Of the 1375 Nephrology RNs in Quebec[1]; about 60% are working in HD[3] (approximately 825)
  - ✓ Average age : 43 years old
  - ✓ Average clinical experience : 18 years[2]

Portrait of HD patients

- In 2010, 8,153 people suffered from chronic renal disease, of which 48% were on HD with an annual increase of 3%[3]

OIIQ, personal communication, June, 2016[1]; ACITN, personal communication, June 2016[2] ; INESSS (2012)[3]

Burnout affects

- At least 41% of HD RNs in USA[1] and Canada[2]

- Nursing in HD is considered a high-risk occupation for stress contributing to burnout[3,4]

Because of :

Care[2-3-4-5-6-7]

Emotional aspect[7-8-9]

Flynn et al. (2009)[1]; Hawood et al. (2010)[2] ; Karkar (2015)[3] ; ACITN (2008)[4] ; (Özkan & Ulusoy,2011; Nascimento & Marques,2005; Wright & Merriweather, 2013)[5] ; Chenoweth (2013)[6] ; Ashker et al. (2012)[7] ; Klersy et al. (2007)[8]; (Rabetoy & Bair, 2007; Rodrigues & Lappann, 2009)[9]

Burnout determinants

Related to individual[1]	Related to organization[1]
✓ Age/seniority[2] ✓ Gender ✓ Ethnicity ✓ Marital & family status ✓ Education/continuing education[3,4]	✓ Work overload ✓ Lack of control ✓ Lack of reward (recognition and opportunities) ✓ Lack of fairness ✓ Lack of community (support/relationship at work) ✓ Conflict of values

Mixed results: determinants, should be examined for each nursing specialty[5]

Specific to RNs IN HD	
• Age/Seniority (↓)[6] (↑)[7] • Education (↑)[8]	• Excessive workload • Unsupportive work environment • Impaired care process (due to lack of time)[9]

Maslach (2003)[1]; Vargas et al. (2004)[2]; Maslach et al. (2001)[3]; Crotty (1987)[4]; Canadas-De la Fuente et al.(2014)[5]; (Arikan et al.,2007; Hayes & Bonner, 2015)[6]; Ross et al. (2009)[7]; Harwood et al. (2010b)[8]; Flynn et al. (2009)[9]

Burnout interventions

Individual-directed[1]	Organization-directed[1]
✓Relaxation techniques ✓Meditation ✓Massage ✓Music therapy ✓Cognitive behavioral techniques (CBT)	✓Modification of the work environment ✓Social support ✓Education

Presently

- Lack of effective burnout interventions for RNs[2]
- A combined approach has potential for long-term reduction of burnout[3]
- A participatory action research (PAR) approach (organization-directed) effective to reduce burnout of RNs[4]
- Empowerment strategies reduce burnout (in some nursing specialties)[5]

Maslach et al. (2001)[1]; Mimura & Griffith (2003)[2]; Awa et al (2010)[3]; Bourbonnais et al (2006, 2011)[4]; Laschinger et al (2003)[5]

Empowerment of RNs and burnout

In general practice	In HD
✓ Positive impact of using Laschinger & al. (expansion of Kanter's theory) [2,3] * PE outcome of SE[2,3,11]	✓ **HD RNs reported:** - Workplace to be moderately empowering[12,13,14] - Feeling moderately empowered[13]
✓SE influences RNs behaviors, well-being (job satisfaction[1,2,11,14], engagement[5,6]) and reduces burnout[4,7,8]	✓ **Significant correlations between:** a) SE and PE (positive)[13] b) SE and EE (negative) [12,13,14] c) SE and job satisfaction (positive)[14] d) job satisfaction and stress (negative) and indirectly EE[14]
✓ Significant relationships between SE and six organizational burnout determinants[5,6]	
✓ Contribution of PE studies with burnout PE has **main**[9,10] **mediating**[9,11] and **moderating** effects on burnout[9,10,11]	* Only SE is predictive of burnout[13]

***Global perspective of empowerment should include both SE and PE[15]**

Laschinger (1996)[1]; Laschinger et al (2001)[2]; Lachinger et al (2003)[3]; Hatcher & Lachinger (1996)[4]; Laschinger & Finegan (2005)[5]; Greco et al (2003)[6]; Wang et al (2005)[7]; Çavus & Demir (2010)[8]; Hochwalder (2007)[9]; Boudrias et al (2012)[10]; Wagner et al (2015)[11]; Harwood et al (2010b)[12]; *O'Brien (2011)*[13]; *Hayes et al (2014)*[14]; Spreitzer *(2008)*[15]

USE OF ICT IN NURSING

Only 8% of ICT interventions are targeting RNs[1]

- **Professional websites may**

  Provide access to:

  - ✓ **Clinical guidelines**[2,3]
  - ✓ **Continuing education**[2,3]
  - ✓ **Professional advancement**[2,3]
  - ✓ **Health information**[4,5]
  - ✓ **Social support**[2,4,5]

  - ❖ **Web-based** (CBT) **intervention can ↓ burnout**

    long term effect unkown[7]

  - ❖ **Online social support** (e.g. blog, chat room)

    can ↓ job stress & ↑ wellness[8]

***Engaging RNs in the ICT design process ensure it meet their needs[6]**

Im & Chang (2003)[1]; Ventola (2014)[2]; Bernhardt et al. (2013)[3] ; Silversides, 2012)[4] ; Lefebvre & Bornkessel (2013)[5]; Canadian Nurses Association (2006)[6]; Van Straten et al (2008)[7]; Dietrich (2000)[8]

METHODOLOGY: MIXED METHODS(MM)

TRANSFORMATIVE SEQUENTIAL

Descriptive correlational design (observational quantitative)
(cross-sectional online survey): 6 weeks – **308 participants**

Allowed to
(1) Assess risk of burnout in Quebec RNs working in HD
(2) Evaluate SE & PE indicators of these HD RNs
(3) Explore association(s) between burnout and empowerment

Maslach Burnout Inventory: MBI ; Conditions for Work Effectiveness Questionnaire : CWEQ-II ; Psychological Empowerment Scale : PES

Participatory approach (descriptive qualitative)
(focus groups) – **7 HD RNs**

Allowed to
(4) Generate community-based recommendations for the website

Advisory Team : 2 HD managers, 2 educational team members, 2 HD RNs and 1 MD

SUMMARY OF FINDINGS ON BURNOUT

HD RNs' Characteristics	MBI Results
91% women 52% older than 40 yrs (Mean 41.6, SD=10,51) 73% either married or in a relationship 68% had children 20% novice in HD (less than 5 yrs) 20% senior (more than 16 yrs) (Mean 9.12, SD=7,08) 52% college prepared and 48% university educated 65% worked full-time providing HD treatment in : an affiliated hospital (58%); or a university hospital (24%); or a satellite (18%)	MBI scores indicate **moderate levels of the three subscales:** **EE** (mean = 22.48, SD = 11.65); **DP** (mean = 5.96, SD = 5.47); **PA** (mean = 36.12, SD = 6.61) **38%** had **high levels** of **EE**, **22%** had **high levels** of **DP**, and **33%** had **low levels** of **PA.**

Cutt-offs RNs in the North American classification :
EE : low (≤ 18), moderate (19-26), high (≥ 27);
DP : low (≤ 5), moderate (6-9), high (≥ 10);
PA : low (≥ 40) , moderate (39-34), high (≤ 33)

SUMMARY OF FINDINGS SOCIODEMOGRAPHIC / OCCUPATIONAL DATA AND BURNOUT

- **Single, separated, divorced and widowed RNs** had **higher scores of DP** ($p = 0.0244$) and **lower scores of PA** ($p = 0.0260$).
- **RNs who had at least one child** had **higher scores of EE** ($p = 0.0103$) and **DP** ($p = 0.0090$).
- RNs who **worked full time** had **higher scores of PA** ($p = 0.0280$).

When compared

- between **low and high risks of burnout, RNs with more seniority in HD** had **higher scores of PA** ($p = 0.0503$).
- between **low/moderate and high risks of burnout, older HD RNs** had **higher scores of PA** ($p = 0.0357$).

EE (emotional exhaustion); **DP** (depersonalization); **PA** (personal accomplishment)

No statistically significant associations between the three burnout subscales and gender, education background, type of renal unit, RN-to-patient ratio

SUMMARY OF FINDINGS

Characteristics on wellness at work descriptive profile HD RNs		Percentage
Sense of well-being (in last month)	**Up and down in spirits a lot**	**30.61**
Work satisfaction	**Yes**	**78.42**
Strong personal attachment to the organization	**No**	**33.90**
Considering to leave job for another specialty	**Yes**	**26.80**
Considering changing career	**Yes**	**14.73**
Manager appears concerned about well-being at work and health **No**		**54.61**
Manager appears to be committed to implement changes to improve workplace **No**		**50.00**

SUMMARY OF FINDINGS

Internet use behaviors descriptive profile of HD RNs		Percentage
Where/When (mostly)		
Home		96.26
After work		95.92
Purpose of seeking information		
Personal health	Yes	69.31
Work (updating practice)	Yes	75.00
Presently using internet to obtain continuing education credits		
	Yes	44.83
Would use internet for continuing education		
	Yes	88.42

SUMMARY OF FINDINGS ON EMPOWERMENT

Global scores of Condition for Work Effectiveness Questionnaire (CWEQ-II) :
Two-thirds (69%) of HD RNs perceived their workplaces as moderately empowering

Global scores of SE were of **moderate levels** (mean = 16.74, SD = 3.80)

Subscale scores

Information (M = 2.36, SD = 0.84)	**Support** (M = 2.67, SD = 0.85)
Resources (M = 2.79, SD = 0.72)	**Opportunity** (M = 3.41, SD = 0.82)
Formal power (M = 2.16, SD = 0.70)	**Informal power** (M = 3.36, SD = 0.73)

Cutt-offs of SE global score: Low (6-13), moderate (14-22), high (23-30)

Global scores of Psychological Empowerment Scale (PES) :
Nearly two-thirds (64%) of HD RNs were feeling empowered at work

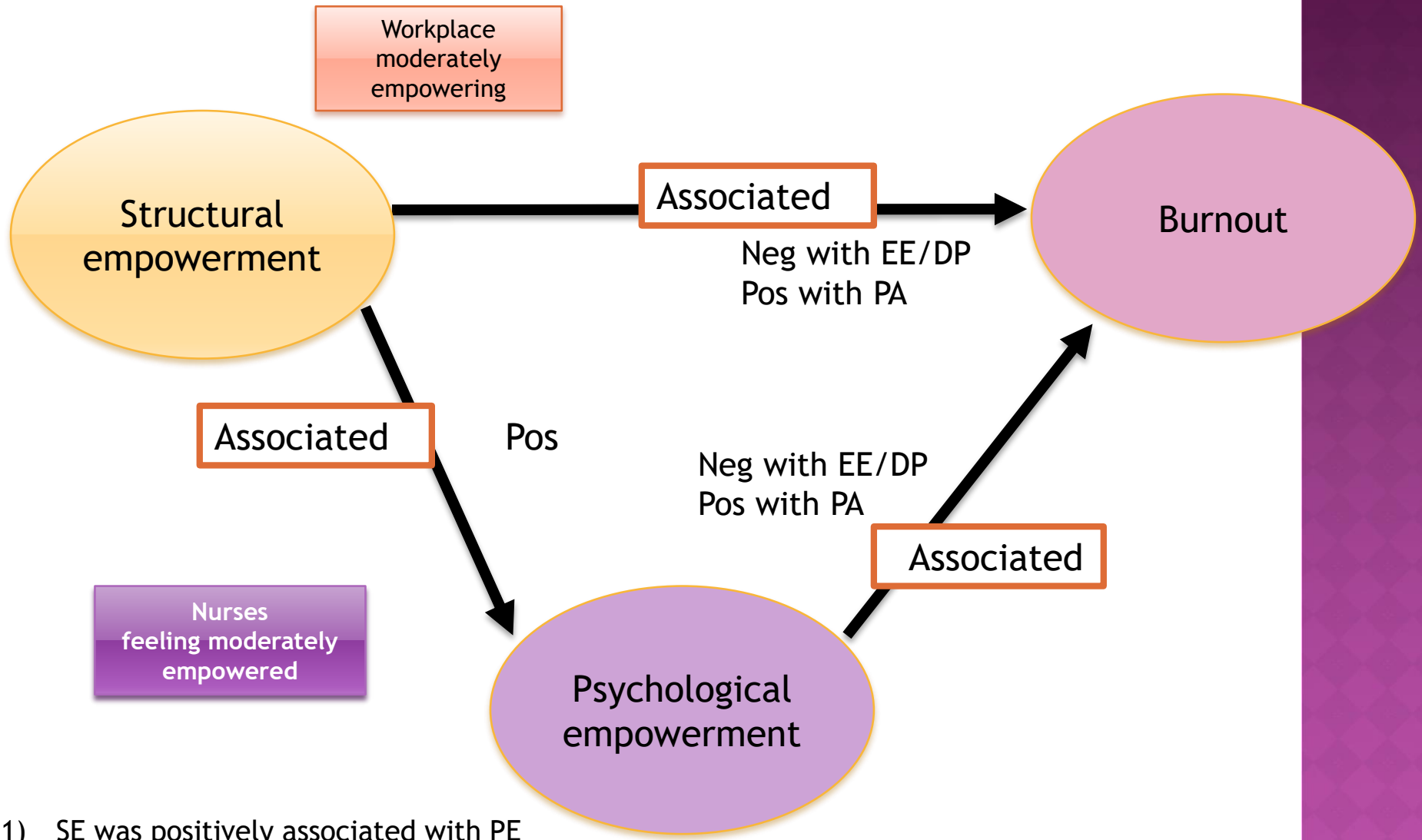
Global scores of PE were of **moderate levels** (mean = 14.42, SD = 2.75)

Subscale scores

Impact (M = 3.44, SD = 0.73)	**Self-determination** (M = 3.49, SD = 0.65)
Competency (M = 3.71, SD = 0.70)	**Meaning** (M = 3.78, SD = 0.66)

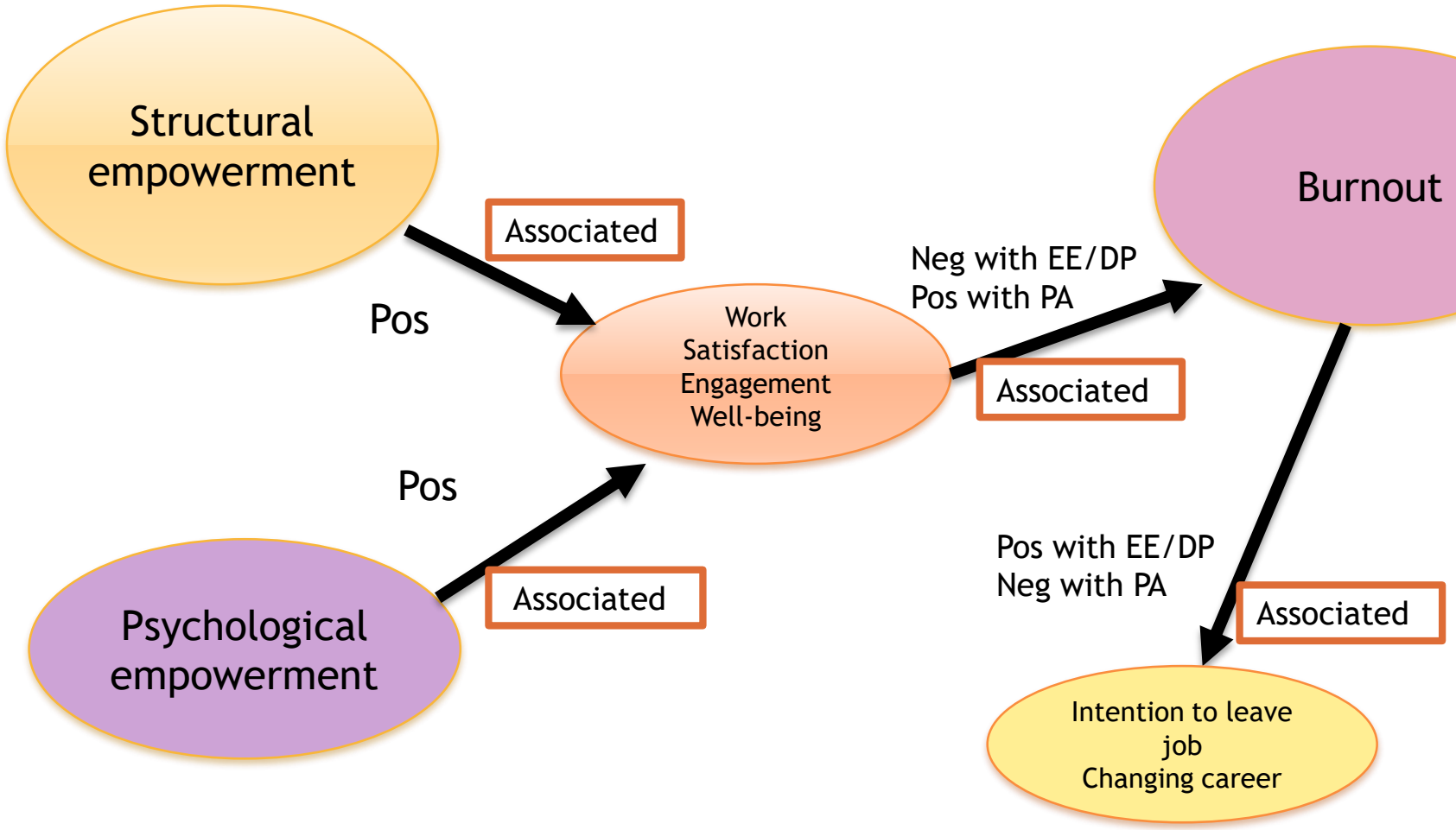
Cutt-offs of PE global score: Low (4-9), moderate (10-15), high (16-20)

SUMMARY OF FINDINGS ON BURNOUT AND EMPOWERMENT AMONG HD RNS IN QUEBEC



1) SE was positively associated with PE
2) SE and PE were associated with burnout (negatively with EE/DP and positively with PA)

SUMMARY OF FINDINGS FOR WELLNESS AT WORK CHARACTERISTICS WITH BURNOUT AND EMPOWERMENT AMONG HD RNS IN QUEBEC



1) Empowerment was positively associated with work satisfaction, engagement and well-being
2) work satisfaction, engagement and well-being were associated with burnout (negatively with EE/DP and positively with PA)
3) Burnout was associated with intention to leave one's job or career (positively with EE/DP and negatively with PA)

SOMMARY OF FINDINGS

Feeling of burnout among HD RNs

«We feel like just letting ourselves be carried by the wave, we do not take initiatives or make any more efforts. We focus only on our work tasks, we are reluctant to change.» ***(RN-1)***

HD RNs' personal strategies for reducing stress/burnout and enhancing well-being

« A website would be a good idea to have self-assessment and resources to promote healthy lifestyle, exercices to self-reflect.» ***(RN-6)***

SOMMARY OF FINDINGS

Opportunity

Proposed changes at the organizational level

« Bi-annual meetings for continuing education with interdisciplinary team members would be helpful to update practices.» **(RN-6)**

Benefits of having a professional website

« An online journal club, where everyone reads the same article and log-in at a specific time to discuss the article would be great to share knowledge.» **(RN-2)**

SOMMARY OF FINDINGS

Information

Proposed changes at the organizational level

« It would be very convenient to have at work an intranet page dedicated for dialysis.» **(RN-2)**

Benefits of having a professional website

« A website would facilitate the networking for nursing educational team to standardize practice because they all do their own literature review and the literature is limited.» **(RN-4)**

SOMMARY OF FINDINGS

Support

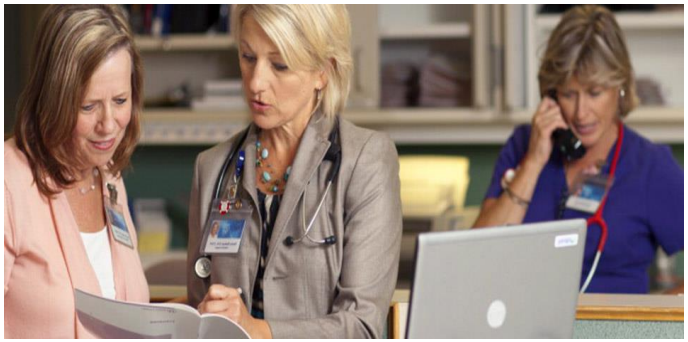
Proposed changes at the organizational level

« It would be good to have support meetings to talk about our good deeds and give recognition.» (**RN-1**)

Benefits of having a professional website

« A website could provide access to information on effective communication between professionals and with patients.» (**RN-6**)

OUTCOMES



Findings indicate that empowerment is key to address burnout of HD RNs in Quebec ➔ a professional website is a promising tool to achieve

Report was sent to REINQ[1] to create a professional website for HD RNs with five main tabs:

- ✓ Continuing education
- ✓ Information for the practice
- ✓ Healthy lifestyle habits
- ✓ Networking
- ✓ Contact information

Regroupement visant l'Excellence de la pratique Infirmière en Néphrologie au Québec[1]

RESEARCH CONTRIBUTIONS

For research

- ✓ New knowledge & a better understanding on burnout and empowerment among HD RNs.
- ✓ Recommendations for future research and development of ICT.

For HD RNs

- ✓ Reflection on their practice, well-being & health/self-knowledge
- ✓ Recommendations for RNs to take action for self-care.

For practice

- ✓ Recommendations for nursing leaders to promote empowerment/wellness at work of HD RNs.
- ✓ Recommendations for the development of a professional website for HD RNs in Quebec.

Thank you

References

Ashker, V. E., Penprase, B., & Salman, A. (2012). Work-related emotional stressors and coping strategies that affect the well-being of nurses working in hemodialysis units. Nephrol Nurs J, 39(3),, 36(4), 182-191.

Association canadienne des infirmières et infirmiers et des technologues de néphrologie (2008). Normes de pratique infirmière en néphrologie et Recommandations sur la pratique infirmière en néphrologie. Retrieved from http://www.cannt.ca/files/Normes_pratique_infirmiere_ACITN_2008.pdf

Association des néphrologues du Québec, & Ordre des infirmières et infirmiers du Québec (2003). Avis concernant la position des directrices et directeurs de soins infirmiers et de l'Association des néphrologues du Québec en regard de l'organisation des soins infirmiers en néphrologie (dialyse). Retrieved from https://www.oiiq.org/uploads/publicatio231-236.

Arikan, F., Koksal, C. D., & Gokce, C. (2007). Work-related stress, burnout, and job satisfaction of dialysis nurses in association with perceived relations with professional contacts. *Dialysis & Transplantation*ns/avis/avis_positions/Avis_positions.pdf.

Awa, W. L., Plaumann, M., & Walter, U. (2010). Burnout prevention: a review of intervention programs. Patient education and counseling, 78(2), 184-190. doi: 10.1016/j.pec.2009.04.008

Bernhardt, J. M., Chaney, J. D., Chaney, B. H., & Hall, A. K. (2013). New media for health education: a revolution in progress. Health Educ Behav, 40(2), 129-132. doi: 10.1177/1090198113483140

Boudrias, J. S., Morin, A. J., & Brodeur, M. M. (2012). Role of psychological empowerment in the reduction of burnout in Canadian healthcare workers. *Nursing & Health Sciences, 14*(1), 8-17. doi: 10.1111/j.1442- 2018.2011.00650.x B

Bourbonnais, R., Brisson, C., Vinet, A., Vezina, M., & Lower, A. (2006a). Development and implementation of a participative intervention to improve the psychosocial work environment and mental health in an acute care hospital. *Occupational and Environmental Medicine, 63*(5), 326-334. doi: 10.1136/oem.2004.018069

Bourbonnais, R., Brisson, C., Vinet, A., Vezina, M., Abdous, B., & Gaudet, M. (2006b). Effectiveness of a participative intervention on psychosocial work factors to prevent mental health problems in a hospital setting. *Occupational and Environmental Medicine, 63*(5), 335-342. doi: 10.1136/oem.2004.018077

Bourbonnais, R., Comeau, M., & Vezina, M. (1999). Job strain and evolution of mental health among nurses. J Occup Health Psychol, 4(2), 95-107.

Canadas-De la Fuente, G. A., Vargas, C., San Luis, C., Garcia, I., Canadas, G. R., & De la Fuente, E. I. (2015). Risk factors and prevalence of burnout syndrome in the nursing profession. *Int J Nurs Stud, 52*(1), 240-249. doi: 10.1016/j.ijnurstu.2014.07.001

Canadian Nurses Association (2006). E-nursing strategy for Canada. Ottawa, ON: Canadian Nurses Association=Association des infirmières et Infirmiers du Canada. Retrieved from http://cna-aiic.ca/CNA/documents/pdf/publications/E-Nursing-Strategy-2006-e.pdf

Cavus, M. F., & Demir, Y. (2010). The impacts of structural and psychological empowerment on burnout: a research on staff nurses in Turkish state hospitals. *Canadian Social Science*, 6(4), 63.

References

Chenoweth, C. (2013). Reducing nursing needlestick injuries in haemodialysis clinics: a quality improvement program. Renal Society of Australasia Journal, 9(1), 22-26 25p.

Dietrich, C. (2000). Online Social Support: An Effective Means of Mediating Stress. *Student Pulse, 2*(02). http://www.studentpulse.com/a?id=173

Flynn, L., Thomas-Hawkins, C., & Clarke, S. P. (2009). Organizational traits, care processes, and burnout among chronic hemodialysis nurses. West J Nurs Res, 31(5), 569-582. doi: 10.1177/0193945909331430

Greco, P., Laschinger, H. K., & Wong, C. (2006). Leader empowering behaviours, staff nurse empowerment and work engagement/burnout. *Nursing Leadership, 19*(4), 41-56.

Halbesleben, J. R. (2006). Sources of social support and burnout: a meta-analytic test of the conservation of resources model. J Appl Psychol, 91(5), 1134-1145. doi: 10.1037/0021-9010.91.5.1134

Harwood, L., Ridley, J., Wilson, B., & Laschinger, H. K. (2010a). Occupational burnout, retention and health outcomes in nephrology nurses. CANNT journal = Journal ACITN, 20(4), 18-23.

Harwood, L., Ridley, J., Wilson, B., & Laschinger, H. K. (2010b). Workplace empowerment and burnout in Canadian nephrology nurses. CANNT journal = Journal ACITN, 20(2), 12-17.

Hatcher, S., & Laschinger, H. K. (1996). Staff nurses' perceptions of job empowerment and level of burnout: a test of Kanter's theory of structural power in organizations. *Can J Nurs Adm, 9*(2), 74-94.

Hayes, B., Douglas, C., & Bonner, A. (2014). Predicting emotional exhaustion among haemodialysis nurses: a structural equation model using Kanter's structural empowerment theory. *Journal of Advanced Nursing, 70*(12), 2897-2909. doi: 10.1111/jan.12452

Hayes, B., Douglas, C., & Bonner, A. (2015). Work environment, job satisfaction, stress and burnout among haemodialysis nurses. *Journal of Nursing Management*, 23(5), 588-598. doi: 10.1111/jonm.12184

Hochwalder, J. (2007). The psychosocial work environment and burnout among Swedish registered and assistant nurses: the main, mediating, and moderating role of empowerment. *Nursing & Health Sciences, 9*(3), 205-211. doi: 10.1111/j.1442-2018.2007.00323.x

Im, E. O., & Chang, S. J. (2013). Web-based interventions in nursing. Comput Inform Nurs, 31(2), 94-102. doi: 10.1097/NXN.0b013e3182771868

Institut canadien d'information sur la santé (2014). Traitement du stade terminal de l'insuffisance organique au Canada, de 2003 à 2012: rapport annuel du Registre canadien des insuffisances et des transplantations d'organe. Retrieved from https://secure.cihi.ca/free_products/2014_CORR_Annual_Report_FR.pdf

References

Kanter, R. M. (1977). Men and women of the corporation. New York: Basic Books.

Kanter, R. M. (1993). Men and women of the corporation. (2nde éd.). New York: BasicBooks.

Karkar, A., Dammang, M. L., & Bouhaha, B. M. (2015). Stress and burnout among hemodialysis nurses: a single-center, prospective survey study. Saudi J Kidney Dis Transpl, 26(1), 12-18.

Klersy, C., Callegari, A., Martinelli, V., Vizzardi, V., Navino, C., Malberti, F., . . . Politi, P. (2007). Burnout in health care providers of dialysis service in Northern Italy--a multicentre study. *Nephrol Dial Transplant, 22*(8), 2283-2290. doi: 10.1093/ndt/gfm111

Laschinger, H. K. (1996). A theoretical approach to studying work empowerment in nursing: a review of studies testing Kanter's theory of structural power in organizations. Nursing Administration Quarterly, 20(2), 25-41.

Laschinger, H. K., & Finegan, J. (2005). Empowering nurses for work engagement and health in hospital settings. *Journal of Nursing Administration, 35*(10), 439-449.

Laschinger, H., Finegan, J., & Shamian, J. (2001). Promoting Nurses' Health: Effect of Empowerment on Job Strain And Work Satisfaction.(Statistical Data Included). Nursing Economics., 19(2), 42.

Laschinger, H. K., Finegan, J., Shamian, J., & Wilk, P. (2001). Impact of structural and psychological empowerment on job strain in nursing work settings: expanding Kanter's model. The Journal of nursing administration, 31(5), 260-272.

Laschinger, H. K., & Havens, D. S. (1996). Staff nurse work empowerment and perceived control over nursing practice, Conditions for work effectiveness. The Journal of nursing administration, 26(9), 27-35.

Laschinger HKS, F. J., Shamian J, Piotr W. (2003). Workplace Empowerment as a Predictor of Nurse Burnout in Restructured Healthcare Settings. Healthcare Quarterly, 6(4).

Lefebvre, R. C., & Bornkessel, A. S. (2013). Digital social networks and health. Circulation, 127(17), 1829-1836. doi: 10.1161/circulationaha.112.000897

Maslach, C. (2003). Burnout : the cost of caring. Cambridge, MA: Malor Books.

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. United Kingdom: John Wiley & Sons, Ltd.

Maslach, C., & Jackson, S. E. (1986). Maslach burnout inventory : manual. Palo Alto, Calif. (577 College Ave., Palo Alto 94306): Consulting Psychologists Press.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. Annual review of psychology, 52, 397-422. doi: 10.1146/annurev.psych.52.1.397

Miles, M. B., & Huberman, A. M. (2003). *Analyse des données qualitatives* (2e éd. ed.). Paris: De Boeck Université.

Mimura, C., & Griffiths, P. (2003). The effectiveness of current approaches to workplace stress management in the nursing profession: an evidence based literature review. Occup Environ Med, 60(1), 10-15.

References

Nascimento, C. D., & Marques, I. R. (2005). [Nursing interventions for the most frequent complications during hemodialysis procedure: literature review]. *Rev Bras Enferm, 58*(6), 719-722.

O'Brien, J. L. (2011). Relationships among structural empowerment, psychological empowerment, and burnout in registered staff nurses working in outpatient dialysis centers. Nephrology nursing journal : journal of the American Nephrology Nurses' Association, 38(6), 475-481; quiz 482.

Özkan, G., & Ulusoyin, S. ü. (2011). Acute Complications of Hemodialysis. In D. G. Nirosha, W. J. David & M. J. Elizabeth (Eds.), Hemodialysis Access Infections, Epidemiology, Pathogenesis and Prevention: INTECH Open Access Publisher. Retrieved from http://www.intechopen.com/books/technical-problems-in-patients-on-hemodialysis.

Page, A. (2004). Keeping patients safe : transforming the work environment of nurses. Washington, DC: National Academies Press.

Rabetoy, C. P., & Bair, B. C. (2007). Nephrology nurses' perspectives on difficult ethical issues and practice guideline for shared decision making. Nephrol Nurs J, 34(6), 599-606, 629; quiz 607.

Rodrigues, T. A., & Lappann, B. N. C. (2009). Providing and receiving nursing care during hemodialysis. *Acta paul. enferm.*, *22*(spe. 1), 528-530. Retrieved in January 2015 from http://www.scielo.br/scielo.php?pid=S0103-21002009000800015&script=sci_arttext&tlng=en

Ross, J., Jones, J., Callaghan, P., Eales, S., & Ashman, N. (2009). A survey of stress, job satisfaction and burnout among haemodialysis staff. *Journal of Renal Care*, 35(3), 127-133. doi: 10.1111/j.1755-6686.2009.00102.x

Silversides, A. (2012). Blogging the nursing life. Can Nurse, 108(1), 22-27.

Spreitzer, G. (2008). Taking stock: a review of more than twenty years of research on empowerment at work. Dans J. Barling & C. L. Cooper (dir.), The SAGE handbook of organizational behavior. doi: http://dx.doi.org/10.4135/9781849200448.n4

Spreitzer, G. M. (1995). An empirical test of a comprehensive model of intrapersonal empowerment in the workplace. American journal of community psychology, 23(5), 601-629.

Thomas-Hawkins, C., Flynn, L., & Clarke, S. P. (2008). Relationships between registered nurse staffing, processes of nursing care, and nurse-reported patient outcomes in chronic hemodialysis units. Nephrology Nursing Journal, 35(2), 123-130, 145; quiz 131.

References

van Straten, A., Cuijpers, P., & Smits, N. (2008). Effectiveness of a web-based self-help intervention for symptoms of depression, anxiety, and stress: randomized controlled trial. J Med Internet Res, 10(1), e7. doi: 10.2196/jmir.954

Vargas, C., Cañadas, G. A., Aguayo, R., Fernández, R., & de la Fuente, E. I. (2014). Which occupational risk factors are associated with burnout in nursing? A meta-analytic study. International Journal of Clinical and Health Psychology, 14(1), 28-38. doi: http://dx.doi.org/10.1016/S1697-2600(14)70034-1

Ventola, C. L. (2014). Social Media and Health Care Professionals: Benefits, Risks, and Best Practices. Pharmacy and Therapeutics, 39(7), 491-520.

Wagner, J. I., Cummings, G., Smith, D. L., Olson, J., Anderson, L., & Warren, S. (2010). The relationship between structural empowerment and psychological empowerment for nurses: a systematic review. J Nurs Manag, 18(4), 448-462. doi: 10.1111/j.1365-2834.2010.01088.x

Wang, X., Kunaviktikul, W., & Wichaikhum, O. A. (2013). Work empowerment and burnout among registered nurses in two tertiary general hospitals. *Journal of Clinical Nursing*, 22(19-20), 2896-2903. doi: 10.1111/jocn.12083

Wright, S., & Merriweather, J. (2013). Dialysis disequilibrium syndrome: rapid recognition and rapid intervention decrease the risk of mortality--a case study. Nephrol Nurs J, 40(4), 333-337; quiz 338.