A REVIEW OF THE LITERATURE ON IMPLEMENTATION SCIENCE AND CULTURAL ADAPTATION MODELS IN PAIN MANAGEMENT PROGRAMS FOR CHRONIC PAIN PATIENTS

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ABSTRACT

The effectiveness of various multidisciplinary pain management programs for chronic pain patients was proven by several evidence-based researches. However there was the challenge of ensuring that an intervention program was not just effective but more importantly, implemented within the context of the population that it serves. There is now a challenge to go beyond the realms of evidence-based practice and venture into other models. The addition of cultural adaptation models and frameworks used in implementation science would be beneficial to ensure that the program that has been developed in another country will be adapted properly to the population in the country where it is expected to be implemented. Although these three concepts in research were quite popular, it is rare that they ARE all combined to target a specific treatment program. There were perceived barriers that limits the implementation of each approach and more so when it was combined together. The purpose of review was to identify issues and make recommendations based on evidence-based practice, cultural adaptation frameworks and implementation science as it is applies to a specific multidisciplinary pain management program that was originally developed in Sydney, Australia to be implemented in Manila, Philippines.The secondary aim of the study was to analyze the cultural issues that clinicians encountered with the implementation of pain management programs.

Keywords: Implementation Science, Pain Management Programs, Cultural Adaptation, Evidence-Based Practice, Chronic Pain

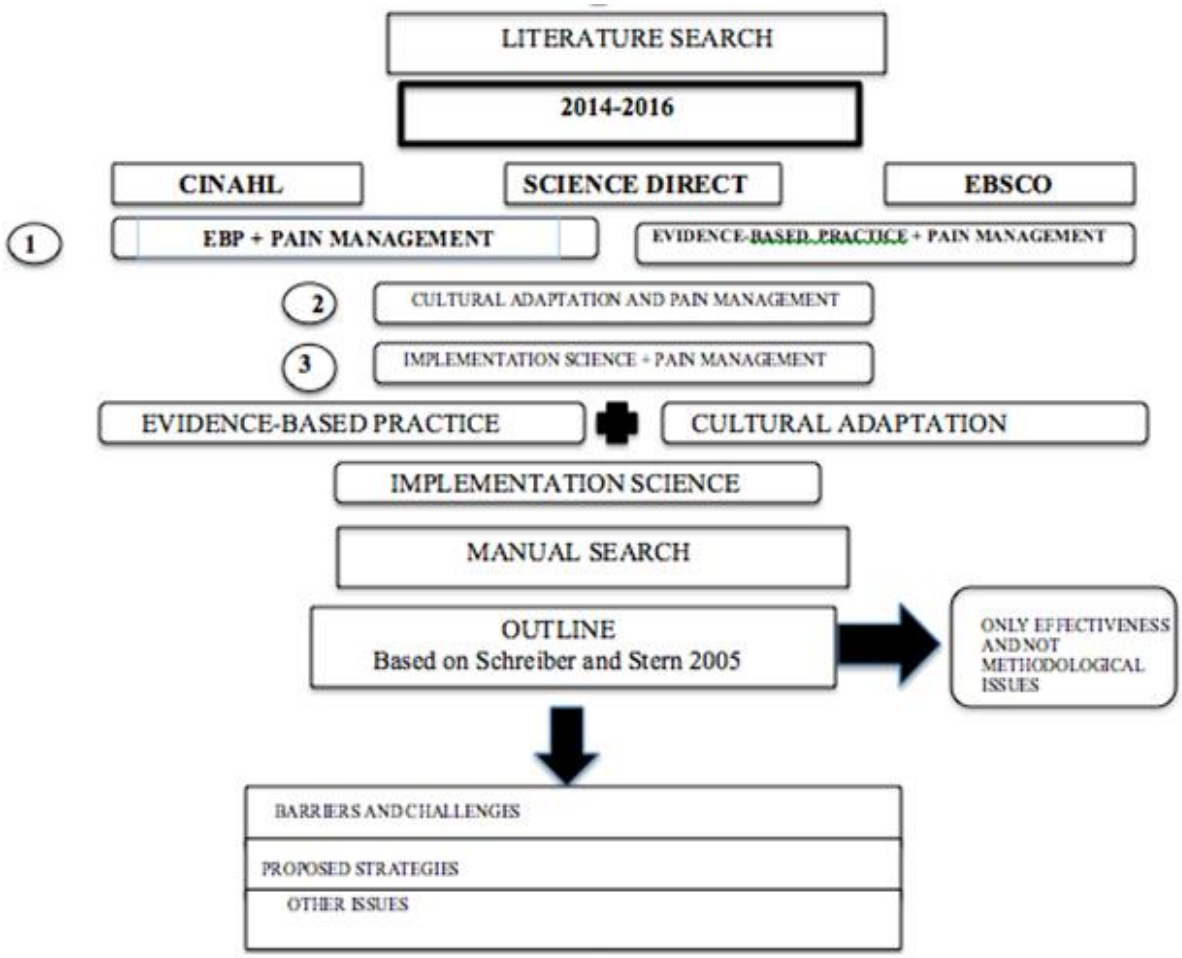
INTRODUCTION

Evidence based practice stated that all clinical decisions of any healthcare practitioner whether doctor, nurses or psychologist and others must be guided by strong scientific evidences (published researches), experience/ expertise (qualifications) and patient's preferences (Sackett D, 2000). This is different from the old practice wherein it was purely just the clinician who would usually have a say. Then there was the cultural adaptation model that states that the patient preference component of the evidence-based practice would differ from culture to culture and that sometimes discrepancies between clinicians and patients would stem from it. (Bernal G.E., 2012) Lastly, implementation science broadened the cultural adaptation model that particularly stressed on cultural issues present when one group adapts a borrowed concept from another grop. It is important that there must be a structured approach before the adaptations were fully implemented (Allen J.D.) (Bellg A., 2004). That means, the language, the belief system, the current organizational structure such as healthcare system and government policies must be put into account before any decision to change, retain or delete components of a particular program. In this study, it was the multidisciplinary pain management program from Sydney, Australia that is being brought

here in the Philippines. (Parra Cardona J.R., 2012), (Hubble, 1999) (National Institutes of Health, 2013) (Powell B.J. M. J., 2012)

METHODS

The primary investigator conducted a literature review for the year 2014 up to August 2016. This was the chosen period to capture articles that were relevant to cover the progress in the three different concepts of evidence based practice, cultural adaptation model and implementation science. Furthermore, it has only been the past years that the three important concepts under review were being put into practice. The manual search on the reference list of each article was also conducted on additional articles. There were about 300 articles identified at the start but limiters were applied to full text and peer reviewed articles. Those articles that solely focused on the effectiveness of a specific interventional program without looking into the methodological application of the three concepts were discarded. Each topic area emerged from the ongoing data analysis as each article is being read and examined. The outline to discuss the different topics is based on an earlier published article on 2005 by Schreiber and Stern that also explored the literature on the evidence based practice in Physical Therapy. The barriers and challenges in implementing each of the concepts, evidence based practice, cultural adaptation model and implementation science, (n=12) proposed strategies and solutions on implementing (n=20) and other issues (n=5).



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RESULTS

CITATIONS	CHARACTERISTICS OF THE ARTICLE
Kizza et al., 2016	Describes the challenges
Describes the challenges	Describes the challenges
Petkova et al., 2010	Describes the challenges
Synnott et al., 2015	Describes the challenges
Beran, 2015	Describes the challenges
Yue, 2015	Describes the challenges
Kyte et al, 2015	Describes the challenges
Li et al., 2014	Provides recommendations that addresses challenges
Dysart-Gale, 2006	Provides recommendations that addresses challenges
Ellis- Jacobs, 2011	Provides recommendations that addresses challenges
Graan et al., 2015	Provides recommendations that addresses challenges
Yan-Gu et al., 2014	Provides recommendations that addresses challenges
Rabie et al., 2014	Provides recommendations that addresses challenges
Colapinto et al., 2015	Provides recommendations that addresses challenges
Hoope-Bender et al., 2016	Provides recommendations that addresses challenges
Laurie et al., 2014	Provides recommendations that addresses challenges
Hurlock-Chorostecki et al., 2016	Provides recommendations that addresses challenges
Stone et al., 2014	Provides recommendations that addresses challenges
Curtis et al., 2015	Provides recommendations that addresses challenges
Wynne et al., 2014	Provides recommendations that addresses challenges
Cala et al., 2014	Provides recommendations that addresses challenges
Farley et al., 2016	Provides recommendations that addresses challenges
Hochstenbach et al., 2016	Addresses both a mix of the challenges and the recommendations to address it
Schreiber et al., 2005	Addresses both a mix of the challenges and the recommendations to address it
Cabassa, 2013	Addresses both a mix of the challenges and the recommendations to address it
Stacey et al., 2015	Addresses both a mix of the challenges and the recommendations to address it
Samples et al., 2014	Addresses both a mix of the challenges and the recommendations to address it
Sivris et al., 2014	Addresses both a mix of the challenges and the recommendations to address it
Abedi et al., 2010	Addresses the other issues
Reyes-Rodriguez et al., 2014	Addresses the other issues

Table 1. Articles based from the literature search and manual search

DISCUSSION

The integrated framework for the multidisciplinary pain management program in the Philippines

The integrated framework was a combination of relevant frameworks and concepts borrowed from evidence-based practice, cultural adaptation models and implementation science frameworks. It involved an evidence-based original ADAPT program from the Royal North Hospital in Sydney, Australia. Its effectiveness has been established in the country where it was originally developed as well as on different Asian countries that has adapted it. (Alice KY Man, 2007) (Mary Cardosa, 2012) (Sow Nam Yeo, 2009) But the unique aspects of the Filipino culture that centers on spirituality was not considered in the original program. Moreover, the heavy use of alternative and complementary treatment strategy due to the lack of financial capability to afford formal medical treatment was also overlooked. The lack of health coverage that would shoulder the expenses for the program also was an important consideration that needs to be explored further. Utilizing both the Cultural adaptation process model by Domenech-Rodriguez & Wieling in 2004 and the Psychotherapy adaptation modification framework by Hwang in 2006 the framework for the multidisciplinary pain

management program has expanded. The six domains includes, dynamic issues, cultural complexities, orientation, cultural beliefs, client-therapist relationship, cultural differences in expression and communication and cultural issues of salience. (Domenech Rodriguez M.M. B. A., 2011) (Domenech Rodriguez M.M. &. B., 2012) The cultural complexities such as the Filipinos unique way of coping through pain which is mainly by enduring it, praying for it and resorting to cheaper alternative treatment strategy such as herbal medicine and faith healing can affect the level of participation towards the pain management program were now brought into awareness. The clinician here was not used to multidisciplinary team approach. The cultural differences in expressing and communicating pain may sometime delay the medical intervention that could have been started if the patient was able to report it earlier. On the other hand the cultural adaptation process model have expanded the Ecological validity model and proposed three phases, the first phase was gathered by various focus group discussion with Filipino healthcare professionals, patients with chronic pain and their families. (Bernal G., 2009) (Bernal G.E., 2012) The second phase is the translation, and cultural validation of questionnaires for evaluation as well as the Manage Your Pain book that serves as the treatment manual for the program. The third phase is the Filipino version of the ADAPT program that will be pilot tested and implemented to community setting. Lastly, adopting the Damschroder's Consolidated Framework for Implementation Research wherein there was a strong emphasis on considering both the outer setting which were the staff from the original program in Australia as well as the pioneers of the different adapted Asian version of the program and inner setting which were the key stakeholders within the Philippines. (Damschoeder L.J., 2013) In addition it also posited the different layers of involvement that does not only include the patient and the clinician but also the family members and the community. The planning, engaging, executing and reflecting and evaluation were usually data driven by various research studies that covered both quantitative and qualitative data. (American Psychological Association , 2003) (Allen J.D.) (Asgary-Eden V., 2011) (Backer, 2002) (Basch C.E., 1985) (MacKenzie Bryers H v. T., 2014) (Palinkas LA, 2011) (Andersen L, 2014) (Ritchie J., 1999)

Challenges and Barriers in implementation of an integrated framework

First Challenge: Decision framework on what to adapt

The basis for making any decision to change, retain, delete and generally adapt an existing program highly depended on the overarching model that guides the coding process, If it was mainly under the lens of evidence-based practice then the hierarchy of the level of evidence was deemed important (Bellg A., 2004) (Sackett D, 2000). Unfortunately, basing all the decision for adaptation on mostly randomized controlled trials does not capture the real situation when you are already implementing the program to patients who respond so much differently from the ones described following a strict protocol of the RCTs done in another country. (Proctor E.K. B. R., 2012) (Proctor E.K. S. H., 2011) (Rabin B.A., 2012) The lower level of evidences, which were usually the expert opinion of local practitioner and qualitative studies on different stakeholders, were often disregarded or at least accepted with caution. (Ritchie J., 1999) Unlike a clinical trial on pharmacological agents or structured exercise program a multidisciplinary pain management program required more dynamic approach and flexibility. (Andersen L, 2014) Considering all the foreseen limitations of evidence based practice being the sole basis of adaptation, a researcher who would still pursue it might end up committing what is now called the Type 3 error wherein variables that were originally interacting are now being considered as isolated components of the program. (Wade D., 2001) (Basch C.E., 1985) The lack of consideration on factors that communicate and bridge each of component to each other was the important reason why the clinician cannot bring the

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intervention at the level that the patient can appreciate. (Hurley M., 2000) (Asgary-Eden V., 2011) On the other hand, if the clinician adapted the program based solely on cultural adaptation models then the existing program that has already high evidence on being effective might lose its fidelity while the components of the program was being changed. (Gonzales N.A., 2006) (Lau A.S., 2006) (Backer, 2002) (Bernal G., 2009) (Bernal G.E., 2012) The third framework that comes from implementation science would most likely lay down the structured approach (Stirman S.W., 2013) (Flottorp S.A., 2013) on how to go about the process of adaptation but the content and analysis of whether more attention should be given to the fidelity of the program or the context of the participants will still be gathered from either evidence based practice or cultural adaptation models. (Blakely C.H, 1987)

Second Challenge: Burden on playing dual roles

The most commonly cited reason of clinician applying any research paradigm would be time constraints of juggling between the demand to be productive in their respective clinical setting and also being burdened by looking for the best evidence to guide their clinical decision if they are under the paradigm of evidence based practice. (Schreiber J., 2005) (Proctor E.K. S. H., 2011) (Proctor E.K. B. R., 2012) And same thing applies to cultural adaptation models, they find it hard to take time and discuss with clients and other stakeholders aspects of the program that might be affected with the circumstances that may be unique to them. (Baird A, 2013) In addition, the intricate step-wise approach and structured process in implementation science frameworks would be time consuming. (Hwang W., 2006)

Third Challenge: Intimidation on what it will require of them

The introduction of the concepts in evidence based practice, cultural adaptation models and implementation science immediately intimidated clinicians especially those with little or no background on research. (Schreiber J., 2005) (Proctor E.K. B. R., 2012) (Proctor E.K. S. H., 2011) So far amongst all the barriers mentioned, this would be the most crippling since it would stop the clinician even before any attempt to try. (Asgary-Eden V., 2011) (Hurley M., 2000) (Jette D, 2003) (Wade D., 2001) Most especially if they do not see the value or benefit of the process (Durlak J. & DuPre E., 2008) (Durlak, 1998) in comparison to what it requires from them. (Hubble, 1999) (Parra Cardona J.R., 2012) They were also overwhelmed by the tasks such as (Giles S., 2008) the logistics training and documentation that it becomes tempting to just directly adapt the existing program straight away and adjust while conducting it as the problem arises. (Powell B.J. H.-S. C.) (Powell B.J. M. J., 2012) (Powell B.J. P. E., 2013) (Kumar V., 2011) (Proctor E.K. S. H., 2011) (Proctor E.K. B. R., 2012) (Resnicow K., 1998)

Fourth Challenge: Resources and cost-effectiveness

Two major resources made the concept of an integrated framework draining, the manpower and the financial resources that it requires. Considering the enormity of the work it will require from the team, it would immediately bring forth hesitations. (Flottorp S.A., 2013) (Dusenbury L A) (Dusenbury L., 2003) (Dusenbury L.A., 2003) Weighing the benefits can become much more obvious if there was already an attempt to adapt directly without changing the elements. If problems were already encountered then the need for a more comprehensive and thorough approach becomes more pressing. (Giles S., 2008) (Stirman S.W., 2013)

Proposed Solutions in the implementation of an integrated framework

First Recommendation: Multiple key players sharing the role of a cultural adaptation specialist (CAS) and a facilitator

This recommendation would mainly target the second identified challenge but would also affect the third one. When the role is not concentrated on a single person then it will not be perceived as a burden. Having multiple key players on the program will share the ownership to each and every member of the team. (Schreiber J., 2005) Although it may be good to have an assigned cultural adaptation specialist who could be the same person or a separate individual assigned to the role of the facilitator. However just like in various team approaches, it is ideal to have the entire team share knowledge and skills of being a cultural adaptation specialist and facilitator so that every decision and implementation would be reached by a consensus of the entire team. (Powell B.J. P. E., 2013) This would involve optimal level of commitment, dedication and participation in all the tasks necessary amongst the entire team instead of just a few if not just a single person from the team. (Hall G.C., 2001) (Hubble, 1999) (Goldman K.D., 1994) (Gingiss P.L., 1992)

Second Recommendation: Categorizing the type of adaptation that needs to be done according the integrated framework that was adopted (Surface and deep adaptations, & Inner and outer context)

Adapting a program utilizing an integrated framework will really be an overwhelming task when viewed in its entirety. (Flottorp S.A., 2013) (Barrera M., 2006) But if it is presented to the team in manageable chunks in various phases that can be done through a reasonable amount of time then it becomes realistic and doable. (Gingiss P.L., 1992) This would also strategically spread the resources available in different phases of adaptation so as to have an opportunity to replenish them. (Bernal G., 2009) (Bernal G.E., 2012) (Bellg A., 2004) (Cabassa L., 2013)

Third Recommendation: Data driven model of adaptation before expanding the repertoire of service delivery method

The best manner to ensure cost effectiveness of the integrated approach is to stick with data driven sources for each possible element of the program that would require clinical decision. (Honeycutt A.A., 2013) When the decision stems from data driven sources it will only target elements of the program that really needs to be changed, thereby, it will be cost-effective. (Gonzales N.A., 2006) The use of mixed method approach wherein the strength of both the quantitative and qualitative approach are utilized to the best advantage of the integrated framework so that it reaches not just the breadth but also the depth of analysis that it ultimately needs. (MacKenzie Bryers H v. T., 2014) (MacKenzie Bryers H v. T., 2014) (Palinkas L.A., 2009) (Palinkas LA, 2011)

CONCLUSION

The process of implementing a borrowed program goes beyond the patient and the clinician and involved several contextual considerations. (Domitrovich C.E., 2000) This is no longer the scope of just purely evidence-based practice, nor cultural adaptation model but a combination of both, within the implementation science framework. The main assumption of combining approaches is to eventually increase the program's acceptability, adherence and sustainability. All of these when considered, will affect not just the overall effectiveness of the program but more importantly ensure that it will respond to the needs of the population where it will be implemented. The issue on achieving balance between fidelity of the program and the adaptation to the population is oftentimes multifaceted. (Backer, 2002) This

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is when implementation science is valuable. It sets the blueprint on making major decision on what to retain, change or delete in the program to achieve its balance. (Flottorp S.A., 2013) Although it requires tedious process, a well-integrated approach that will guide practitioners combining all three concepts would be worthwhile and beneficial to the both the patients and the clinician. Evidence based practice can bring fidelity that ensures effectiveness of the different components of the program. Cultural adaptation model can bring forth general receptiveness, accessibility and appropriateness of the program to the intended audience. Lastly, the implementation science framework will somehow bridge any existing gap by ensuring the feasibility of the program not just initially but towards the next stages of adherence and sustainability of the outcomes that was initially targeted by the program on multiple levels of contexts. (Stirman S.W., 2013) In other words, it offers a stepwise approach that documents the process of how the program is changed at different levels to meet both the needs of the patients and the skillful decision of the clinician conducting the adaptation.

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