

Research Article

Physical Activity Education for Adults with Refugee Background in the United States

Ha N. Trinh¹, Hsien-Wen Meng², Mitch Johansen², Kai Sin², Naveen Rathi², Kimiya Nourian², Sayro Paw² and Akiko Kamimura^{2*}

¹University of Kansas Medical Center, Kansas City, KS, USA

²University of Utah, Salt Lake City, UT, USA

ABSTRACT

Objectives: This qualitative project aimed at examining factors preventing or promoting practice of frequent exercising among diverse refugee groups resettled in a metropolitan area in the Intermountain region.

Methods: A total of 4 education sessions on physical exercises were successfully offered to individuals with refugee background who were interested in this topic. Pre- and post-class surveys, field notes, and focus group questionnaire were developed based on the Health Belief Model. Focus group discussions were conducted at the end of each education session. A total of 7 participants completed pre- and post-class surveys and 6 participants joined focused group discussions. In addition, there were physical activity class participants who were not eligible for the survey and a focus group.

Results: The study revealed four important findings. Participants were knowledgeable of the health benefits of frequent exercising. Busy schedule, low energy, not knowing

the importance of physical activity, pain, and unawareness of local resources were identified as barriers for not practicing exercise more often. Most participants indicated that they needed more physical activity and planned on adding more exercises to their daily activities. Participants expressed cultural differences in practice of physical exercise before and after they resettled in the US.

Conclusion: This study provided insights on physical activity practice among a group of refugees resettled in the US. Future interventions should focus on providing a comprehensive education session, in combination with developing community-based programs aiming at creating new or improving existing resources and facilities that are culturally appropriate for refugees from diverse background.

Keywords: Physical activity; Refugees; Health belief model; Community-based research project; Health education and promotion

Introduction

Across many health indicators, newly-arrived immigrants in the United States (US) exhibited better measures as compared to the native-born population [1,2]. However, with a longer duration of residence in the US, immigrants were placed at higher risk of adverse health outcomes, including chronic non-communicable diseases and conditions such as hypertension, diabetes, heart diseases, stroke, arthritis, and activity-limitations due to pain [3,4]. These chronic non-communicable diseases and conditions are relatively preventable by practicing a healthy lifestyle of frequent physical activity and a healthy, nutritious, and balanced diet [5,6]. Immigrants often arrived in the US with limited knowledge of healthy food choice and availability [6,7]. With inadequate health literacy and lack of resources, many immigrants either continued practicing their previous habits that might put them at greater risk for undernutrition, or adapted to the calorie-dense and low-nutrition fast food culture [7]. In addition to poor nutrition choices, immigrants also exhibited lower level of physical activity compared to native-born individuals, due to lack of knowledge on local resources that enabled them to stay physical active in a new environment [6,8]. Social factors, such as socioeconomic influences, limited language proficiency,

acculturation process, and cultural incompetency in healthcare services created barriers that prevented immigrants from maintaining a healthy lifestyle [9]. Foreign-born groups also perceived difficulties in navigating the US healthcare system, leaving any untreated diseases or conditions worsen over time [10]. The combination of individual- and social-risk factors resulted in increased occurrence and prevalence of chronic non-communicable diseases associated with duration of residence in the US [3,4].

Refugees were often grouped together with other immigrant populations in existing healthcare research. Unlike other immigrant groups, refugees underwent forced migration due to political conflicts and were unable to return to their home country for fear of persecution [4]. Over one million refugees resettled in the US in the past decade, and most of them were exposed to traumatic events that posed long-term impacts on their mental health [11]. Many refugees also suffered from starvation, malnutrition, infectious diseases, and severe pain and injuries as a result of their turbulent migration experience [10]. Initial health screening at the time of arrival in the US revealed that refugees were in compromised health status with poorer health indicators compared to other immigrant categories

[4]. Refugees often experienced an abrupt environmental change in post-resettlement period, and this uneasy transition added to a list of challenges for newly-arrived refugees to overcome and integrate in the mainstream culture [12]. Thus, refugee should be separated from other immigrant categories in healthcare research and intervention projects in order to maximize the quality of services and optimize their health and well-being.

This community-based education project was conducted to encourage the practice of frequent exercising as part of a healthy lifestyle among refugees from culturally and linguistically diverse backgrounds. Based on a diverse profile of the first-generation refugees residing in the local area, the research team chose to focus on physical activity education, due to a more universal approach to maintain physical activity and a higher acceptance level across different refugee groups [13]. Unlike physical activity, healthy diet education is more culturally sensitive and might not be applicable to a heterogeneous group of refugees residing in the resettlement area [14]. Following the physical activity education program, this project further examined the barriers and facilitators of practicing physical exercises among participants. As suggested in the existing literature, refugees resettled in the US may suffer from severe pains and injuries that restricted them from an active lifestyle [10]. Thus, this project aimed to explore a combination of individual- and social-factors in order to improve the quality of existing healthcare services and provide additional services for refugees if needed.

Methods

Settings

This qualitative project was conducted at the Refugee Education and Training Center (RETC) on a community college campus in a resettlement area located in the Intermountain region. The RETC partners with local community stakeholders, state agencies, public universities, and community colleges to: 1) provide education and employment services to refugees, including training, education, and business development activities; and 2) foster integration, such as English language skills and refugee community-led events. The resettlement has established an ethnically diverse culture that share languages and belief systems with refugees from different world regions. Each year the resettlement area receives about 1,200 new arrivals. It is estimated that the resettlement area is now home to approximately 60,000 refugee residents from various ethnic backgrounds, including but not limited to, Bhutanese, Burmese, Iraqi, Karen, Nepalese, Somali, Sudanese, and Swahili [15].

The University of Utah Institutional Review Board (IRB) approved this project prior to provision of education sessions and qualitative data collections. As an active partner of the refugee supporting network, the community college provided classroom at no cost for the research team to conduct multiple introductory health classes for individuals with refugee background. Physical activity education classes were conducted during the Fall of 2017. A first aid kit was offered to each participant as an incentive to participate.

Data collection and study participants

The project included a series of four education sessions on physical activities from September to November 2017. Each session ran from one to two hours and covered four components: 1) Pre-class survey that included a short list of demographic questions and physical activity practice among participants; 2) physical activity education session; 3) focus group discussion; and 4) a post-class survey which examined the participants' satisfaction with the education session and tendency to practice physical activities. Any individuals with a refugee background were welcome to join the introductory health classes. Program participants were recruited by word-of-mouth via referral networks or walk-in basis at the lobby of the RETC. Individuals who were younger than 18 years old were encouraged to participate in the introductory health class session solely for their educational purposes. Individuals who were older than 18 years old were invited to join the pre- and post-class surveys and focus group discussion. Most of the program participants were fluent in English or could comfortably communicate in English. The team's research assistants also provided translation services to participants who had limited English proficiency. The research assistants provided language assistance in the following languages: Saw Karen, Burmese, and Poe Karen. Some Sudanese participants also received translation assistance from their child who also took part in the same education session.

Prior to this project, the research team had conducted other introductory health classes on oral health and healthy lifestyle at the same location in the Spring of 2017. Participants were based on a convenience sample and could only enroll in one class session but were encouraged to bring relatives or acquaintances to other sessions. Initially, a series of six class sessions were scheduled, but only four sessions were successfully conducted, mainly because there were some other classes (e.g. computer, sewing) that were held at the same location at the same time. A total of 15 participants enrolled in the physical activity education sessions. Among these participants, 8 of them were less than 18 years old, resulted in 7 adults eligible for surveys and focus group participations. Of these 7 individuals, 1 person refused to participate in the surveys and focus groups. Each participant participated in one focus group.

Study materials

Pre-class survey: This survey consisted of two parts: 1) Individual's socio-demographic questions, namely country of origin, gender, age, education attainment, occupation/employment, social security program involvement, refugee camp status, years living in the US, language spoken at home, and ethnic identity; and 2) Individual's health profile and physical activity attitude and habits, including self-reported general health status, importance of weekly exercise, type of exercises in three months prior to program participation, and weekly frequencies of mild/moderate/strenuous exercise and/or any other regular activities that increase heart rate.

Class and field notes: Each physical activity education session was approximately 30 mins in length. The class started from a warm up exercise such as throwing football across the room, followed by the introduction of different types of stretching. The main part of the class included mild aerobics exercises and resistance band training which are able to be performed with minimal equipment in a small, confined space. During each class, one or two research assistants took field notes of the surrounding environment, group dynamics, and questions asked or concerns expressed by participants. The field notes were constructed based on the Health Belief Model (HBM) that included perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, self-efficacy, and cultural norms [16].

Focus group: A total of 4 focus group discussions immediately following 4 class sessions were performed. The focus group questionnaire was semi-structured and also followed the HBM guide. This questionnaire was developed by the research team including students with a refugee background for cultural competency purposes. Similar to the class session, each focus group discussion lasted about 30 minutes and was audio-recorded.

Post-class survey: This survey evaluated the quality of each class session. Participants were asked about their level of interest in the topics presented in class, the amount of information, overall rating of the class, instructor's performance, and whether participants learned or planned to follow the physical activity tips covered in the class.

Data analyses

At the end of the class series, a research assistant transcribed and preliminary examined the qualitative data. Data from 4 focus group discussions were classified into themes following the HBM guide. These data were entered in Microsoft Office Excel and Word for analysis. HWM conducted preliminary analysis. AK and HT reviewed the preliminary analysis to ensure accuracy. All authors contributed the interpretation of the data and reached the agreement. To ensure validity, this study used rich thick descriptions and presented negative descriptions. For reliability, cross-checking and sharing analysis in the research team were performed [17].

Results

Characteristics of study participants

The survey examined the socio-demographic characteristics, general health status, attitude toward and practice of physical activity among adults with refugee background. Five women and one man between 19 and 56 years old participated in the survey. The survey participants were originally from Uganda, Sudan, Nepal, Bhutan, Malaysia, and Burma. Besides English, five participants spoke another language at home, including Arabic, Sudanese, Swahili, Nepali, Karen, Burmese, and Malay. Duration of residence in the US varied from one to 13 years. Half of the participants were temporarily settled in a refugee

camp before arriving in the resettlement area in the US. More than half of participants received social security services. All study participants reported high school or less than high school as their highest level of education. One participant was a student at the time of interview, and others were working either full-time or part-time.

Self-reported health status ranged from poor to excellent among study participants. Most participants perceived regular physical activity as important or very important and reported that they enjoyed walking. Other activities included swimming, yoga, or dancing. One participant perceived regular physical activity was very important but did not engage in any type of exercise due to poor self-reported health status. Other participants were physically active and engaged in multiple types of exercise per week.

Post-class evaluation surveys

All participants shared a high or very high interest in physical activity education classes. Half of the participants perceived that the amount of information presented in each class was "just right". The quality of each class was rated as good or excellent. Most of the participants agreed that the instructor did an excellent job preparing for the class. All participants planned to follow class' instructions, and most of them were confident that they can do what was taught in class.

Fields notes and participants' questions/concerns

The local community college provided a large classroom for the physical activity education series. There were a mix of adults and young children in each class. Each class was interactive with the instructor demonstrated the physical exercise and participants followed him. There were minor issues with communication, as some participants had language barriers and did not completely understand the instructions. The instructor was engaging with the class by asking whether the participants were able to follow the exercise instructions. Some participants were also more involved in the class activities and spoke more often than others. Participants mostly asked about class schedule in the near future, and whether they could bring a friend or acquaintance to the next session.

Focus group discussion themes

Perceived susceptibility, severity, and benefits: Most of the study participants perceived that they did not get enough physical activity per day and that "it's bad" without these activities. Participants were knowledgeable of the long-term health benefits of physical activity. These health benefits included preventing chronic diseases of "diabetes", "high blood pressure", "high cholesterol", and "stroke that happen a lot these days"; improving cardiovascular health "when you exercise, it's good for your heart. If you have good heart, that can help you for a lot of stuff"; and reducing muscle pains at older age. Participants also named short-term effects of physical activity on health, such as "[exercises] help you get the energy that you need", "[you will] get fit", and "[exercises] get this body

feel good and you can sleep well". A participant also added the importance of a healthy diet in combination with frequent exercise: "one thing that I know is that, of course exercise and then watching what we eat too is part of the exercise. And then, when you exercise, it helps you, your body, and health. It helps your body come to do maximum with that you want."

Perceived barriers: Participants also commented on the barriers preventing them from frequent exercising. One of the barriers was a busy schedule that left no energy at the end of the day "I don't have energy because I just go to school, and after school I do my homework, and I don't do exercise at school. And after doing my homework I just prepare food". Another barrier was unawareness of the importance of physical activity and not giving priority to it: "We don't see it has importance. Why it is very important, not only important, but very important because 30 minutes is not something. Sometimes I can sit in my couch watching TV for more than 30 minutes. If I take half of the hour from that one hour and exercise, it will help me." A participant also commented that "it is hard to exercise when you are hurt."

Cues to actions: Participants were motivated to practice frequent exercising after the physical activity class session because they "want to care for health and for our body" and "[staying] healthy for everything". Practicing physical exercise also made them feel "right", "happy", and "fun". Most of the participants were confident that they can follow what the class taught them and exercise more frequently. One of the participants was well-aware of the doctor's recommendation on being active for 30 minutes every day. However, participants gave mixed responses when asked if they knew of any local resources or facilities that can help them exercise more often. A couple of participants were new to the resettlement area and were not aware of any local resources or facilities. Only one participant shared information about a local facility: "There is a place like, how to call it. I just forget the name. I think it's there in when you go with 17, [and] you go to California Avenue. [It's] Nearby the school, behind that school. There's one center there. You can go there [to] do Zumba. [And] they do a lot of exercising [exercises] there". Another participant mentioned that she can stay active by joining a team sport, such as volleyball or basketball, with her friends at a public park.

Self-efficacy: Participants were confident that they could integrate physical exercise into other daily activities. For example, a couple of participants planned to add more walking to their commute to work or school: "sometimes I walk to work, that's it", and "doctor told me I can run like 30 minutes. But I run more than 30 minutes. Because when I go to work, I can run to train. I can run to bus. And [after] come back and I want to go to school and I run. This is all exercise [and] more than 30 mins [total]". They can also walk at their convenience "sometimes I'm at home I can just decide to walk around the apartment complex, like two times, and then, [I] can come home". Another participant combined running with other leisure activities: "when I feel like I'm tired, I'm lazy, I don't want

to do it [physical exercise]. I know that I have to do it, I can just put my music on, like Christian music. And then I have my machine, little machine that I brought that is in good condition. I can put it there while I'm running and listening to the music and watching my favorite show at the same time". Lastly, a participant indicated that she can utilize the exercise class at her workplace to stay active "I work in a senior center and they have exercise class. So, sometimes I go there and exercise."

Cultural differences in practice of frequent exercise: Most participants did not respond when asked about cultural differences in frequent practice of physical exercise. A participant only knew of physical exercise after she came to the US "when I was in high school, in my exercise class". She further expressed that she liked the class. Another participant commented that she used to play with her friends and exercised more when she was in her home country compared to her current state.

Discussion

This project provided a health education program on physical activity, evaluated the program, and examined factors preventing or promoting the practice of frequent exercising among diverse refugee groups resettled in a metropolitan area in the Intermountain region. Pre- and post-class surveys, field notes, and four focus group discussions followed the HBM approach and revealed the following main findings: 1) participants were knowledgeable of the health benefits of frequent exercising; 2) busy schedule, low energy, not knowing the importance of physical activity, pain, and unawareness of local resources were identified as barriers; 3) most participants indicated that they needed more physical exercises and planned on adding more exercises to their daily activities; and 4) some participants expressed cultural differences in the practice of physical exercises before and after they resettled in the US.

Participants were able to describe the long-term and short-term health benefits of physical activity, however, most of the participants expressed that they need to exercise more. The gap between knowledge and practice of physical activity among refugees was consistent with the existing literature [6]. This gap suggested that future intervention in this resettlement area should not focus only on education. Future intervention should combine individual-based (education) and community-based (facilities and resources) approach to promote physical activity among the local refugee community [6].

Busy schedules, low energy, unawareness of the importance and not giving priority to exercising, pain, and lack of knowledge of local resources were perceived barriers of physical activity among refugees. These barriers were in line with the previous findings that knowledge, communication (language proficiency), beliefs (fatalism, safety, and cultural appropriateness), and lack of accessible and affordable recreational areas/facilities restricted the practice of physical activity among immigrants and refugees in the US [18-20]. Female refugees and immigrants perceived additional barriers, including time constraint, fear of

exercising alone, and feeling uncomfortable with sport wears [21,22]. Future interventions should consider these barriers to design appropriate programs and activities. A study participant also identified pain as a reason for not exercising. Future physical activity education session should also consider offering alternative activities that minimize perceived health risks for participants who are at older age or suffer from chronic pain [23].

Participants believed that they should integrate physical exercises in other daily activities. Walking was collectively identified as a preferred type of physical activity. In fact, walking was likely a past habit in their home country. Many refugees walked several kilometers to get food, water, or healthcare on a daily basis [19,20]. Understanding this preference, existing intervention programs in various US communities formed walking groups among refugee and immigrant communities [6]. This intervention not only promoted physical activity but also increased social engagement and social cohesion among these communities. In addition, walking is considered as a low impact exercise and should be appropriate for older adults or those with minor injuries [24].

Participants shared a mixed response on whether they exercised more or less before resettlement in the US. A participant shared that she only knew of exercise when she took this class in a US high school, however, it might not be that she was less physically active in her home country. Previous studies on refugees and level of physical activities found that refugees were more active in their daily activities such as walking to the market or farming, before resettled in a developed country and utilized convenient means of transportation [19]. This would also indicate a need for further explanation of the differences between physical activity and exercise to the refugee population, since the two distinct concepts were often used interchangeably [6,25]. Another participant indicated that after her arrival in the US, she no longer had friends to exercise with. Other studies on the level of physical activity among female immigrants also found that women stopped exercising after moving to a new country because of the broken network of friends they used to exercise with [25]. This finding reinforced the need for a community-based intervention program, such as forming a walking group, to promote physical activity among refugees.

While the study shared valuable insights about physical activity among a local refugee community, it had some limitations. The number of participants was very low, as a result of a pre-existing healthy lifestyle class at the same location in early 2017. Participants were recruited by word-of-mouth via referral networks or walk-in basis at the RETC lobby. Thus, findings from this study only reflected perspectives of those who were interested in physical activity and cannot be generalized to the entire refugee population. In addition, individuals with refugee background who come to the RETC tend to be more self-motivated. For instance, these people are interested about learning or interacting with other people. People who do not fall

in this category or do not have time were most likely not included. Additionally, individuals who chose to participate rather than attending other classes that were held at RETC at the same time may differ than those who preferred otherwise. Although participants showed interest in practicing physical activity in near future, the research team did not conduct a follow-up study to examine the long-term impacts of the education program. The interventions were one-time and brief in nature. Future projects should provide longer-term interventions.

Conclusion

This study provided insights to the existing literature on the practice of physical activity among refugees resettled in the US. As the benefits of physical activity were widely acknowledged, participants believed that they need to exercise more. Future interventions should not only focus on providing a comprehensive education session, but also developing community-based programs aiming at creating new or improving existing resources and facilities that are culturally appropriate for refugees from diverse background. Finally, future research should include multiple data sources to fully examine such programs.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Ethical Approval

The University of Utah Institutional Review Board (IRB) approved this study.

Acknowledgement

The authors would like to thank the participants of this study and to acknowledge the contributions from Mu Pye and Mandy Robison for data collection.

References

1. Choi SH (2012) Testing healthy immigrant effects among late life immigrants in the United States: using multiple indicators. *J Aging Health*. 24:475-506.
2. Singh GK, Yu SM, Siahpush M, Kogan MD (2008) High levels of physical inactivity and sedentary behaviors among US immigrant children and adolescents. *Arch Pediatr Adolesc Med*. 162:756-763.
3. Yun K, Fuentes-Afflick E, Desai MM (2012) Prevalence of chronic disease and insurance coverage among refugees in the United States. *J Immigr Minor Health*. 14:933-940.
4. Yun K, Hebrank K, Graber LK, Sullivan MC, Chen I, et al. (2012) High prevalence of chronic non-communicable conditions among adult refugees: implications for practice and policy. *J Community Health*. 37:1110-1118.

5. Tiedje K, Wieland ML, Meiers SJ, Mohamed AA, Formea CM, et al. (2014) A focus group study of healthy eating knowledge, practices, and barriers among adult and adolescent immigrants and refugees in the United States. *Int J Behav Nutr Phys Act.* 11:63.
6. Wieland ML, Tiedje K, Meiers SJ, Mohamed AA, Formea CM, et al. (2015) Perspectives on physical activity among immigrants and refugees to a small urban community in Minnesota. *J Immigr Minor Health.* 17:263-275.
7. Rondinelli AJ, Morris MD, Rodwell TC, Moser KS, Paidia P, et al. (2011) Under- and over-nutrition among refugees in San Diego County, California. *J Immigr Minor Health.* 13:161-168.
8. Dogra S, Meisner BA, Ardern CI (2010) Variation in mode of physical activity by ethnicity and time since immigration: a cross-sectional analysis. *Int J Behav Nutr Phys Act.* 7:75.
9. Clough J, Lee S, Chae DH (2013) Barriers to health care among Asian immigrants in the United States: a traditional review. *J Health Care Poor Underserved.* 24:384-403.
10. Mirza M, Luna R, Mathews B, Hasnain R, Hebert E, et al. (2014) Barriers to healthcare access among refugees with disabilities and chronic health conditions resettled in the US Midwest. *J Immigr Minor Health.* 16:733-742.
11. Wagner J, Burke G, Kuoch T, Scully M, Armeli S, et al. (2013) Trauma, healthcare access, and health outcomes among Southeast Asian refugees in Connecticut. *J Immigr Minor Health.* 15:1065-1072.
12. Woodland L, Burgner D, Paxton G, Zwi K (2010) Health service delivery for newly arrived refugee children: a framework for good practice. *J Paediatr Child Health.* 46:560-567.
13. Caperchione CM, Kolt GS, Mummery WK (2009) Physical activity in culturally and linguistically diverse migrant groups to Western society: a review of barriers, enablers and experiences. *Sports Med.* 39:167-177.
14. Meng H, Sin K, Pye M, Chernenko A, Hagerty D, et al. (2018) Barriers and Facilitators to Healthy Lifestyle among Refugees Resettled in the United States. *Divers Equal Health Care.* 15:1-8.
15. Kamimura A, Booth C, Sin K, Pye M, Chernenko A, et al. (2017) Home Dental Care Education for Refugee Background Adults in the United States. *Divers Equal Health Care.* 14:277-282.
16. Champion VL, Skinner CS (2008) The health belief model. *Health Behav Health Educ Theor Res Pract.* 4:45-65.
17. Creswell JW, Creswell JD (2018) Research design: Qualitative, quantitative and mixed methods approaches. 4th ed. Thousand Oaks, CA: Sage Publications.
18. Guerin PB, Diiriye RO, Corrigan C, Guerin B (2003) Physical activity programs for refugee Somali women: working out in a new country. *Women Health.* 38:83-99.
19. Horne M, Tierney S (2012) What are the barriers and facilitators to exercise and physical activity uptake and adherence among South Asian older adults: a systematic review of qualitative studies. *Prev Med.* 55: 276-284.
20. Mohamed AA, Hassan AM, Weis JA, Sia IG, Wieland ML (2014) Physical activity among Somali men in Minnesota: Barriers, facilitators, and recommendations. *Am J Mens Health.* 8:35-44.
21. Babakus WS, Thompson JL (2012) Physical activity among South Asian women: a systematic, mixed-methods review. *Int J Behav Nutr Phys Act.* 9:150.
22. Parra-Medina D, Hilfinger Messias DK (2011) Promotion of Physical Activity Among Mexican-Origin Women in Texas and South Carolina: An Examination of Social, Cultural, Economic, and Environmental Factors. *Quest.* 63:100-117.
23. Franco MR, Tong A, Howard K, Sherrington C, Ferreira PH, et al. (2015) Older people's perspectives on participation in physical activity: a systematic review and thematic synthesis of qualitative literature. *Br J Sports Med.* 49:1268-1276.
24. Kim J, Chun S, Heo J, Lee S, Han A (2016) Contribution of leisure-time physical activity on psychological benefits among elderly immigrants. *Appl Res Qual Life.* 11:461-470.
25. Caspersen CJ, Powell KE, Christenson GM (1985) Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public Health Rep.* 100:126-131.

ADDRESS OF CORRESPONDENCE: Akiko Kamimura, Department of Sociology, University of Utah, 380 S 1530 E, Salt Lake City, Utah 84112, USA, Tel: +1-801-585-5496; Fax: +1-801-585-3784; E-mail akiko.kamimura@utah.edu

Submitted: July 09, 2018; Accepted: July 24, 2018; Published: July 31, 2018