

Innovative Technologies Preference for Slimming Treatment

Hasliza Hassan¹, Abu Bakar Sade² and Muhammad Sabbir Rahman³

¹Faculty of Management, Multimedia University, Cyberjaya, Selangor, Malaysia,

²Faculty of Business and Information Science, UCSI University, Kuala Lumpur, Malaysia,

³Department of Marketing and International Business, North South University, Dhaka, Bangladesh

Abstract: Slimming centre is one of the popular places to reshape body figure in Malaysia. Technology innovations are being used by the slimming centre to provide slimming treatments. This research is looking into the preference treatments that commonly offered by slimming centre in Malaysia. Primary data is collected through survey questionnaire. The unit of analysis is the consumers who have experience consuming the treatments in slimming centre. The data was collected based on multiple response questionnaire and analysed by using Statistical Package for the Social Sciences (SPSS). It is found that majority of consumers have experience consuming more than one treatments in the slimming centre since majority of slimming centre is offering slimming treatments in a package. Those slimming centres that offering more treatments within a package might be more attractive for the consumers to choose. This research has highlighted the most common treatments that is normally experienced by the consumers.

Key words: *Bodyweight, Malaysia, Obesity, Overweight, Slimming, Technology*

INTRODUCTION

As a well developing country, Malaysia has been encouraging women empowerment in daily socio-economics lifestyle. There is a continuous increasing in percentage of women in the workforce and earning stable income for living. With more purchasing power, women nowadays can spend more money for their daily food. In line with a continuous improvement in education system, there is more women in Malaysia working in corporate sectors as professionals. Due to sedentary lifestyle especially by those women who are working in the office environment, there is a continuous increasing in the percentage of overweight and obesity. This trend has become more prevalent, since Malaysia is known as the fattest population in Southeast Asia. As an overall, the percentage of overweight and obese women is more with 48.6% than the percentage of men which is at 43.8% [1]. Due to modern lifestyle with better income, dining at restaurant has become a culture in Malaysia. Although woman is supposed to take less calorie which is at 2,000 kcal than man which is at 2,500 kcal per day [2], there is no restaurants in Malaysia customized the portion of food based on gender. Instead, majority of restaurants are encouraging the consumers to purchase more food in bigger portion. The behaviour of excessive

eating in the daily meal has somehow make the whole nation to be fatter than before.

The media especially women magazine has a strong influence to direct people perception on the image of a perfect women figure [3]. Majority of editors who publishing women issues on fitness and healthy picturing women to look slim by encouraging women to lose weight, wearing small size clothes and having small waistlines [4]. The available of such media content in a highly overweight and obese population especially among women has open an opportunity for slimming centre to grab the potential market. Due to the influence by modern media, being oversized can divert away self-confident and discourage someone to move forward especially for those who are working in corporate sectors. In addition, there is also a research findings that found those who are overweight or obese are not only feeling themselves as ugly and ashamed with their body figure but also feel that they are less effective in work performance [5].

The Malaysian healthcare system is ranked as the third in the world after France and Uruguay [6]. This has made Malaysia as one of hot spot medical tourisms within the last five years. The most well-known medical treatments are cosmetic surgery, dental and dermatology. This is mainly due to the

Corresponding Author: Hasliza Hassan, Faculty of Management, Multimedia University, Cyberjaya, Selangor, Malaysia. No phone: +6016-3124293

costs effectiveness and excellent quality standard that can be provided [7]. The momentum from the medical tourism has spilled to slimming treatment. In addition to support from tourists, the slimming centre industry has been growing in Malaysian market since there is a continuous growth in the percentage of overweight and obesity in the population. The slimming centre is providing slimming treatments by using technology innovations with assistance from the therapist to reduce the amount of fat underneath the skin. The effectiveness of the treatments is very much depending on the capability of the available technology. There are some treatments that require consistent and continuous treatments while there are also treatments that can show immediate results. The investment for the slimming treatment normally will determine how fast and how much the result that can be obtained from the treatment. The common treatments that are normally provided by the slimming centres are deep tissue massaging, electric padding, sauna, hot blanket, liposuction and laser lipo. There was findings that proven majority of consumers who have experience consuming slimming treatments program by slimming centre satisfied with the result to lose weight. The effectiveness of this results is also depending on the daily diet. Without continuous control in diet, there is high chance that the same person will gain weight again after six to eight months of slimming treatment [5].

LITERATURE REVIEWS

One of the ways to reduce body weight is by having deep tissue massaging [8]. Deep tissue massaging is a technique to reach deep layers of muscle and fascia which is the connective tissue surrounding the muscle through firm pressure and slow strokes [9]. Deep tissue massing can assist to relief stress, overcome muscle pain, ease movement for those who have injured their tissue, and reduce the heart rate and blood pressure [10]. The most suitable ways to massage is by having manual lymphatic drainage massage, self-massage over the abdominal area and vigorous massage for cellulite prone areas [8] especially at thighs and buttocks [11]. Massaging is able to reduce cellulite and making the skin firm and supple after losing weight. However, improper massaging technique might lead to injury [12]. Since not everyone can massage in a proper technique, it would be a good initiative to have an advance massaging technology machine in slimming centre. Normally, the therapist will assist the massaging by using innovative technology or machine in the slimming centre. Due to this, it is highly expected that the result will be more intense than by manual hand massaging. Due to the effectiveness of massaging

to reduce body weight, there are a lot of innovative tools that are sellable in the market where it can be easily used at home. However, the result is still not be exactly the same as treatment by professional therapist from slimming centre.

Electric padding or also known as electrotherapy is a tool that using electrical muscle stimulation (EMS) [13]. EMS is also known as neuromuscular electrical stimulation or electromyostimulation [14]. This slimming machine is used to reduce cellulite, puffiness and toxins in the body to lose weight and inches. The electric padding is placed at specific body areas. Normally, there is approximately 16 to 25 electric paddings will be placed on the body areas. The muscles will contract due to electrical impulses that is set through the machine which usually takes in between 45 to 60 minutes. The effectiveness of this electric padding is depending on how deep the stimulation is towards the muscles [13]. The electric padding treatment is combining the effort of diet, massage and galvanic treatments to reshape specific body areas [14][15]. Due to the continuous revolution of technology, some slimming centres are using electric padding to reshape the facial figure which is known as facial faradic [16].

As technology continuously improved, traditional sauna has been transformed to become infrared sauna and commonly available in most slimming centre. Traditional sauna warm up the air with heat and humidity while infrared sauna is using light to create the heat [17]. Infrared sauna can assist to reduce weight within short period of time. However, this treatment will not change the percentage of fat, muscle strength and overall fitness [18]. The infrared from sauna can penetrate up to 3 inches under the skin to push away sweat of the body. Infrared sauna is able to burn 400 to 600 calories within 30 minutes. An average fit person can sweat a pound within a treatment. In addition to reducing weight, infrared sauna is able to improve health through detoxify effect, improve immune system, skin health and elasticity. This treatment can also reduce cellulite, heart problem, hypertension, muscle and joint pain [19]. This treatment is an alternative for physical exercise [20] and effective to reduce body weight [21].

Hot blanket is an alternative for sauna and the treatment is functioning to heat the whole body directly. Since hot blanket could provide direct heat to the body, this treatment is more effective than a conventional sauna and allowing the consumers to breathe more easily. This treatment usually will take approximately 30 minutes and the infrared can penetrate between 2 cm to 7 cm under the skin. Other than burning the fat, hot blanket can also assist to increase metabolism, enhance immune

system, nutrients absorption and blood circulation [22]. Further findings indicated that the hot blanket can also enhance cardiovascular health, relief stress, controlling cellulite and enhance the skin appearance [23].

Liposuction is the easiest way to remove substantial amount of fat in the body [24][25]. The consumers will be given general anaesthetic in advance and the technique to suction the fat is depending on accumulation of fat underneath the skin [26]. Due to complexity of the treatment, only a qualified and trained surgeon should be allowed to handle this treatment [27]. Although this treatment is effective, the treatment will left with an obvious scar. In addition to obvious cosmetic effects, liposuction can change the body composition, hormonal and psychology of the consumers [24]. There is also findings that proven liposuction treatment can minimized cardiovascular risks [28]. Nevertheless, the consumers still need to control the daily diet after the treatment to maintain the body figure appearance. Without proper control in diet, the result of liposuction will not be able to sustain in the long term [29].

Laser Lipo is an alternative to the traditional liposuction [30] by breaking up fat using laser without any harsh suction. Similar as the traditional liposuction, this treatment is more suitable to reduce the size of specific parts in the body such as hips, waist and thighs. This treatment is unable to enhance the metabolism as other treatments. Due to this, laser lipo is not suitable for those people who are obese and pregnant women. This treatments usually takes between 20 to 40 minutes. Those consumers who did not drink sufficient water might feel tired, woozy or sick after the treatment [31]. Only a qualified therapist in slimming centre can offer this treatment to avoid the consumer skin from being burned by the laser [32]. Modern women who are willing to spend for their body figure appearance might perceived laser lipo as the best option than other treatments since it can provide immediate result without any extreme pain or scar on their skin.

METHODOLOGY

A cross-sectional study was conducted to discover what kind of technology treatment that is normally preferred by those who have experience in consuming slimming centre treatment. Due to this, the unit of analysis for this research is those people who have experience as well as those who are currently experiencing the treatment from slimming centre within three main states in Malaysia which are Kuala Lumpur, Selangor and Negeri Sembilan. The questionnaire was set in multiple response

survey where the respondents is given the option to choose more than one treatment in the slimming centre. The respondents was being briefly explained about the research and questionnaire in advance to ensure they could understand the purpose of the research and the questionnaire clearly. None of the respondents was being force to participate to ensure precision of the outcome. A token of appreciation is given to those who are willing to participate in the research survey. As an overall, 308 data was being used for descriptive analysis by using Statistical Package for the Social Sciences (SPSS). Since this research is only focusing on six treatments, the data that is being used for analysis should be considered as sufficient with the formula of $50 + 8k = N$ where $50 + 8(6) = 98$ [33].

RESULT ANALYSES AND DISCUSSIONS

All of the respondents for this research are women because majority of consumers who usually go to slimming centre are women. Although the data collection is targeting women who is above 20 years, majority of the respondents' age is in between the range of 35 to 39 years (29.2%) and followed with the range of 30 to 34 years (25.3%). There is an average number of respondents who is in between the age range of 25 to 29 years old (12.7%), above 45 years old (12%) and in between the age range of 40 to 44 years old (11%). Only minor percentage of respondents is in between the age range of 20 to 24 years old (6.8%). In line with this, majority of the respondents have individual monthly income in between the range of RM 5,001 to RM 7,500 while the average household income is in between the range of RM10,001 to RM 15,000. Majority of the respondents are career women who is working as government servant, private sector employee, entrepreneur and charity organization employee. There are only ten of the respondents who are housewives and eight of the respondents who are students. In general, majority of the slimming centre consumers are career women who is above 25 years old and have stable individual and household monthly income. The main reason for this is probably because it require high investment to consume the slimming treatments at slimming centre.

For each of the innovative technology treatment, the respondent was being requested to determine whether they have experienced or never have experience consuming the six treatments in slimming centre which are referring to deep tissue massaging, electric padding, sauna, hot blanket, liposuction and laser lipo. For further discovery on how often the consumer consume the specific treatment, the experience is further categorized into

rarely, sometimes, frequently and always. The summary of result analysis findings is as shown in table 1. The total combination percentage of respondents who have experience and never have experience consuming for each innovative slimming technology is not exactly 100% because there is some missing data. The missing data is unavoidable because the data was collected manually through survey questionnaire. Nevertheless, the number of missing data is very minimum which is in between 1% to 3.3% for each treatments. This percentage is acceptable for quantitative statistical analysis which is normally in between the range of 15% to 20% [34]. Due to this, the available data collection is used for the following descriptive analysis since the missing data is not effecting the overall research analysis.

Slimming centre providing variety of treatments for the consumers to choose and experience. Based on the findings, this research has found that the majority of respondents have experienced consuming sauna. This is represented by 80.2% of the total respondents (247 respondents). There also high number of respondents who have experience consuming hot blanket which is represented by 75.0% (231 respondents) and electric padding which is represented by 73.4% (226 respondents). 70.1% of the respondents (216 respondents) have experienced consuming deep tissue massaging while only 65.6% of the respondents (202 respondents) have experienced using laser lipo. There is only 55.5% of the respondents (171 respondents) have experienced using liposuction. As an overall, the percentage of respondents who have experience consuming treatments in slimming centre is within the rage of 80.2% and 55.5%. The most common treatments that are provided and consumed in the slimming centre are sauna and hot blanket. The technology that is using heat to burn fat seems to be highly acceptable by the society since majority of them might perceive burning fat require them to use heat to sweat. Electric padding and deep tissue massaging seem to be moderately accepted. These two treatments is using vibration technology to burn fat. Although vibration technology does not fit the common expectation of the societies to burn fat through heat and sweat, this research has found that there are still a lot of consumers have experience consuming this treatments. The number of respondents who have experience consuming laser lipo is low because laser treatment is normally more costly than other

common treatments. Nevertheless, this is a more advance technology than liposuction where the consumers can see the result almost immediately after the treatment without any harsh suctioning pain or scar after the treatment.

The number of respondents who have experienced using liposuction is very low than other treatments is because not all slimming centre has the capability to provide this treatment. And normally, all treatments in the slimming centre will be provided by therapist but only qualified and trained surgeon can provide liposuction service to the consumers. Due to this, not all slimming centre offering this treatment and the costs for liposuction is normally far higher than other treatments. Nevertheless, the liposuction treatment is able to provide immediate result. Although the percentage of respondents who have experience consuming liposuction treatment is the lowest, there is still more than half of the total respondents who have consumed the service. This shows that there is still high potential market for liposuction treatment since there are consumers who do not mind to spend extra for such treatment.

There is no specific treatment that is preferred by consumers since majority of the consumers are consuming more than one treatment in the slimming centre. One of the main reasons why the majority of the respondents have experience consuming variety of treatments in the slimming centre is because most of the slimming centre normally offering their service in package where the consumer will be experiencing more than one treatment per package within a session of treatment. The treatments might also be in rotation depending on number of treatments taken within a package. Due to this, it would be more worth to provide additional variety of treatments within one package as an attraction for the consumers since different treatment might provide different impact to reshape the body figure and expose the consumers with more treatment experience in the slimming centre. In addition, providing variety of treatments within a package give an impression to the consumers that their investment is more worth it since different treatment will be using different technology machine. It also shows that the more slimming treatments that is able to be provided by the slimming centre, the more reliable the capability of the particular slimming centre is.

Treatment / Experience	Never	Rarely	Sometimes	Frequently	Always	Total
Deep tissue massaging	89 28.9%	216 70.1%				305 99%
		40 13.0%	89 28.9%	49 15.9%	38 12.3%	
Electric padding	77 25.0%	226 73.4%				303 98.4%
		56 18.2%	76 24.7%	76 24.7%	18 5.8%	
Sauna	58 18.8%	247 80.2%				305 99%
		27 8.8%	74 24%	69 22.4%	77 25.0%	
Hot blanket	67 21.8%	231 75.0%				298 96.7%
		37 12.0%	73 23.7%	79 25.6%	42 13.6%	
Liposuction	130 42.2%	171 55.5%				301 97.7%
		41 13.3%	53 17.2%	47 15.3%	30 9.7%	
Laser Lipo	98 31.8%	202 65.6%				300 97.3%
		42 13.6%	76 24.7%	50 16.2%	34 11.0%	

CONCLUSIONS

Although Malaysia is already ranked high globally for its healthcare services, demand for more advanced slimming treatment technologies seems has yet to catch up. Due to modern lifestyle and increasing rate of overweight and obesity in Malaysia, there is a high possibility that the market opportunity for slimming centre will be growing within the next few years. The target market for slimming centre is more streamlined to those career women with stable income who need to spend time to rest but at the same time preferred to be personally treated to reduce their body weight and reshape their body figure. In line with this, the slimming centre is a most suitable place where the consumers can pampered themselves in a relaxing spa environment and obtaining the desired body figure without too much hassle because almost every treatments will be using slimming technology innovations with assistance from the therapist. In line with the increasing number of women in the workforce, there is high chance for the slimming centre to sustain in the market. The availability of slimming centre is somehow empowering women to develop the socio-economic stability.

REFERENCES

[1] Ng, M., Fleming, T., Robinson, M., Thomson, B., Graetz, N., Margono, C., ... & Abraham, J.P. (2014). Global, Regional, and National Prevalence

of Overweight and Obesity in Children and Adults During 1980–2013: A Systematic Analysis for the Global Burden of Disease Study 2013. *The Lancet*, Vol. 384, No. 9945, pp. 766-781.

[2] NHS Choices, (2016). What Should My Daily Intake of Calories Be?

[3] Lim, W. M. & Ting, D. H. (2011). The Construction of Beauty in Malay Magazine Advertisements. *Contemporary Management Research*, Vol. 7, No. 3, pp. 173-196.

[4] Clark, K. (2013). Picture perfect: How Editors of Women's Magazines Depict Fitness. What Messages Do Editors Send through Cover Sell Lines and Images?.

[5] Thamby, S. A., Sheng, C. C. & Yau, K. W. (2013). Assessment of Patients' Perceptions about Modalities of Treatment in some Obesity Clinics (Slimming Centers) in the State of Kedah, Malaysia. *Innovations in Pharmaceuticals and Pharmacotherapy*.

[6] Tan, Y. L. (2014). US Magazine: Malaysia's Healthcare is No. 3 Worldwide, *The Star Online*.

[7] Hockton, K. (2017). Malaysia: Medical Tourism is Booming, 4 Countries with the Best Healthcare in the World 2017, *International Living*, pp. 1-12.

[8] Jenkins, N. (2011). Massage for Weight Loss. *Natural Therapy Pages*.

[9] Wong, C. (2017). Deep Tissue Massage Explained: Benefits and Tips to Get the Most Out of One, *Holistic Health, Verywell*.

- [10] DeBusk, C. (2015). 4 Benefits of A Deep Tissue Massage, *Massage Magazine*.
- [11] Hexsel, D., & Mazzuco, R. (2013). Cellulite. In *Update in Cosmetic Dermatology*, pp. 21-32.
- [12] Tadlock, L. (2013). Can Massage Promote Weight Loss? *LiveStrong.com*
- [13] Stellner, A. (2013). Electrotherapy for Weight Loss. *LiveStrong.com*
- [14] Amula, D. (2016). Weight Loss Using Electronic Muscle Stimulation (EMS), *Diet-Weight Management, Weight Loss, Bellissimo*.
- [15] Cressy, S. (2004). Beauty Therapy Fact File. *Heinemann*.
- [16] Greenfield, B. (2015). Can You Lose Fat with Electical Muscle Stimulation (EMS)? *QuickAndDirtyTips.com*
- [17] My Microcurrent Health (2017). Facial Farradic & EMS: Electrical Muscle Stimulation, *Facial Faradic*.
- [18] Seward, M. (2015). Far Infrared Saunas for Weight Loss, *Healthy Focus*.
- [19] Petros, R. (2015). Do Infrared Saunas Work to Lose Weight?, *LiveStrong.com*
- [20] Moore, S. (2012). Infrared Saunas & Weight Loss, *The Ultimate Weight Loss Solution – Far Infrared Saunas, EvolutionHealth.com*
- [21] Myers, A. (2014). 6 Benefit of Infrared Sauna Therapy.
- [22] Biro, S., Masuda, A., Kihara, T., & Tei, C. (2003). Clinical Implications of Thermal Therapy in Lifestyle-Related Diseases. *Experimental Biology and Medicine*, Vol. 228, No. 10, pp. 1245-1249.
- [23] Innovative Body & Skin Rejuvenating Solutions (2017). Thermal Detox Slimming Blanket.
- [24] The Loop Celebrating Community (2015). Far Infrared Sauna Blanket Health Benefits.
- [25] Geliebter, A., Krawitz, E., Ungredda, T., Peresechenski, E., & Giese, S. Y. (2015). Physiological and Psychological Changes Following Liposuction of Large Volumes of Fat in Overweight and Obese Women. *Journal of Diabetes and Obesity*, Vol. 2, No. 4, pp. 1-7.
- [26] Walansky, A. (2014). Body Slimming Products and Treatments: What Actually Works.
- [27] Hong, Y. G., Sim, H. B., Lee, M. Y., Seo, S. W., Chang, C. H., Yeo, K. K., & Kim, J. K. (2012). Three-Dimensional Circumferential Liposuction of the Overweight or Obese Upper Arm. *Aesthetic Plastic Surgery*, Vol. 36, No. 3, pp. 497-503.
- [28] Berry, M. G. (2016). The Principles and Techniques of Liposuction. In *Liposuction*, pp. 149-160.
- [29] Hernández-Pérez, E., Seijo-Cortes, J. A., & Khawaja, H. A. (2016). Large-Volume Liposuction for Obesity. In *Liposuction*, pp. 225-237.
- [30] Seretis, K. (2016). Weight Reduction Following Liposuction. In *Aesthetic Plastic Surgery of the Abdomen*, pp. 387-395.
- [31] Gargulinski, R. (2015). Cold Laser for Weight Loss, *LiveStrong.com*
- [32] Andersen, C. H. (2017). I Tried It! Laser Fat Removal, Does Laser Lipo Work? One Writer Tried the New Zerona Laser To See If It Lives Up To Its Claims.
- [33] Mann, D. (2010). Debate on Laser Liposuction to Remove Fat. *Study Show Technique Remove Fat and Helps Skin Tightening; Critics Worry About Burns*.
- [34] Green, S. B. (1991). How Many Subjects Does It Take To Do A Regression Analysis? *Multivariate Behavioral Research*, Vol. 26, pp. 499-501.
- [35] Enders, C. K. (2003). Using the Expectation Maximization Algorithm to Estimate Coefficient Alpha for Scales with Item-Level Missing Data. *Psychological Methods*, Vol. 8, No. 3, pp. 322-337.