



Perceptions about a pharmacy-delivered weight management service in community pharmacy settings in Jordan

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ABSTRACT

Treatment of obesity is a public health priority. Despite the effectiveness of anti-obesity interventions, they are not currently offered by pharmacists and have not been included in reimbursement plans. The present study aimed to investigate the public perception of a pharmacist-led weight-management program. A convenient sample of individuals in a large city in northern Jordan completed a pretested short survey to assess their accessibility, perception, and willingness to pay (WTP) for weight-management services offered by community pharmacists. WTP for pharmacy-delivered weight management services was assessed using a payment card approach with a hypothetical scenario. The validity and reliability of the instrument were also assessed. Factors affecting WTP and respondents' beliefs about weight management services by pharmacists were assessed using chi-square, Kruskal Wallis, and logistic regression analysis. A sum of 966 questionnaires (response rate 96.6%) were included in the analysis. A total of 71.2% of respondents indicated that community pharmacy weight-reduction services were useful or very useful. Some of the respondents had limitations in access to weight management services delivered by nonpharmacists, in terms of the inconvenience of the location (61.5%) and difficulty in visiting a dietician (26.3%). Although 14.8% were not willing to pay for pharmacist services, 20.4% would pay \$5, 20.4% would pay \$10, 11.9% would pay \$15, 14.2% would pay \$20, 9.8% would pay \$30, and 14.4% would pay \$50. Independent significant predictors of WTP for weight management services, as indicated by logistic regression of WTP for weight management services included, were having four or more family members [odds ratio (OR) = 2.00], considering community pharmacists' obesity-reduction intervention as useful or very useful (OR = 2.1), and having average, high, or very high standards of living (OR = 1.9). Most of the respondents had favorable attitudes and were willing to pay for pharmacists' delivered obesity interventions. More than one-third of respondents were willing to pay an amount that is more than \$15. Such findings are promising in justifying the addition of new services delivered by community pharmacists. Future research should be expanded to other regions to improve the generalizability of results.

INTRODUCTION

Obesity is a disorder characterized by increased fat stores in the body. The causes of obesity are related to the imbalance between calorie intake and expenditure [1]. The prevalence of obesity has tripled over the past three decades worldwide. In addition, it constitutes one of the modifiable risk factors for developing cardiovascular disease such as

diabetes, cardiovascular disease, and some types of cancer, and is linked with increased mortality [2]. It has been estimated that after 20 years of obesity, individuals are at risk of developing cardiovascular-related deaths and cardiovascular hospitalizations at a rate of 7–9 and 28–36 per 100 individuals, respectively. In Jordan, obesity has increased over time and has reached alarming levels. Specifically, the age-standardized prevalence of obesity was 60.4% among males and 75.6% among females with increased odds of hypertension, diabetes mellitus, and dyslipidemia [3,4].

Moreover, obese individuals have lower overall survival rates than nonobese individuals [5]. Thus, there is a significant burden and cost associated with obesity to the healthcare

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system and patients [6,7]. The burden of obesity is not limited to metabolic and cardiovascular concerns but also obesity has negative psychological consequences [1,8]. The continuous rise in obesity, thus, imposes a significant health burden worldwide, and therefore, there is an urgent need to control the burden of obesity through the implementation of evidence-based intervention for obesity management.

Pharmacists have traditionally been viewed as healthcare professionals with great access to a large number of patients. To address healthcare challenges and better utilize pharmacists' skills, pharmacists have taken over more professional services, such as medication therapy management services in the United States (US) and health promotion in the United Kingdom (UK) [9,10]. Weight management is one of the services in which pharmacists can play a significant role. Community pharmacists play a significant role in addressing public health issues, especially in developed countries, by providing interventions related to smoking cessation, lipid management, blood pressure measurement, and health promotion for people who are overweight/obese [11]. Ideally, health benefits for patients from these initiatives are rigorously scrutinized via clinical trials and other clinical studies. The cornerstone of the community pharmacy interventions for overweight/obesity is through providing recommendations related to diet and exercise [10,12,13].

A study from the US utilized meal replacement techniques as compared with a calorie-reduction diet in community pharmacies and found that both approaches significantly reduce weight and there was no significant difference between both approaches [14]. A systematic review concluded that the interventions for obesity delivered in pharmacy settings produced similar efficacy (in terms of body mass index (BMI) and waist circumference) as those provided by other healthcare providers [15].

Despite their established effectiveness, anti-obesity interventions have not been included in reimbursement schemes. Moreover, treatments for obesity are often out-of-pocket expenses for pharmacy clients, at least in the USA, and not delivered routinely by community pharmacists [16]. Since a limited number of studies addressed the public perspectives toward weight management services from community pharmacies, the present study aimed to investigate the public perception of community pharmacists' weight-management program and their willingness to pay for such services (WTP) [17].

MATERIALS AND METHODS

Study design and subjects

This is a cross-sectional study in which a paper-based survey was distributed to a convenient sample of laypersons residing in the city of Irbid (a large city in northern Jordan) via a face-to-face approach between September 2017 and January 2018.

Data collection

Before data collection, sample size calculation was carried out using the Raosoft® sample size calculator and

found a margin of error of 5% and 95% confidence level to be representative of the population of Irbid. The minimum required sample size was estimated to be 384.

Pharmacy students who received training through a customized workshop regarding the administration of the survey invited persons in public to complete the survey. They described the purpose of the study to the potential respondents and waited for them to complete the survey if they consented to do so. They distributed that survey to the collaterally public they interact with, with higher responses from people usually within the university area. The questionnaire distribution was anonymous to protect the confidentiality of the respondents. The completion of the questionnaire was considered a consent to take part in the research.

Instrument

Variables

A 33-item self-developed instrument and relevant published research articles guided the development of the instrument [18–20]. The main parts of the instrument included background characteristics, socioeconomic factors, access to obesity treatments, beliefs of the public regarding weight management service from community pharmacists, and a formal assessment of the WTP for a pharmacy-delivered weight management service provided in the community settings (utilizing the payment card approach).

Variables measured in this study included demographic information, such as sex, age, marital status (married and single), occupation (unemployed, medical, or nonmedical occupation), education (uneducated, primary, secondary, or tertiary education), and insurance; weight and height; family history for increased weight; socioeconomic factors such as income level, family size, living standard level, and living location (city, village, or rural area); chronic diseases such as hypertension and diabetes; access to services for weight loss, including who do they consult for increased weight primarily, whether they visit dietician regularly, the convenience of dietician location and if they face any difficulty in consulting dietician; any previous weight loss attempts and lifestyle issues relevant to obesity (e.g., diet and exercise); beliefs about weight management services provided by pharmacist (a single item that assessed the perceived usefulness of pharmacy delivered weight management service) and their WTP for pharmacist-led weight management services. The survey was developed in the Arabic language.

WTP assessment

For the WTP assessment, a hypothetical scenario for pharmacy services to address obesity was created. It included a full description of the hypothetical service to address increased weight from the community pharmacy. Also, it included a request to specify the maximum amount individuals were willing to pay to receive the desired outcome using the payment card approach. Furthermore, it was stated in the survey instructions that respondents who are normal or underweight should respond to the questionnaire as if they were obese.

The following is hypothetical scenario that was provided to respondents

“Obesity is a disease characterized by increased fat stored in the body relative to the muscle size. Usually, when someone is obese, weight does not correspond with height. There are several diseases related to being overweight/obese, including heart disease, diabetes, atherosclerosis, and joint problems. Obesity is prevalent in Jordan, and we propose the development of a new service from a community pharmacy in which the pharmacist addresses the problem of obesity. The service involves making an appointment with the pharmacist for 30 minutes to:

- Collect data and conduct the patient assessment;
- Carry out anthropometric measurements, such as height, weight, and percentage of fat in the body;
- Give advice related to lifestyle to combat obesity;
- Support patients’ selection of drugs or supplements, by prescription or over the counter, to address increased weight; and
- Monitor patients in terms of achieving their goals of treatment, decreasing adverse effects, and solving any problems incurred.
- This service has similar efficacy compared to related services provided by healthcare professionals, such as dieticians.
- Given the above information, what is the maximum amount of money you are willing to pay for the service described above—USD 0, USD 5 (JD 3.54), USD 10 (JD 7.09), USD 15 (JD 10.63), USD 20 (JD 14.18), USD 30 (JD 21.26), or USD 50 (JD 35.44)?”

Validity and reliability of the instrument

The survey was developed by the research team with some items adapted from previous publications [18–20]. Items obtained from the research literature were adapted and translated from English to Arabic language and were subject to a back-translation process in order to make sure that the main concepts within the items were accurately translated. The back-translation process included the translation of the formed Arabic version to English independently and assessed whether the translation process preserved the main ideas and concept of the original instrument.

For the developed instrument, faculty members reviewed the survey and assessed it for face and content validity. Those faculty members have postgraduate degrees either in pharmacy or nutrition. To confirm the validity of the instrument, content, and construct validity were assessed. The content validity index was calculated and found to be 89.6%, based on the review of four faculty members who were either pharmacists or dieticians and held postgraduate degrees. The instrument was subject to factor analysis via the principle component analysis approach, analysis revealed that Kaiser-Meyer-Olkin of 0.669, which indicates that the sample is adequate as it is higher than 0.6 according to the test assumptions, and the *p*-value for Bartlett’s test of sphericity for the present study instrument was <0.001, which confirm that the factor analysis was appropriate. The factor analysis retained five factors indicating

the instrument domains. Components explained 32.01% of the total variance, and the five domain label was confirmed by high (>0.4) loading. Low commonalities were observed in a few items. The instrument achieved Cronbach’s alpha of 0.650, which confirms the reliability of the instrument. In addition, a pilot exercise was carried out, in which the instrument was distributed to 10 individuals (laypersons), to ensure the clarity of the survey items and check survey completion logistics. The pilot data was excluded from the final analysis. Minor revisions in the format and the wording of the survey were made for the content and formatting of the instrument after considering the input from faculty members’ review and the laypersons’ pilot exercise.

The protocol for the present study was approved by the institutional review board (IRB) at King Abdullah University Hospital in Irbid, Jordan (IRB reference number: 19/116/2018).

Data analysis

All data collected were entered into SPSS v19.0 (Armonk, NY: IBM Corp). A descriptive analysis was used to describe the frequencies and trends in the data, e.g., demographics and access to care. The mean WTP for weight management services provided by the community pharmacists was compared by different variables, including monthly income, standard of living, and access to care, using the Kruskal Wallis test. Chi-square analysis was used to assess the factors affecting WTP or not and also chi-square analysis was used to assess the factors affecting the usefulness of the pharmacy services to address obesity. A stepwise logistic regression analysis model was used to identify independent predictors of WTP. Initially, univariable analysis was carried out to identify the candidate variable to be considered for the model and the selected variables were those that have a *p*-value less than 0.250. Candidate variables were included in a “backward” logistic regression analysis retaining independent predictors associated with the outcome variable, WTP. The statistical significance was set at an alpha level of 0.05.

RESULTS

Patients’ demographic data

A high response rate has been achieved, as of the 1,000 questionnaires distributed, 966 were returned yielding a response rate of 96.6%. More females (68.6%) than males (31.4%) responded. A large proportion (64.1%) of the respondents were between 18 and 30 years old and 60.8% of the respondents were single. In terms of occupation, 63.2% of the respondents were not employed (including students), 12.0% had medical employment, and 24.8% had nonmedical employment. This high percentage of unemployment in the respondents might affect the ability of the respondent to pay for healthcare services, a key factor studied in the present study. Furthermore, 17.3% of the respondents had completed secondary education and 75.6% had completed tertiary (university) education, these educational statuses can serve as a proxy for socioeconomic status. The majority of respondents (71.0%) had health insurance. Table 1 provides full details about these characteristics.

Table 1. Demographic variables of respondents to the WTP survey.

Variable	n	%
Sex		
Male	300	31.4
Female	655	68.6
Age (years)		
18–30	511	64.1
31–40	75	9.4
40–60	182	22.8
>60	29	3.6
Marital status		
Single	584	60.8
Married	377	39.2
Occupation		
Not working	605	63.2
Medical	115	12.0
Nonmedical	238	24.8
Highest educations		
Illiterate	13	1.4
Primary	56	5.8
Secondary	166	17.3
Tertiary	727	75.6
Health insurance		
Insured	683	71.0
Not insured	279	29.0
BMI (kg/m ²)		
Underweight (<20)	91	10.7
Normal weight (20–24.9)	279	32.8
Overweight (25–29.9)	253	29.7
Obese (30–39.9)	198	23.3
Morbidly obese (40+)	30	3.5
Obesity among first-degree relatives		
Yes	516	60.0
Chronic diseases		
Hypertension	516	15.2
Diabetes	101	10.9
MI/Stroke	32	3.5
Dyslipidemia	134	14.5
Heart failure	17	1.9
Hyperthyroidism	37	4.0
Hypothyroidism	34	3.7
Chronic kidney disease	39	4.3
Liver disease	9	1.0
Asthma	63	6.9
COPD	21	2.3
Rheumatoid arthritis	45	4.9
Gout	37	4.0
Depression	167	18.2
Income level (per month, USD)		
<500	411	43.7
500–1,000	391	41.6
>1,000	139	14.8
Family size		
1–3	103	10.7
4–5	264	27.4
Six or more	598	62.0

Continued

Variable	n	%
Highest education for householder		
Primary education	52	5.4
Secondary education	348	36.1
Tertiary education	563	58.5
Standard of living		
High	103	10.7
Somehow high	179	18.6
Average	576	59.8
Somehow low	51	5.3
Low	37	3.8
I do not know	17	1.8
Living location		
City	582	60.5
Village	357	37.1
Rural area	23	2.4

After calculating BMI from the reported weight and height, 10.7% of the study sample were underweight (BMI <20 kg/m²), 32.8% were normal weight (BMI = 20–24.9 kg/m²), 29.7% were overweight (BMI = 25–29.9 kg/m²), 23.3% were obese (BMI = 30–39.9 kg/m²), and 3.5% were morbidly obese (BMI ≥ 40 kg/m²). The calculated BMI for the study sample could not be used to calculate the incidence of obesity due to that the sample was collected in a nonrandom manner. Sixty percent of the respondents indicated obesity among first-degree relatives. The results revealed that the most prevalent chronic diseases were depression (18.2%), hypertension (15.2%), dyslipidemia (14.5%), and diabetes (10.9%). A total of 43.7% of respondents, had a monthly income level of less than \$500. The low income has been collected to ascertain the level of socioeconomic status. The family size was 1 to 3 individuals for 10.7% of the respondents. Full details regarding these parameters are presented in [Table 1](#).

Access to weight management service

[Table 2](#) addresses issues related to access to services for weight loss. About 21% of the respondents regularly visited a dietician or healthcare provider for obesity. A total of 38.5% of respondents considered the location of the dietician or other healthcare providers specialized in obesity to be convenient. About one-quarter (26.3%) of the respondents indicated that they had difficulty visiting a dietician or other healthcare providers specializing in obesity. Such problems in access to care are an important consideration when it comes to their ability to pay for the service, which highlights a public health issue for the respondents.

Just under half (44.6%) of respondents had attempted weight loss strategies. Specific strategies attempted by respondents were exercise (37.7%), weight reduction regimen obtained from lay relatives, friends, or the internet (23.1%), dietician consultation (15.7%), natural or herbal products (14.8%), and getting medicine from a pharmacy (7.1%). In terms of lifestyle factors carried out in the previous week, 23.8% of the respondents followed a dietary regimen for 4–7 days, 39.5% consumed five portions of fruits and vegetables for 4–7 days, 60.7% consumed a high-fat diet for 3 days or

Table 2. Access to services for nonpharmacist weight loss services and weight loss attempts and lifestyle issues relevant to obesity (e.g., diet and exercise).

Variable		<i>n</i>	%
Regularly visiting dietician or other healthcare provider regarding obesity	Yes	197	20.5
Appropriateness of the location of dietician or other healthcare provider specializing in obesity	Yes	367	38.5
	No	300	31.4
	Do not know	289	30.2
Difficulty in visiting dietician or other healthcare provider specializing in obesity	Yes	709	26.3
Attempted weight loss strategies	Yes	429	44.6
	Missing values	4	0.4
Specific strategies used	Medicines from pharmacy	68	7.1
	Natural or herbal products	142	14.8
	Dietician consultation	151	15.7
	Exercise (systemically designed)	138	14.4
	Exercise (unsystematically designed)	224	23.3
	Weight-reduction regimen obtained from lay public and internet.	222	23.1
	Other strategies	15	1.6
	Did not use any strategy for weight reduction	357	37.2
Followed dietary regimen (number of days in the previous week)	0–3	667	76.2
	4–7	208	23.8
	Missing values	91	9.4
Consumed five portions of fruits and vegetables (number of days in the previous week)	0–3	551	60.7
	4–7	357	39.3
	Missing values	58	6.0
Consumed high-fat meal (number of days in the previous week)	0–3	594	64.1
	4–7	333	35.9
	Missing values	39	4.0
Consumed food before sleep (number of days in the previous week)	0–3	547	59.5
	4–7	373	40.5
	Missing values	46	4.8
Exercised for 30 minutes (number of days in the previous week)	0–3	563	61.3
	4–7	355	38.7
	Missing values	48	

less, 59.5% consumed food before sleep for 3 days or less, and 38.7% exercised for 4–7 days. Such results can indicate that healthy lifestyle recommendations, including diet and exercise, can be obtained from a variety of sources.

Patients' level of preferences and WTP for weight management service

Table 3 shows the beliefs and preferences regarding pharmacy service in addressing weight loss. Respondents trust the pharmacist as a total of 71.2% of respondents viewed community pharmacy weight management interventions to

be useful or very useful, 21.1% were neutral regarding their efficacy, and only 7.6% viewed them as not useful or not very useful. Regarding WTP, 14.8% of individuals were not willing to pay for pharmacists' services. The remainder of the respondents were willing to pay, for example, 20.4% would pay USD 5, and 20.4% would pay USD 10.

Factors affecting patients' WTP for weight management service

Table 4 summarizes the average WTP for pharmacy services by monthly income, standard of living, and access to

Table 3. Beliefs about pharmacy services and respondents' preference in relation to pharmacy services.

Variable		<i>n</i>	%
Efficacy of community pharmacy weight interventions	Very useful	210	22.2
	Useful	463	49.0
	Neutral	199	21.1
	Not useful	50	5.3
	Very not useful	22	2.3
	Missing values	22	2.3
WTP for community pharmacy weight interventions (USD)	0	141	14.8
	5	194	20.4
	10	138	14.5
	15	113	11.9
	20	135	14.2
	30	93	9.8
	50	137	14.4
	Missing values	14	1.4

Table 4. Average WTP for pharmacy services by monthly income, standard of living, and access to care.

Variable		Mean willingness to pay (\$)	<i>p</i> -value*
Average monthly income (\$)	Less than 500	14.6	<0.001
	500–1,000	18.6	
	More than 1,000	22.0	
Standard of living	High	23.1	<0.001
	Somewhat high	22.0	
	Average	15.7	
	Somewhat low	11.0	
Difficulty in visiting a dietician	No	18.4	0.001
	Yes	14.2	

*Using Kruskal–Wallis test.

care, as indicated with a chi-square test. Respondents willing to pay for the community pharmacy service were more likely to be single ($p = 0.033$) and overweight ($p < 0.001$); have a family of 4–5 members ($p = 0.035$); have a high or somewhat high standard of living ($p = 0.045$); and have the belief that community pharmacy services to address obesity are very useful or useful ($p < 0.001$). Respondents who believed that pharmacy service to be useful or very useful were more likely to have low living standards ($p = 0.020$), had no difficulty in access to care ($p = 0.003$), were single (0.018), received higher education ($p = 0.007$) and had health insurance ($p = 0.044$).

Table 5 summarizes independent predictors of WTP for pharmacists' interventions for obesity, as identified by a logistic regression analysis. The identified predictors were having four

or more family members [odds ratio (OR) = 2.0], considering community pharmacists' obesity-reduction intervention as useful or very useful (OR = 2.1), and having an average, high, or very high standard of living (OR = 1.9).

DISCUSSION

In means to address the healthcare challenge of obesity, the present study attempted to assess public access to weight management services, beliefs toward pharmacist-delivered weight management services, and WTP for pharmacist weight management services. This is also important as anti-obesity interventions have not been included in the reimbursement schemes and anti-obesity interventions are not routinely delivered by the community pharmacists. The present study found that many respondents have some limitations in access to care to nonpharmacist weight management services, that can affect attaining the weight outcomes given the lifestyle changes are not adopted. On the other hand, the respondents reported positive beliefs regarding pharmacist weight reduction services, as approximately 70% of the respondents believed that the pharmacist services for weight reduction as useful or very useful and were willing to pay for such interventions. This represents an opportunity for community pharmacists to expand their services toward a more patient-centered weight management service,

Almost 75.6% of the respondents had completed tertiary education. A higher education level, especially tertiary education, might be associated with an increased social place in society for the individual. Such trends confirm other previous studies. Higher education also means more knowledge and better access to healthy food [21]. Previous research indicated that education, measured by years of formal education, is inversely related to obesity [21,22].

The prevalence of obesity in the present study is similar to the age-standardized prevalence of obesity in Jordan (60%–75%) [4]. In the present study, 18.2% of the respondents had depressive symptoms (according to one self-reported item), which can be a factor that increases the risk of obesity as indicated by a previous meta-analysis which quantified that depression increases the risk of obesity by 18% [23,24].

More than one-third (41.7%) of the study sample earned a monthly income of less than \$500 per month. The standard of living was low or somewhat low for 9.1% of respondents. This would directly affect the amount the respondent is willing to pay for weight management services and may underestimate the value of WTP for such services as it is known that income level is a strong predictor for WTP [19,25]. In addition, low socioeconomic status contributes to obesity outcomes due to the interplay of increased psychological distress and unhealthy diet and exercise habits [21].

The issue of low access to obesity-related health services has also been reported in the present study. Such a high magnitude of low access to care can add to the challenge of managing obesity, which confirms results from other previous studies. Increased weight may have a psychological element and might affect self-image, it is also associated with a significant negative health effect for individuals and is a major challenge to the healthcare system. The absence of accessible systems that can address the challenge of obesity is a public health problem. Spatial proximity to healthcare and affordability are found to be

Table 5. Variables included in the logistic regression model for WTP for pharmacist intervention for obesity.

Variable	B	S.E.	p-value	OR	95% C.I. for OR
Family members (four or more)	0.717	0.305	0.019	2.049	1.127–3.725
Viewed community pharmacy interventions as useful or very useful	0.763	0.224	0.001	2.145	1.383–3.327
Standard of living average (high or very high)	0.656	0.322	0.042	1.928	1.025–3.627
Constant	0.014	0.405	0.972	1.014	

major reasons for low access to obesity services in the present study. Research literature has confirmed that travel time to weight reduction programs and cost were important attributes for obesity-reduction interventions [26].

A large proportion of respondents deemed pharmacist weight management interventions to be useful or very useful, which highlights that pharmacist is trusted to address obesity, their attitude is in a positive direction and a viable business model for obesity intervention can be expected. Despite that, only 14.8% of respondents are not willing to pay anything for pharmacy services to address obesity. To realize anti-obesity interventions the service had to have certain attributes, including the degree of weight loss, how the treatments are delivered, adverse effects, the need for lifestyle modifications, and the cost involved [27]. Another overriding factor is that many lay public perceive obesity-reduction services from a pharmacist to be free, which might affect their WTP for a pharmacist's help.

In the present study, 55.3% of respondents were willing to pay \$15 or less for one appointment, which provides an estimate of the cost of such an intervention to address obesity. It is difficult to compare with studies carried out in other regions due to the differences in economic systems, e.g., it was reported that respondents in the USA and UK are willing to pay \$10.49 for pharmacotherapy per percentage point of weight loss [20]. Another study found the price of therapy for obesity to be a key factor and the average WTP was considerably high at \$362 [28]. In the present study, an overriding factor that might affect WTP is income level, as many respondents had a low income.

The results indicated that a high standard of living was associated with higher WTP, in which weight-reduction services can be viewed as an item that can be bought with money. Another factor that has been identified was those who perceived community pharmacy services for obesity to be useful were most probably willing to pay for their services. A similar factor has been confirmed by a published study, which was that high income affects the WTP the greatest amount; this factor is within the same theme as the standard of living [28]. A Swedish study reported that high income, increased weight, and education, among others, are factors associated with increased WTP for obesity treatments [27].

Several limitations have been noted for the present study. The height and weight data were collected via self-reporting which might be inaccurate and less reliable. The sample was not selected randomly, thus it was not representative of the entire public seeking to lose weight and does not allow for the calculation of obesity prevalence. Most of the respondents were unemployed, which would affect the amount they would be willing to pay. Due to the use of payment card methods to

assess the WTP, the results may be prone to "range bias." The WTP range may suggest the WTP value and may influence the respondents' decision.

The present study documented some aspects related to the delivery of new pharmacy services concerning weight management; however, to realize these services routinely a feasibility study is recommended. In addition, strengths, weaknesses, opportunities, and threats for the new service model need to be determined. In general, input from the present study might inform the development of the new service. Community pharmacists can attempt to expand their services toward more patient-centered, comprehensive weight management services with the aid of available evidence formed to support a viable business model.

CONCLUSION

Despite positive belief regarding pharmacy weight management service, there is an issue of limitation to access to care for weight management services overall, which can be caused by the low socioeconomics of the respondents. The majority of the respondents are willing to pay for pharmacist weight management services. Despite this, WTP might be affected by that most of the sample are students and unemployed. The sample contains a high percentage of respondents with low income and living standards, the respondents would choose the WTP amount from a predetermined range, and generally, people perceive pharmacist services to be free. To pay for pharmacy weight management service by pharmacists, the present study identified the following predictors, including family size, positive belief regarding pharmacy service, and average, high, or very high standards of living. Such data can inform the development of innovative, pharmacist-delivered weight management services to improve public health. Such an expanded role requires pinpointing factors related to the service delivery, including feasibility, strengths, weaknesses, and threats, to determine the sorts of weight management programs that community pharmacists can offer.

AUTHOR CONTRIBUTIONS

All authors made substantial contributions to the conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; agreed to submit to the current journal; gave final approval of the version to be published; and agree to be accountable for all aspects of the work. All the authors are eligible to be an author as per the International Committee of Medical Journal Editors (ICMJE) requirements/guidelines.

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CONFLICTS OF INTEREST

The authors report no financial or any other conflicts of interest in this work.

ETHICAL APPROVALS

The protocol for the present study was approved by the institutional review board (IRB) at King Abdullah University Hospital in Irbid, Jordan (IRB reference number: 19/116/2018).

DATA AVAILABILITY

All data generated and analyzed are included in this research article.

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