

An in-depth Perspective Analysis for Developing a Social Marketing Model to Promote Female Adolescents' Participation in Regular Physical Activities: A Qualitative Study

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Abstract

Background: Physical activity is one of the key factors in children and teenagers' health. The first step of planning based on social marketing is to conduct qualitative research. The present study follows a qualitative approach to identify the participants' viewpoints about regular physical activity and determine approaches to promote it based on social marketing framework.

Methods: The social marketing theory served as the framework of the study. The study was carried out as a qualitative directed content analysis in 2020 in Kermanshah city, Iran. Data gathering was done through individual semi-structured interviews. Totally, 23 students (aged 12–15) as the main participants along with five mothers and four physical education teachers were selected through purposive sampling.

Findings: After data analysis and extracting initial codes, they were all categorized in four predefined categories of social marketing model (product, price, place and promotion) and related sub-categories. The majority of participants emphasized on the advantages of physical activity, namely prevention of chronic diseases, physical fitness, increased concentration, better learning performance, and a decrease in depression. They noted that they preferred a happy and friendly environment for doing physical activity. The teenagers listed fitness clubs, the media, and social media as preferred places to receive educational messages. The majority of participants mentioned that face-to-face education, social media, and the internet are the best communication channels.

Conclusion: The results gave an insight and a deeper knowledge about values and motivations in teenagers that affect their decision to perform regular physical activity. Moreover, researchers can use the findings to design and implement interventional programs to promote regular physical activities for teenagers.

Key Words: Content analysis, Educational intervention, Program development, Qualitative study, Regular physical activity, Social marketing theory.

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1- INTRODUCTION

Physical activity is one of the key factors in achieving health in children and teenagers, which can prevent a wide range of diseases (1, 2). However, research studies show a growing trend of declining or lacking physical activity in the world and particularly in the developing countries (3). Lack of physical activity or no physical activity is not consistent with a healthy life and it is growing in different age groups and teenagers in particular (4). It is one of the main causes of non-contagious diseases such as cardiovascular diseases, diabetes, hypertension, metabolic diseases, and obesity (3, 5).

According to the latest reports of the World Health Organization (WHO) on Lancet Global Health, noncontagious diseases are the cause of 40 million early deaths (70%) in the world. In addition, 1.9 million of death cases are due to lack of physical activities (6).

One out of every four adults and three out of every four teenagers (11-17 years old) do not follow the WHO's guidelines about physical activity to eliminate the risk of physical disease and improve their health condition (7). According to WHO's reports, low level of physical activity is one of the seven risk factors in children and teenagers' health (8). Given this, WHO has introduced guidelines to improve physical activity based on age and gender (9, 10).

The results of studies in different countries have shown that 80% of teenagers at schools (85% in girls and 78% in boys) do not adhere to WHO's recommendation (1hour physical activity a day) (11). Studies have shown that the level of physical activity decreases and inactivity increases with age (12). Rostamimoez et al. found that the level of physical activity decreased with age and the highest decrease rate was at the age of 14 (13).

A qualitative study by Hosseinzadeh and Niknami showed that since physical activity is not a priority for families, lack of physical activity on a daily basis is one of the causes of negligence of physical activity in students (14).

According to the guidelines of the US Disease Control and Prevention (15) and the British Society of Physical Activity (16), at least 50% of physical training courses for students at school should be dedicated to moderate-to-vigorous physical activity (MVPA). Schools are good environments to increase the chance of physical activity in children and teenagers.

The mainstream recommendations for improving physical activity in girl students are based on multi-section intervention and school-centered intervention in particular (13, 17, 18). Schools are good places to help girls to grow and keep a healthy lifestyle (18).

Behavioral change theories and models are used to make a change and keep that change in physical activity (19); and adopting the right model for health planning needs recognizing the key factors and the right path of intervention (20).

A new venue to solve social and health issues and problems that is widely used in the developed countries is social marketing (21). It means designing interventional and controlling programs that are designed to improve acceptability of an idea or a social practice in a group of audiences (22). Social marketing is practiced in different fields to alter attitudes and behaviors of the public. Studies have shown that this method is highly successful in the field of physical activity (23, 24). Croner and Randal argued that social marketing is a framework to design behavior change programs and improve the success of such programs (25).

One of the key specifications of social marketing is using audience analysis

before designing the interventions. To have a better understanding of the audience, their needs regarding the health problems and their related factors are examined to develop efficient strategies (26, 27).

Marketing mix with four Ps is a term used in social and commercial marketing. It comprises four constructs namely product, price, place, and promotion (28).

Product refers to a set of benefits associated with the desired behavior or service usage. It deals with profit-enhancing strategies, which are associated with tangible desirable behavior (29). In social marketing, place is the area where the target group performs the desired behavior, achieves any tangible goal related to the desired behavior and receives any related service. Price in social marketing includes tangible costs and intangible behavior changes (30). Xia et al. defined pricing strategies as strategies to reduce the barriers perceived by the target audience to implement the desired behavior (29). Promotion is about using media, advertisement, public relations, and other ways, in access to the consumers, to inform and motivate them (31, 32).

Promotion is almost the most evident element of marketing and it consists of promotional communications used by marketers to convey the advantages of a product or service, tangible objectives, pricing approaches, and the elements of place (30).

A study by Fujira et al. showed that social marketing can be a tool to improve participation in physical activities (33). Ramirs et al. emphasized in their study on the positive role of social marketing in changing destructive behaviors into a useful behavior for health. They also argued that the positive results obtained by social marketing such using healthy foods can be extended to physical activity as well (34).

An evolutionary research consists of a qualitative and a quantitative study and it is used to evaluate and improve educational interventions. Through the qualitative method, a deep understanding about phenomena is attained by health researchers, which helps them to discover behaviors and subjects about health from the target population's viewpoint in the texture (35). Despite the several studies on physical activities, there is a paucity of qualitative study on physical activities in teenagers (36-38). There is also a paucity of studies using consumer-based models such as social marketing in the physical activity field (39, 40). Considering the importance of physical activity in promoting health, and since no similar study has used a social marketing approach to change physical activity behavior in the target population, we decided to conduct this study. Therefore, it is possible to frame and package a public health product based on the needs and demands of target consumers. The present qualitative study is an attempt to achieve an in-depth perception of audiences' viewpoint about regular physical activity and determine approaches based on social marketing mix. The stages two to four of social marketing operational model were implemented, including the audience analysis to determine needs and preferences of students, and the market analysis to determine elements such as competitors, partners, and elements of marketing mix in the regular physical activity field, as well as the channel analysis to identify communicational and executive challenges for the program.

2- METHODS

This study was carried out as a qualitative directed content analysis in the academic year 2020-2021. The three stages of SMART model (Social Marketing Assessment and Response Tool) were implemented namely: 1) audience analysis to identify the needs and preferences

among students; 2) market analysis to determine elements such as competitors and the elements of marketing mix in the field of regular physical activity; and 3) channel analysis to determine communication channels and proper ways to implement the program (41).

2-1. Sampling

The participants were selected through a purposive sampling method. The target group was selected among teenage girls between 12-16 years old in junior high schools of Kermanshah, Iran. The inclusion criteria were as follows: not having had regular physical activity for at least the last six months; being interested in participating in the study; having the ability to express their experiences, opinions, and views. The parents and physical education instructors of the student participants were also considered in the study. By visiting the schools, it was possible to have access to them.

2-2. Procedure

A semi-structured interview protocol was implemented to identify barriers and motivations of adolescents and determine strategies, based on the socio-marketing mix in the implementation and promotion of physical activity based on a review of scientific texts and resources in the field of physical activity (36, 37). Before interviewing, the participants were briefed about the study method, confidentiality of information, and the aim of the study. We used individual semi-structured interviews to collect data. The interviews were based on the interview guidelines and with observance of health protocols and social distancing during COVID-19 pandemic. In addition, the interviews were done based on social marketing mix (4P). Each interview took between 20 to 30 mins and probing questions were used to motivate participants to give more complete answers (e.g. For a question like “what is the best type of physical activity from your

viewpoint?” probing questions such as “explain more,” “what do you mean?” “how and why?” and “please give an example?” were asked)

In observance of research ethics, the participants were informed that their voice would be recorded and that all information will remain confidential and used only towards the objectives of the study. In addition, the participants were reminded that they can leave the study at any stage. The participants and their parents signed a written form of consent. With the consent of students, the interviews were private and face-to-face at school. It made sure that the participants felt relaxed during the interview. Sampling was continued until data saturation -i.e. no new information would be found (42). We reached data saturation with 32 interviews with 23 students, five parents (mothers) and four physical education trainers at schools.

2-3. Data Analysis

Consequently, interview transcripts were analyzed for key concepts and variables of 4P's in social marketing. A more deductive approach to content analysis that was more structured than conventional content analysis, was considered as a form of directed content analysis (43).

At the end of each interview, the points were summarized and the respondent was asked to add any last comment if any. The answers were analyzed using a content analysis method. Following each interview and along with the data gathering phase, the recorded interviews were transcribed verbatim and examined along with the field notes. Word processing was done in Microsoft Word Software. To achieve a general perception of the interviews, the contents were read several times. Then, the primary codes were extracted and through comparing the codes based on the similarities and differences, subcategories were extracted (44).

Coded texts were discussed and analyzed by two of the researchers to yield a common perception of the descriptions given by the participants in the study. Then, the codes were categorized based on similarities to form the main subcategories. The subcategories were categorized based on marketing mix components (4p).

The process was continued to obtain categories. To add to scientific rigor (like data reliability in quantitative studies), specialized methods for qualitative works such as peer review, external review (experts), and participant review were used.

3- RESULTS

The mean ages of the participating students, parents, and physical trainers were 13.8, 46, and 32 years, respectively. Other demographic characteristics of the participants are listed in **Tables 1** and **2**. Following the primary coding of the interview transcripts, concept extraction was started and totally, 110 primary codes were extracted. Following data analysis

and extraction of primary codes, they were categorized on the basis of the four elements of marketing mix (product, price, place, and promotions) and the subcategories (**Table 3**).

3-1. Product

Since our product was “physical activity” behavior among adolescents, we investigated the types and benefits of physical activity based on the audience’s interest to make the behavior more attractive and valuable so that it would lead to the acceptance of the proposed product by a target audience. To achieve this goal, we identified and categorized the most important benefits of the product (physical activity behavior) along with the audience’s needs. In this line, the physical activity characteristic as the desired product is an important determinant of the acceptance and continuity of behavior. The “Type of physical activities of interest” and the “Perceived benefits” were the main findings extracted and categorized from the participants’ interviews.

Table-1: Demographic characteristics of the study students

Variable		Number
Age	12 year	3
	13 year	5
	14 year	10
	15 year	5
Grade	Seventh	4
	Eighth	6
	Ninth	13
Menstruation	Has it	13
	Does not have	10

Table-2: Mothers demographic characteristics

Parents	Age	Job	Education
Mother1	44	Employee	Ph.D
Mother2	38	housewife	Diploma
Mother3	54	Employee	MA
Mother4	45	Employee	Doctor
Mother5	49	housewife	Diploma

Table-3: Participants' viewpoints

Category	Sub-category	Codes	examples of comments
Audient	Ensuring physical health	Prevention of disease	It is good for health and skeletal stability. It improves growth and corrects the bones form.
	Ensuring mental health	Acquisition of self-confidence, happiness, less stress, vitality, higher concentration, joy	Exercising is needed for physical and spiritual health and it improves self-confidence. Exercising makes you happier and stronger and it can fill the moments in the day that you have nothing to do.
	Self-efficacy	Facing obstacles	Of course, we should do it during COVID-19 pandemic to remain in shape, prevent cardiac diseases, and work better
Product	Physical activity status	Jogging, jump rope, warm up, and stretching, basketball, volleyball	Jogging is good even for sick people. Any physical activity is good and before anything, it is imperative to worm up and prevent muscle cramp.
	Advantages of physical activity	Prevention of disease, body fitness and skeletal growth, vitality, less aggressiveness, less stress	It helps burning fat, it is good for the body and it may be harmful when it does not suit the age. It helps you become taller, have stronger wrists, and have a stronger body.
Price	Personal obstacles	Laziness, lack of family support, physical problems	Laziness prevents physical activity and creates negligence about one's health. Maybe it is no possible for them to exercise. For example, they are obese and there is no space for physical activity where they live.
	Environmental and social obstacles	Lack of space, living in small apartments, long distance to the nearest facility, high cost of going to gyms	Because of COVID-19, people are recommended to stay at home. If you have yard, you can run in a circle at the yard. Going gym was a good option before the pandemic because the environment was motivating. The environment in gym is design to motivate physical activity.
Place	Good place to receive the message	Gyms, educational facilities, cyber space	It depends on the method; you can use online courses or ask someone who has the information; of course, a physical trainer is better
	Suitable places for physical activity	Easy access to facilities and equipping all schools with sport equipment	Of course, gym, because there is a trainer and enough equipment to exercise. Public parks and the home are also good.
Promotion	Using advertisement	Using environment ads, the TV and Radio, sport	Cultural work is needed in the society, the media and social network should

Category	Sub-category	Codes	examples of comments
	and proper communication channels	celebrities at provincial level, and other celebrities and artists	promote physical activity. Schools also need to promote it. The media and families can motivate children. The media also affects adults. The environment should also promote this by providing decent environment in public parks.
	Influencers on physical activity in teenagers	Parents, trainers, peers, relatives	I would prefer my parents and watching them doing physical activity. I do not like it when older individuals are at the gym.
	Using technology	Findings partner	I would say a mobile app that runs at a specific hour of the day to promote exercising
		Support services	We should make sure that they are attracted to physical activity and exercising. For instance, we can help them when they do not have enough time to make time.

3-2. Type of physical activity

The participant's viewpoints about physical activity (e.g. the best type of physical activity) and their desire to perform such activity indicated that the majority of them preferred to do juggling, rope jump, and stretching on a daily basis. *"Juggling, running, and warming up are not heavy tasks and can be done every day"* (13 years old). The majority of participants noted that juggling was a common type of physical activity; while some referred to daily chores at home as their usual physical activity. *"Because the body is active and does not rest."* *"Any activity that makes us burn energy is considered a physical activity."* (12-year-old)

3-3. Perceived benefits

The participants listed a wide range of physical and spiritual benefits for physical activities. The majority highlighted prevention of chronic diseases, fitness, better skeletal development, and vitality. *"He mind can concentrate more on the*

homework and school work and you feel more vital" (14 years old).

"It makes you feel more energetic and stronger. It can fill the time of the day that you have nothing to do." (12 years old). Among the main causes of lack of physical activity in the teenagers was seeing no value in life, reluctance to do physical activity, no interest in body fitness, lack of knowledge about the benefits of physical activity, and financial problems.

Mental health appears in different forms such as gaining more self-confidence and feeling more energetic, which was mentioned frequently as the benefits of physical activity. *"It is a way to use energy, control aggression, and decrease stress."* (14 years old).

3-4. Price

To achieve this aim, the perceived costs or barriers to the behavior should be identified from the perspectives of the audiences. Before deciding to adopt a behavior, the audience contrasts perceived costs with perceived benefits of the behavior and adopts behaviors with prices

and costs less than the benefits. The main findings of this section were divided into two general categories: “Personal obstacles”, and “Social and environmental obstacles”.

3-5. Personal obstacles

The majority of the participants mentioned the lack of a strong will and laziness, lack of family support, lack of time because of heavy homework, physical problems, and illness. *“Even the family has a role to play. They are not interested in their health, or they might be even unaware when they do not motivate the child to have physical activity” (14 years old)*. This was one of the obstacles and problems of doing physical activity in teenagers. Some other participants highlighted the lack of facilities and the required condition for physical activity. Some mentioned the sexist attitude in society about girls’ physical activity as a reason for the lack of physical activity in teenage girls. *“Some believe that physical activity and exercising such as martial sports are not good for girls” (14 years old)*.

Parents proposed that the main factors causing the lack of physical activity in teenagers are the long hours spent on mobile phones in social media. *“Mobile phones and social networks keep my daughter busy all day and stops her from doing physical activity” (12 years old)*. Some noted that having no siblings was a reason for the lack of physical activity.

3-6. Social and environmental obstacles

This category refers to the social and environmental factors that limit physical activity among adolescents. All participants highlighted the lack of facilities such as space for doing physical activity. For instance, there is not enough space in the neighborhood and the nearest sports facility is too far. Some others mentioned financial problems and expensive gyms.

3-7. Place

This category refers to the place that female students prefer being exposed to physical activity messages or the place that they want to do physical activity. The extracted codes were categorized into two subcategories including “A good place to receive the message”, and “A good place to do physical activity”.

3-8. A good place to receive message

Facilities in public places are opportunities to transfer knowledge. The majority of participants mentioned that schools, gyms, the media, and social networks are good places to receive messages. *“It depends on the method. You search the Internet or ask an individual who has the knowledge. I prefer asking a sports trainer in person.” (13 years old)*.

Some mentioned that city billboards or holding public sport events are influential in promoting physical activity.

There are factors in the environment that can motivate teenagers to have physical activity. For instance, public transportation facilities are good places for sending messages. *“If there are rental bicycles on sidewalks, I might be motivated to use them instead of taking a cab. The fact that there is only cab and everyone uses it, makes it a norm to only use them for transportation.” (12 years old)*.

3-9. Good places for physical activity

The majority of participants mentioned that going to gyms is a good idea and some found public parks a better place given the open space and availability of sports facilities at parks. Some others mentioned that green spaces and using body building equipment are good for doing physical activities. *“A good point in gyms is that there is a trainer and you can learn the right way of practicing.”* Some rejected the idea of doing sport in open spaces because of COVID-19 pandemic. *“I don’t like going outside to play sports during the*

pandemic. You can practice at home or run in the yard” (13 years old).

“The best place for physical activity is a gym as there is no limitation for physical activity and no one would interrupt you.”
“The gym environment is designed for doing physical activity so that you only think about practicing”.

From the parents and school officials' viewpoint, the best places for doing exercise are schools and gyms. Going to the gym was recommended if there was a specific hour for it.

3-10. Promotion

Promotion refers to the use of different methods to give awareness and motivate teenagers. Two subcategories were found in promotion namely “Advertisement strategy” and “Influencers on teenagers.”

3-11. Using advertisement and efficient channels

The majority of participants noted that face-to-face sessions, SHAD social network Telegram, the Internet and asking individuals with regular physical activity or a trainer were the best channels.

3-12. Influencers of physical activity in teenagers

The majority of the participants mentioned the parents and school instructors as good influencers. Some mentioned family members (parents and siblings), relatives, friends, health clinic, and medical staff. *“... My father motivates me.”* Some said that they do not receive that much motivation from others. *“I usually do the opposite; therefore, I prefer not being motivated by others” (14 years old).*

Accepting peers as role models was an efficient factor in doing regular physical activity. *“At this age, the peers have a special influence on you and they can guide you towards good things.”* Some mentioned that only successful peers in terms of school lessons and morality can

be role models and motivate them to do physical activity. *“If she is a good girl and good at her lessons, she can be my role model for physical activity” (13 years old).*

3-13. Use of technology

One of the ways to improve healthy behaviors is to use new educational media like the Internet, mobile phones, and applications. Social network applications were mentioned by the participants as influential ways for promoting physical activity. *“An application to explain the right way of doing physical activities, which is designed to be activated at a specific hour of the day, can be a good solution.” (13 years old).*

4- DISCUSSION

In general, the teenage participants in this study were aware of the importance of regular physical activity. It appears that regular physical activity in teenage girls is affected by internal and external factors. Personal and environmental obstacles (price) were the most important finding in this study. Although it is not easy to control the large number of factors in teenagers' lives, it is possible to overcome internal obstacles through motivation and social support. Parents' support has a key role in overcoming physical activity obstacles and realizing the importance of physical activity. The findings showed the role of family in physical activity behavior of teenage girls. This finding is consistent with that of Blackshear (45).

Price is one of the most important elements of social marketing. In the majority of social marketing interventions, price is not about financial behavior and it may appear as time, endeavor, physical obstacles, and the like (46). Another element of social marketing with high importance was access to a suitable place to do physical activity. Anthony et al. argued that using open spaces was one of the approaches to improve participation in leisure sports given the easy and free

access to such spaces (47). Physical activity has no risk for healthy individuals during COVID-19 pandemic. In fact, the benefits of regular physical activity are undeniable even when a new virus has troubled the society. Still, preventive measures to decrease the risk of infection are imperative. Shirvani and Rostamkhani highlighted doing physical activity at home or in less crowded spaces during the pandemic (48).

Motivation as a one-way communication channel can deliver the message to a large group of individuals in a short time period. Celebrities and influencers can play a major role in promoting a product or service. These individuals can be popular athletes, actors/actresses, veterans, or accepted groups such as family, social brands, and trainers.

The participants highlighted the positive effects of using celebrities, local athletes, artists, and celebrities as good ways to promote physical activity in teenagers. Sempogena and Olga (49) supported the use of advertisements and the power of celebrities as good ways to influence behavior and promote healthier behaviors. Their findings are consistent with those of the present study.

Families and parents in particular can act as a booster and supporter to initiate and keep a specific behavior. Through using different methods to motivate teenagers and by preparing the requirements, families can promote physical activity among teenagers. Edwardson and Gurly showed that despite the parents not being as influential on teenagers as they are on children, the level of the parents' physical activity is important for teenagers (50).

Manouchehri Nejad et al. highlighted the important role of family, peers, school, and the media to institutionalize sport culture in children and juveniles (38). Studies on the supportive role of parents have shown that the parents' support and help are key

correlating factors in the promotion of physical activity behavior among teenagers (51-54).

As the results showed, by being role models, parents and siblings can have key roles in motivating teenagers to do regular physical activities. Keisi et al. showed that as a role model, parents can indirectly create a positive atmosphere for participation of their children. Family members and those who have regular physical activity can increase participation of teenagers as they can motivate their daughters to do physical activity and prepare the environment for doing such activities (55).

Parents and experts argued that the most important obstacle in the way of creating a healthy life was the priority of school courses over physical activities. Amiri et al. also mentioned that priority of school courses was a serious challenge in making changes in the lifestyle of teenagers (56).

Transportation challenges to go to sports facilities outside the school were also highlighted by the parents. A study in North Carolina showed that the long distance, cost, safety and security issues were the main obstacles on the way of doing physical activities by children (57).

The participating teenagers and parents mentioned using cyberspace, state of art technology, and mobile applications for educating and motivating the individuals in physical activities. The emergence of the Internet and new media and the wide-range effect of these media in people's lives have enabled them to overcome the obstacles of education, empower themselves, and improve self-care. Therefore, expansion in the use of social media in health education has become an essential matter (58).

Compared to other studies in the field of physical activity, the present study is featured with advantages such as using a qualitative method to explore teenagers'

viewpoint, categorizing subjects with an emphasis on teenagers, and introducing social marketing approaches. As for the limitations, the social distancing during COVID-19 pandemic was one of the main ones so that a few students would attend schools every day. However, although the present study is not as generalizable as a quantitative study, it can be highly useful for designing quantitative research projects in the future.

4-1. Trustworthiness

To support the validity of the data, the interview transcripts were reread and recoded a few days after the primary coding for comparison and examination of the validity of the codes. In addition, continuous engagement with the data enabled us to deepen and widen the information and ensure trustworthiness of the data. Member checks also improved coordination between the extracted codes and the experiences of participants.

5- CONCLUSION

The results showed that the teenagers' physical activity is subjected to personal, environmental, and social obstacles. The reasons mentioned by the teenagers for doing physical activity included health, and vitality, along with parental and environmental support. Studies like the present one can promote regular physical activity behavior, attenuate obstacles, improve solutions, lower costs, and increase the chance of taking opportunities to do physical activity. As the findings showed, by designing proper behavioral interventions, using social marketing mix solutions, and introducing rational, joyful, feasible, inexpensive, and accessible physical activities, it is possible to find the best promotional messages for the target audience and promote the teenagers' adherence to regular physical activities.

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9- ETHICS AND DISSEMINATION

All procedures performed in studies involving human participants were in accordance with the ethical standards of the Ethics Committee of Hamadan University of Medical Sciences with proprietary ID, IR.UMSHA.REC.1398.952. The results of this study are distributed to school officials and parents of the participating teenagers.

10- ABBREVIATIONS

WHO: World Health Organization; MVPA: Moderate Vigorous Physical activity; SMART: Social Marketing Assessment and Response Tool; COVID-19: Coronavirus Disease 2019

SDHRC: Social Determinants of Health Research Center

11- DECLARATIONS

11-1. Availability of data and materials

The datasets generated and/or analyzed during the current study are not publicly available but are available from the

corresponding author on reasonable request.

11-2. Author contributions

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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