

ISSN: 2651-4451 • e-ISSN: 2651-446X

Turkish Journal of Physiotherapy and Rehabilitation

2023 34(3)321-328

Ceyhun TÜRKMEN, PT, PhD¹ Tülin DÜGER, PT, PhD²

Çankırı Karatekin University, Faculty of Health Sciences, Department of Ergotherapy, Çankırı, Türkiye

2 Hacettepe University, Faculty of Physical Therapy and Rehabilitation, Ankara, Türkiye

Correspondence (İletişim):

Ceyhun Türkmen Çankırı Karatekin University, Faculty of Health Sciences, Department of Ergotherapy, Çankırı Türkiye 0531 101 73 92 fztceyhunturkmen@gmail.com ORCID: 0000-0002-3125-4113

> Tülin Düger E-mail: tduger@yahoo.com ORCID: 0000-0002-3332-5958

Received: 29.09.2022 (Geliş Tarihi) **Accepted:** 07.04.2023 (Kabul Tarihi)

CC BY - NC

Content of this journal is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

OPINIONS OF TURKISH SOCIETY ON PHYSIOTHERAPIST CONSULTANCY FOR MATTRESS SELECTION: A QUALITATIVE FOCUS GROUP STUDY

ORIGINAL ARTICLE

ABSTRACT

Purpose: Numerous mattress manufacturers market their products as "orthopedic" with therapeutic capabilities, claiming that the right mattress can improve an individual's sleep and quality of life. In this qualitative focus group study, we aimed to investigate how customers see the mattress brand that provides physiotherapist support services and their experiences with mattress companies with different characteristics.

Methods: Fifty participants were selected from women between the ages of 20 and 60 who were married or in preparation for marriage, and who had purchased a mattress or were in the research phase. The group discussion rules were determined and shared separately in all five groups. The data were thematically analyzed using the framework analysis approach.

Results: Customers' perceptions about mattress brands and their thoughts on physiotherapist consultancy are understood by questions such as "what do you think about mattress brands?" and "what does physiotherapist consultancy for mattress selection mean to you?" These two themes will be presented and discussed.

Conclusion: The physiotherapist consultancy was a service to satisfy consumer needs in terms of trust. An innovative service has been offered that can persuade the consumer to switch to the new and unknown New Brand. However, it is also possible that advertisements with health content, as previously experienced with other brands, have a negative effect on brand perception. For this reason, it may be more beneficial for the brand if physiotherapists who will work in the field act as life coaches rather than health professionals.

Keywords: Counseling, Focus Groups, Mattress, Physiotherapist, Qualitative Research

YATAK SEÇİMİNDE FİZYOTERAPİST DANIŞMANLIĞINA İLİŞKİN TÜRK TOPLUMUNUN GÖRÜŞLERİ: NİTEL ODAK GRUP ÇALIŞMASI

ARAŞTIRMA MAKALESİ

ÖΖ

Amaç: Çok sayıda yatak üreticisi, doğru yatağın kişinin uykusunu ve yaşam kalitesini iyileştirebileceğini söyleyerek ürünlerini tedavi edici özelliklere sahip "ortopedik yataklar" olarak pazarlamaktadır. Bu nitel odak grup çalışmasında, müşterilerin fizyoterapist destek hizmeti veren yatak markasını nasıl gördüklerini ve müşterilerin farklı özelliklerdeki yatak firmaları hakkındaki deneyimlerini araştırmayı amaçladık.

Yöntem: 20-60 yaşları arasında evli veya evliliğe hazırlanan, yatak satın almış veya araştırma aşamasında olan kadınlardan 50 katılımcı seçilmiştir. Grup tartışma kuralları belirlenmiş ve beş grupta da ayrı ayrı paylaşılmıştır. Veriler, "Çerçeve Analizi" yaklaşımı kullanılarak tematik olarak analiz edilmiştir.

Sonuçlar: Tüketicilerin yatak markalarına yönelik marka algılarının ve fizyoterapist danışmanlığına yönelik düşüncelerinin "yatak markaları hakkında ne düşünüyorsunuz?" ve "yatak seçiminde fizyoterapist danışmanlığı sizin için ne ifade ediyor?" gibi sorularla anlaşıldığını gördük. Bu iki tema katılımcılara sunulacak ve tartışılacaktır.

Tartışma: Fizyoterapist danışmanlık hizmetinin tüketicinin belirttiği güven ihtiyacına yönelik bir hizmet olduğu görülmüştür. Projede, tüketiciyi yeni ve bilinmeyen yeni markaya yönelmeye ikna edebilecek yenilikçi bir hizmet sunulmuştur. Ancak daha önce başka markalarda da yaşanmış olan sağlık içerikli reklamların markaya olumsuz bir hava vermesi de mümkündür. Bu nedenle sahada çalışacak fizyoterapistlerin sağlık profesyoneli kimliğinden ziyade yaşam koçu gibi hareket etmeleri marka için daha faydalı olabilir.

Anahtar Kelimeler: Danışmanlık, Odak Gruplar, Yatak, Fizyoterapist, Nitel Araştırma

INTRODUCTION

Sleep quality plays a crucial role throughout life. Good sleep can aid in the maintenance of a balanced circadian cycle, lowering fatigue and enhancing physical recovery (1). Poor sleep quality can be attributed to a variety of environmental conditions, including temperature, light, noise, and the comfort of the mattress. It has been claimed that 7% of sleep difficulties are attributable to uncomfortable mattresses that put stress on the spine during sleep (2). Previous research has suggested that the type of mattress can alter sleep quality (3, 4). In another study, participants who slept on air mattresses had a higher body temperature than those who slept on futons (5). In addition, Tonetti et al. discovered that expanded polyurethane-viscoelastic mattresses are superior to regular spring mattresses in terms of sleep onset latency and sleep efficiency (6).

To better comprehend the comfort of the humanmattress interface, it is essential to recognize the impact of various mattress materials on comfort. It has been proposed that a mattress made of phase-change materials (PCMs) could enhance thermoregulatory performance. Compared to ordinary mattresses, PCM mattresses can boost skin temperature by 0.3–1.0°C and linen temperature by 0.2-1.6°C (7). Due to its intrinsic qualities, a mattress incorporating PCM may provide enhanced comfort and heat transfer at the human-mattress interface. It has been stated that the use of a breathable mattress with a high bounce feature can effectively prevent heat loss in the mattress and encourage restful sleep (8). There are further methods for enhancing the comfort of mattresses, including thermal blankets, water circulation systems, and thermoelectrically conditioned mattresses (9-11).

The importance of mattresses for sleep quality has been recognized in several studies, but there is no consensus on the ideal mattress design for relieving or preventing cervical or lumbar pain (12). The hardness of the mattress appears to be the most crucial factor, as it has been demonstrated in some studies that medium-firm mattresses can greatly alleviate back discomfort (13). Numerous mattress manufacturers market their products as

"orthopedic" with therapeutic capabilities, claiming that the right mattress can improve an individual's sleep and quality of life. Such statements, however, are not supported by solid evidence. Therefore, it is beneficial to provide physiotherapist advice on mattress brands in order to determine which mattresses successfully alleviate or prevent back discomfort. Thus, healthcare providers will be able to recommend the appropriate mattress type to customers, thereby reducing or preventing back pain symptoms and improving their quality of life. In addition, the poor quality of numerous quantitative studies in the literature evaluating the best mattress for preventing back pain and enhancing sleep and quality of life suggests that qualitative studies are required on this topic (14).

There is no universally accepted or systematically evaluated model or guideline to help customers make consistent, transparent, customer-centered, and evidence-based decisions about choosing the right mattress. Consequently, there is a need to develop a more robust and open framework to assess the potential for establishing mattresses that customers will be comfortable with. For these reasons, we conducted a qualitative focus group study aiming to (i) examine customers' opinions about existing mattress companies and (ii) explore what a physiotherapist consulting service means to them. In previous studies, there has been no study investigating the opinions and recommendations of physiotherapists, including for the selection of medical mattresses to protect health. This study is the first to investigate the potential effect of advice provided by physiotherapists on the customer population of corporate furniture companies.

METHODS

Ethical approval

The study was reviewed by the Çankırı Karatekin University Research Ethics Committee on 28.06.2022 and approval was granted (28/06/22-26). Since the focus of the study and the main title of the ethical approval did not fully overlap, ethical approval was obtained for the main title of the subject on 10.10.2022 to investigate the ethical relevance of the main hypothesis of the study

322

(10/10/22-28). It has been confirmed retrospectively that it is ethically appropriate to report routine focus group meetings in scientific manuscripts. The study was conducted according to the Declaration of Helsinki. Written informed consent was obtained from all participants prior to participation and they were all assured that they could withdraw their consent at any time without consequences.

Procedure

Qualitative research is ideal for dispelling customers' mattress-related misunderstandings, because it provides direct access to people's thoughts, allowing them to openly voice their opinions on the topic. Focus groups promote group conversation through the use of open-ended questions and provide a large amount of data about how individuals make sense of the social world. Focus groups enable the production, maintenance, and sharing of knowledge that is socially shared through dynamic group conversations.

In August-September 2022, five focus groups were organized across Istanbul, Türkiye. In the research, the importance of the mattress in the lives of users, motivations for mattress selection, brand perceptions, and shopping experiences were examined. Fifty participants were selected from women between the ages of 20 and 60 who were married or in preparation for marriage, and had purchased a mattress, or were in the research phase. Those with a monthly income of the participants equal to or less than three minimum wages were accepted as "lower-middle-income customers," and those with a monthly income of more than three minimum wages were accepted as "upper-mid-

dle-income customers." The group discussion rules were determined and shared separately in all five groups. It was emphasized that the discussions in the group should be kept confidential, and the participants were asked to respect the experiences and opinions of others. The goal of these steps was to create an atmosphere where people felt safe talking about potentially sensitive topics and could freely express their opinions without fear of being castigated or uncomfortable. Research questions continued until the answers of the participants in each group were similar and consistent. The study was carried out at a market research center in Sisli, Istanbul. Data collection from focus groups was carried out by expert marketers collaborating with Brand New.

Sampling

We utilized purposeful sampling to include a range of experiences, vocations, and perspectives. Sampling and data collection were conducted simultaneously. In qualitative research, sample sizes are typically determined by the concept of data saturation (15). Guest et al. discovered that 80% of analytic themes were uncovered in two to three focus groups and 90% in three to six groups. This indicates that a sample size of between three and six groups was sufficient to identify the majority of themes (16). The average size of a focus group is between six and ten individuals. In order to achieve a total sample size of 50, ten volunteers were recruited for each of the five groups. The characteristics of the focus group participants were defined (Table 1).

Group Name	Sex	Age	Social Status	Marital Status
Focus Group 1 (n=10)	Female	40-60	High income, high education level	Mixed
Focus Group 2 (n=10)	Female	25-45	High income, high education level	Married
Focus Group 3 (n=10)	Female	25-45	Low income, low education level	Married
Focus Group 4 (n=10)	Female	20-35	High income, high education level	Engaged
Focus Group 5 (n=10)	Female	20-35	Low income, low education level	Engaged

 Table 1. Characteristics of the Focus Group Participants

n: sample size

Focus Group Analysis

The data were thematically analyzed using the framework analysis approach. The framework was reviewed by the study team to ensure that the resulting codes or labels were grounded in and supported by the data. The research team consisted of physiotherapists and professional qualitative researchers. Professional gualitative researchers interpreting the qualitative data analyses then met with the physiotherapists. At this meeting, the results and the pervasive impact of these results were discussed. Audio recordings of the interviews were listened to repeatedly alongside a review of field notes. The recordings were then transcribed. Initial analytical notes, key ideas, and impressions were generated. Two physiotherapists (CT and TD) read each line of the first two transcripts, applying the codes independently under the direction of the qualitative study researchers. The framework was reviewed by the wider study team to improve rigor. This process was conducted iteratively in parallel with further focus groups. CT analyzed the remaining transcripts, developing new codes and integrating these into the analytical framework until no new codes or themes emerged. The data were charted onto a matrix where each participant's responses were listed under the themes and supported with relevant verbatim excerpts to understand how themes were replicated or differed between transcripts. Quotes were presented from individual participants and group discussions that illustrated the essence of each theme. This process allowed the data to be explored across cases and themes and for the identification of disagreements and deviant cases (17).

RESULTS

It was observed that customers' brand perceptions about mattress brands and their thoughts on physiotherapist consultancy are understood by questions such as "What do you think about mattress brands?" and "What does physiotherapist consultancy for mattress selection mean to you?" These two themes will be presented and discussed. The characteristics and descriptive identities of the mattress brands are shown in Table 2.

What do you think about mattress brands?

The participants answered this question differently depending on their socioeconomic level. When shopping for mattresses, the upper-middle-class customers stated unequivocally that they preferred Brand B and Brand D products. In addition, this upper-middle-class customer class had a high tendency to shift to brands that they associated with expertise in mattress production. Finally, some of this group preferred Brand A to buy mattresses again, as they had bought Brand A mattresses previously, which was often preferred in the early stages of their marriage, and they were satisfied with this brand.

"I know that very special technologies are used in the mattresses. With the advice from a few friends, I researched these technologies in Brand D. They said it's really comfortable and you don't feel it when your partner moves because your side remains stable." (Focus Group 4)

Name	Features	Client Profile	Brand Identity
Brand A	Trusted, qualified, but mattress is not their specialty	Low-middle class, dowry shoppers	Traditional, old, reliable
Brand B	Proven and well-known, specializing in mattress production	Middle-upper class, seeking expertise in mattresses	Quiet, confident, elite
Brand C	Proven and well-known, specializing in mattress production	People from all walks of life, trendy, modern	Crazy, innovative, dynamic, remembered for its advertising
Brand D	Lesser known but expert in mattress manufacturing	Upper class, people who care about their health, are educated, knowledgeable	Cool, elite, expert
New Brand	Newly established, but specialized in mattress production	Not yet formed	Not yet formed

Table 2. Features and Descriptive Identities of the Mattress Brands

324

"Brand B has been a well-known and reliable brand for years. Brand C is a very innovative brand and is constantly developing new mattresses. I am undecided between the two brands."

(Focus Group 4)

"I've known Brand A since I was a kid. That's why it gives me a first-class impression."

(Focus Group 4)

"I think it is a great success that it came to mind when there are so many long-established mattress brands. If we can count Brand C alongside Brand B and Brand D, I think the company has taken the right actions."

(Focus Group 2)

Among the lower-middle-income customers, Brand A, Brand B, and Brand C were identified as trustworthy, while Brand D was not recognized by these customers. In addition, this customer group preferred Brand A, which enables dowry shopping, because they want to buy mattresses along with other furniture.

"I can only sleep on a soft mattress because of my condition. My fiancé prefers to sleep on a harder one. Brand C provided this. For example, half of it is softer and half of it is firmer... They can make double mattresses like this."

(Focus Group 5)

"I think Brand A is better in terms of mattress bases and headboards, but Brand C is more successful in mattresses; I think it is the leading company."

(Focus Group 5)

"I remember the Brand C commercial and the famous Turkish actress very well. But it doesn't seem convincing to me. I don't think that a famous actress uses Brand C."

(Focus Group 5)

"I think Brand B is shown in advertisements; it is in our lives. It is a very well-known brand. It is a brand that has proven itself, and it is a brand with a wide variety."

(Focus Group 3)

"I wanted to buy Brand B for my son. Brand A was

being sold very close to me. I saw that there was a very good discount there when I was passing by. A pillow was included as a gift. I'll replace it after five years, if necessary."

(Focus Group 3)

"Brand B and Brand D are good brands (Why are they not in your life enough?) It means they advertise less. So, they're not very common... They don't publicize themselves very well. Have you seen how Brand C peaked in 2-3 years?"

(Focus Group 3)

New Brand, on the other hand, was not remembered by either customer group. Even when reminded about it, it is a brand that most people do not know or remember. Those who try to remember the brand spontaneously may have difficulty remembering its name. Spontaneous memories about New Brand:

- Has a store in Bostancı.
- It is blue.
- The ad was on TV.

After the spontaneous knowledge was recorded, the advertisement for New Brand about the physiotherapist consultancy project was shown to the participants. Then opinions about physiotherapist counseling were collected.

What does physiotherapist consultancy for mattress selection mean to you?

Being able to choose a mattress in consultation with a physiotherapist helped consumers evaluate this brand, which they had not known about, positively. When the participants chose a mattress with the help of a physiotherapist, they thought that they had chosen the right one that was healthy and comfortable. Posture assessment by the physiotherapist in the advertisement supports the idea of "the right choice" but, for some customers, how she will meet the different needs of her husband may remain a question mark. Some eliminate this question mark by believing that it will be a "custom-made mattress". Although rare, there are those who perceive the advertisement as an endorsement by a physiotherapist. In this case, the advertisement becomes unexceptional and does

not inspire confidence.

A free physiotherapist consultation can result in the brand being perceived as "premium". There is a tendency to believe that it will be expensive but worth the money as it will be a healthy and comfortable mattress. Meetings with the physiotherapist by appointment give confidence and support the perception of professionalism. The idea that the physiotherapist will take care of them individually appeals to customers. However, those who do not suffer from any health problems may find this process tedious or they may worry that they will feel pressured into buying after making an appointment with a physiotherapist. Physiotherapist support creates a "wow" effect for customers aged 40–60. However, it may take some time for people around them to trust this brand that they have not heard of.

"I think that helping us through a physiotherapist gives people 100% confidence if it is done as a physiotherapist rather than a sales consultant. Especially neck and low back pain are definitely present in one out of every two people."

(Focus Group 2)

"The music in the ad is beautiful as well as the project. Like the Brand C commercial, this one will be immediately memorable."

(Focus Group 3)

"If New Brand didn't trust its product, it wouldn't have come up with a physiotherapist. I think he trusts the product because the company got the support of a physiotherapist. I guess people will choose their mattresses according to their body structure. It will probably be in the form of a separate mattress for the old and a separate mattress for the young..."

(Focus Group 3)

"In a sense, this is getting advice from an expert. A professional who knows both your body and the features of the mattress will help you choose the best one for your needs."

(Focus Group 1)

"If it's too expensive, I'll be disgraced at the physiotherapist if I can't afford it. Everyone there says to me, "Why did you waste our time? Are we going to mess around with you? We brought a physiotherapist here. We paid money. Are we going to mess around with you?"

(Focus Group 4)

"I'll make an appointment and then I'll have to go to that appointment. If I have to cancel I'll call back to say I won't be able to come. These are very detailed things."

(Focus Group 1)

"Sounds like a mattress for neck and back pain."

"I think it's the mattress intended for us. Mattress for my body"

"It looks like the physiotherapists are going to produce a custom mattress."

(Focus Group 4)

DISCUSSION

In this qualitative focus group study, the prominent motivations of customers when purchasing mattresses were confidence, vitality, and enjoyment. Due to the abundance of product variety, it is not easy for customers to choose suitable mattresses according to these priorities. Choosing the right mattress has been found to be confusing for customers due to the variety. Therefore, the online shopping option is not suitable for this target clientele. Moreover, according to our qualitative study results, since customers are not familiar with the terms used by the brand, they need an expert who is knowledgeable about both the product and human nature. This qualitative focus group study is the first to investigate customer opinions about the advice service provided by physiotherapists on mattress selection. According to the results of the study, the physiotherapist consultancy service was found to be a service to satisfy the need for trust mentioned by the consumer. An innovative service has been offered that can persuade the consumer to go for the new and unknown "New Brand". However, it is also possible that advertisements with health content, as previously experienced with other brands, create a negative perception towards the brand. For this reason, it may be more beneficial for the brand if the physiotherapists who will work in the field act as life coaches rather than health professionals. Karagözoğlu Coşkunsu et al. revealed the difficulties faced by physiotherapists in finding a job in recent years and suggested that efforts should be made to solve the problem (18). Timurtaş et al. in their study on the feasibility of employing physiotherapists in primary health clinics concluded that physiotherapists should have direct communication with the community (19). The results of these studies show that physiotherapists have many opportunities in new fields of work, such as mattress selection consulting, that will directly help people and society.

Although Brand A is not a specialist in mattresses, it has been defined as a trustworthy brand due to its long history and being recommended in social environments. In particular, low-middle-income customers prefer Brand A because of its price advantages and special offers. Brand B and Brand D are seen by consumers as experts in mattress production. Although Brand D is frequently preferred by high-income consumers, its high price can create a barrier to purchase. Although Brand B is the longest-established company in terms of mattress production, it is not preferred by the consumer as much as before. Brand C stands out as the most popular brand in the most recent period. Although it is a relatively new firm, the fact that it is preferred by both socioeconomic classes indicates that it has achieved significant success. In addition, Brand C, unlike other brands, has emerged as the only brand that embraces the concepts of vitality and pleasure, not reliability. Although New Brand is still unknown, it will be able to compete with other companies in a short time, just as Brand C has done, especially with their physiotherapist consultancy project. Moreover, according to the qualitative data obtained, the physiotherapist consultancy project addresses the theme of trust rather than those of vitality and pleasure. This means that the brand executing the physiotherapist consultancy project can compete with companies considered more trustworthy with a fixed customer base to expand its customer base. This is an indication that instead of Brand C, which is on an upward trend, competition will be with companies that have already lost customers. However, although the physiotherapist consultancy project is an innovative project that addresses the theme of trust, it may cause a misconception that it only appeals to the

customer group at risk of health problems. In order to avoid this misunderstanding, New Brand should support this project with additional materials, and responsible physiotherapists should inform the public that this project is for healthy people. Greval et al. argued that one of the six themes that will shape the future in the marketing sector is healthcare technology (20). Healthcare has a long history of harnessing and integrating data from numerous sources and using analytics to inform product offerings, recommendations, and the tailoring of patient experiences in order to increase client value. In this way, the changing healthcare landscape, spurred by technological advancements and legislative changes, needs a marketing strategy as it transitions from a sector that offered patient care through episodic and reactive measures to one that relies on continuous and proactive evaluations (21). Physiotherapists need to integrate into the marketing sector as soon as possible by working with mattress sales companies or other related companies, in order to keep up with the transformation in the health sector. Madan et al. investigated the basic profession-specific characteristics of physiotherapists and found that the most important feature that needed to be developed was the "ability to work under pressure" (22). It is obvious that this employment area, where competition is intense, will contribute to this aspect of physiotherapists.

Some participants were hesitant to discuss their conflicting beliefs with other members of the group. This is the most important limitation of our focus group study. In addition, the sociodemographic characteristics of the individuals were questioned only verbally and categorically. This can also be an important limitation. As a result, consumers' views on brand perception may change over time. Mattress companies should express themselves through themes such as trust, vitality, and togetherness in order to achieve this change. The physiotherapist consultancy project of New Brand has seen a positive reaction among the public, especially with the theme of trust, regardless of income levels. However, when the answers given by some focus groups were examined, negative opinions were also seen, such as that this project only served the unhealthy group or that the project service would take considerable time. If these misunderstandings are cleared up, it is likely that the public will adopt the physiotherapist consultancy project and meet the need for "expert help," which is a big problem when it comes to mattress selection. In future studies, cost-benefit analyses should be put forward quantitatively, and these results should be supported by qualitative data showing the benefits provided by physiotherapists in different fields, such as the furniture industry.

Sources of Support: None.

Conflict of Interest: The authors report no conflict of interest.

Author Contributions: Concept – CT, TD Design – CT, TD Data Collection and/or Processing – CT, TD Analysis and/or Interpretation – CT, TD; Literature Research – CT Writing Manuscript – CT, TD Critical Review- TD

Explanations: None

Acknowledgments: We would like to thank all the brands for enabling the focus group qualitative study to be carried out. We also thank Russell Fraser for providing the English revision of the manuscript.

REFERENCES

- Low FZ, Chua MC, Lim PY, Yeow CH. Effects of mattress material on body pressure profiles in different sleeping postures. J Chiropr Med. 2017;16(1):1-9.
- Huysmans T, Haex B, De Wilde T, Van Audekercke R, Vander Sloten J, Van der Perre G. A 3D active shape model for the evaluation of the alignment of the spine during sleeping. Gait Posture. 2006;24(1):54-61.
- Bader GG, Engdal S. The influence of bed firmness on sleep quality. Appl Ergon. 2000;31(5):487-97.
- Gneezy A, Gneezy U, Riener G, Nelson LD. Pay-what-you-want, identity, and self-signaling in markets. Proc Natl Acad Sci. 2012;109(19):7236-40.
- Okamoto K, lizuka S, Okudaira N. The effects of air mattress upon sleep and bed climate. Appl Human Sci. 1997;16(3):97-102.
- Tonetti L, Martoni M, Fabbri M, Natale V. Relationship between mattress technological features and sleep quality: an actigraphic

study of healthy participants. Biol Rhythm Res. 2011;42(3):247-54.

- Li X, Zhou B, Shen L, Wu Z. Exploring the effect of mattress cushion materials on human–mattress interface temperatures, pre-sleep thermal state and sleep quality. Indoor Built Environ. 2021;30(5):650-64.
- Chiba S, Yagi T, Ozone M, Sato M, Nishino S. Evaluations of effects of high rebound and low rebound mattress pads on nocturnal sleep and its associated physiology. Sleep Med. 2013;14:e219-e20.
- Lan L, Tsuzuki K, Liu YF, Lian ZW. Thermal environment and sleep quality: A review. Energy Build. 2017;149:101-13.
- Rincón Casado A, Larrodé Diaz M, Zacarias F, Molina R. Experimental and computational model for a neonatal incubator with thermoelectric conditioning system. Energies. 2021;14:5278.
- Robinson S, Benton G. Warmed blankets: an intervention to promote comfort for elderly hospitalized patients. Geriatr Nurs. 2002;23(6):320-3.
- DeVocht JW, Wilder DG, Bandstra ER, Spratt KF. Biomechanical evaluation of four different mattresses. Appl Ergon. 2006;37(3):297-304.
- Jacobson BH, Wallace T, Gemmell H. Subjective rating of perceived back pain, stiffness and sleep quality following introduction of medium-firm bedding systems. J Chiropr Med. 2006;5(4):128-34.
- Caggiari G, Talesa GR, Toro G, Jannelli E, Monteleone G, Puddu L. What type of mattress should be chosen to avoid back pain and improve sleep quality? Review of the literature. J Orthop Traumatol. 2021;22(1):51.
- Guest G, Bunce A, Johnson L. How many interviews are enough?:An experiment with data saturation and variability. Field methods. 2006;18(1):59-82.
- Guest G, Namey E, McKenna K. How many focus groups are enough? Building an evidence base for nonprobability sample sizes. Field methods. 2017;29(1):3-22.
- Ward DJ, Furber C, Tierney S, Swallow V. Using framework analysis in nursing research: a worked example. J Adv Nurs. 2013;69(11):2423-31.
- Coşkunsu DK, Toprak M, Duman Ç, İnal HS. An assessment of physiotherapists' employment time and status in Turkey. Turk J Physiother Rehabil. 2018;29(2):44-52.
- Timurtaş E, Avcı EE, Demirbüken İ, Yıldız A, Öztürk O, Tarım M, et al. Physiotherapist employment in primary health care: Feasibility research in İstanbul province. Health Care Acad. 2021;8(1):8-13.
- Grewal D, Hulland J, Kopalle PK, Karahanna E. The future of technology and marketing: a multidisciplinary perspective. J Acad Mark Sci. 2020;48(1):1-8.
- Burwell SM. Setting value-based payment goals HHS efforts to Improve U.S. health care. N Eng J Med. 2015;372(10):897-9.
- Madan M, Ülger Ö, Yildirim SA. A comparison of generic competence levels of higher education graduates with expected competencies in business life: Example of physiotherapy and rehabilitation program. Turk J Physiother Rehabil. 32(2):103-13.