MIDTERM ASSIGNMENT

1. Question: In patients with psychiatric conditions, does using digital health-based cognitive behavioral						
therapy(CBT)/apps, compared to no app/usual care, improve overall symptoms?						
2. P: Psychiatric patients						
I: digital therapy/apps						
C: usual care						
O: improve symptoms						
Article 1:						
Bibliographic Citation:						
Wilhelm, S., Weingarden, H., Greenberg, J. L., Hoeppner, S. S., Snorrason, I., Bernstein, E. E., McCoy, T.						
H., & Harrison, O. T. (2022). Efficacy of App-Based Cognitive Behavioral Therapy for Body						
Dysmorphic Disorder with Coach Support: Initial Randomized Controlled Clinical Trial						
[Randomized Controlled Trial]. Psychotherapy & Psychosomatics, 91(4), 277-285.						
https://doi.org/https://dx.doi.org/10.1159/000524628						
(Wilhelm et al., 2022)						
Full link of article:						
https://oce.ovid.com/article/00006847-202291040-00008?sequence=4&clickthrough=y						
SUMMARY:						

The effectiveness of app-based CBT with a coach as support for people with body dysmorphic disorder (BDD) was examined in the study by Wilhelm et al. (2022). The Perspectives app, which contains essential CBT components for BDD treatment, was the subject of a randomized controlled clinical research aimed at evaluating its usefulness and usability. As compared to the waitlist control group, the app-based CBT group's BDD severity scores were considerably reduced at the end of therapy, indicating strong app uptake and satisfaction. The study emphasized how accessible and scalable app-based therapies are.

Relevance to PICO question:-

Yes, the PICO question of how well CBT apps work to lessen mental health symptoms is precisely addressed by this study. Results showed significantly greater improvements in BDD and secondary measures for the Perspectives app compared to a waitlist control group, similar to usual care, for adult patients with body dysmorphic disorder (BDD), a psychiatric condition. The Perspectives app offers coach-supported, app-based cognitive behavioral therapy (CBT). It specifically investigates how well an app-based cognitive behavioral therapy program with coach support works for people with body dysmorphic disorder. The use of apps for CBT that incorporate coach help is effective in treating BDD. notable gains in insight, depression, quality of life, and BDD severity. (Wilhelm et al., 2022)

The uniqueness of the study:

The study's design as an initial randomized controlled clinical trial adds to its uniqueness, as it provides a structured framework for evaluating the intervention's efficacy in a controlled setting. One unique aspect of this study is its focus on utilizing app-based cognitive behavioral therapy, a relatively novel approach, for treating body dysmorphic disorder. The integration of coach support in the app-based intervention adds a personalized and supportive element to the treatment, potentially enhancing its effectiveness. (Wilhelm et al., 2022)

Strength:

Inclusion of coach support to enhance treatment adherence and effectiveness. Use of a smartphone app for delivering CBT, which may increase accessibility and scalability of treatment BDD. The study's rigorous methodology, including randomized controlled trial design and intent-to-treat analysis, enhances the reliability and validity of the findings. Furthermore, the study's focus on a clinically relevant and understudied population (individuals with body dysmorphic disorder) contributes to the advancement of knowledge in this area. (Wilhelm et al., 2022)

Weakness:

One potential weakness of the study could be the limited generalizability of the findings due to factors such as the specific sample characteristics (e.g., predominantly female and white participants) and Small sample size. Long-term follow-up data not present. Potential for non-specific therapeutic factors (e.g., positive expectations, coach contact) to influence outcomes. (Wilhelm et al., 2022)

Bias:

There is no information about bias given. Koa Health (previously Telefonica Alpha) provided funding. The Koa Health designers and technologists worked with the Massachusetts General Hospital investigators (S.W., H.W., and J.L.G) to create the Perspectives application. Koa Health not only provided funding for the project but also financed the technical efforts required in the development and implementation of the app. Koa Health provided financial support to several authors of the study, including Drs. Weingarden and Greenberg, Hoeppner, Snorrason, and Bernstein, as well as Dr. McCoy, who received

financing for his research from various sources including Koa Health. Additionally, Dr. Harrison serves as the Founder/CEO of Koa Health. (Wilhelm et al., 2022)

Evaluation of the authors:

- 1. Sabine Wilhelm: Department of Psychiatry, Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA. Area of research high-quality mental health interventions, Cognitive Behavioral Therapy, Body Dysmorphic Disorder, utilizing technology-based approaches.
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- 3. Jennifer L. Greenberg: Department of Psychiatry, Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA. Area of research OCD and Related Disorders (CORD), Digital Mental Health, etc.
- 4. Susanne S. Hoeppner: Department of Psychiatry, Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA. Area of research Cognitive Behavioral Therapy, Body Dysmorphic Disorder, etc.
- 5. Ivar Snorrason: Department of Psychiatry, Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA. Area of research OCD and associated disorders, such as excoriation (skin-picking) disorder and trichotillomania (hair-pulling disorder).
- 6. Emily E. Bernstein: Department of Psychiatry, Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA. Area of research digital mental health, Exercise for mental health.

- 7. Thomas H. McCoy: Department of Psychiatry, Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA. Area of research Cognitive Behavioral Therapy, mental illness, etc.
- 8. Oliver T. Harrison: Koa Health, London, UK. Area of research Health Technology Practice, Public Health.

Article 2:

Bibliographic Citation:

(Tan et al., 2023)

Tan, S., Ismail, M. A. B., Daud, T. I. M., Hod, R., & Ahmad, N. (2023). A randomized controlled trial on the Effect of smartphone-based mental health application among outpatients with depressive and Anxiety symptoms: A pilot study in Malaysia. *Indian Journal of Psychiatry*, 65(9), 934-940.

https://doi.org/https://dx.doi.org/10.4103/indianjpsychiatry.indianjpsychiatry 240 23

Full text link:

https://oce.ovid.com/article/01363795-202365090-00005?sequence=37&clickthrough=y

SUMMARY:

Anxiety and depression are prevalent mental illnesses worldwide. The lack of resources in low-income countries makes therapy more difficult to get. Mobile health interventions offer affordable mental health solutions. A pilot study was conducted on a mental health app for depression symptoms on smartphones. The purpose of the study was to find out how well treatment-as-usual (TAU) plus smartphone-based mental health apps worked for psychiatric outpatients who had symptoms of anxiety or depression. A improvement in PHQ-9 scores was found in the intervention group through withingroup analysis, indicating that the app may be useful in treating depression symptoms. (Tan et al., 2023) Relevance to PICO question:-

Indeed, it has a connection. psychiatric outpatients exhibiting signs of anxiety or depression, connects with individuals with psychiatric disorders, using the smartphone software MoodMission for mental health as an addition to standard care, When comparing regular care alone to the app plus it, The app

considerably reduced baseline symptoms of depression (but not anxiety) when compared to the control group, according to the results. In comparison to standard care alone, this randomized experiment assesses how well a smartphone mental health app can reduce psychiatric symptoms. (Tan et al., 2023)

The uniqueness of the study:

The study lies in being the first trial conducted in a Malaysian setting, providing valuable insights into the use of smartphone-based mental health interventions. Randomized control trial among outpatients with depressive and anxiety symptoms. Approved by University Kebangsaan Malaysia research ethics committee. Participants were not blinded to experimental groups, using block randomization. (Tan et al., 2023)

Strength:

The study's strengths include its use of a particular mental health app (MoodMission), its emphasis on a clinical sample, and the notable reduction in depression symptoms seen in the intervention group. (Tan et al., 2023)

Weakness:

There was no apparent reduction in anxiety symptoms between the groups. Short lengths and little sample sizes necessitate larger, longer investigations. (Tan et al., 2023)

Bias:

There was no blinding of the participants, investigator, or data analyst. Funding was stated as nil. (Tan et al., 2023)

Evaluation of the authors:

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Article 3:

Bibliographic Citation:

Chun, H. Y., Carson, A. J., Tsanas, A., Dennis, M. S., Mead, G. E., Calabria, C., & Whiteley, W. N. (2020).

Telemedicine Cognitive Behavioral Therapy for Anxiety After Stroke: Proof-of-Concept

Randomized Controlled Trial [Randomized Controlled Trial. *Stroke*, *51*(8), 2297-2306.

https://doi.org/https://dx.doi.org/10.1161/STROKEAHA.120.029042

(Chun et al., 2020)

Full link:

https://oce.ovid.com/article/00007670-202008000-00005?sequence=65&clickthrough=y

Summary:

Chun et al. (2020) assessed the efficacy of telemedicine-based cognitive behavioral therapy (CBT) in reducing anxiety in stroke survivors. The experiment proved that electronic signatures, remote self-enrollment, and intervention delivery are both feasible and efficient. Compared to those getting relaxation therapy, participants receiving telemedicine CBT had reduced levels of anxiety. There was significant emphasis on the use of actigraphy sensors worn on the wrist to track the effects of therapy.

Relevance to PICO question:-

This study, which examines the use of telemedicine-based therapy (digital health) to improve anxiety symptoms in stroke survivors, is relevant to the PICO issue since it falls within the mental health care for

psychiatric patients. The results showed at both follow-ups, TASK-CBT produced reduced anxiety levels compared to the comparison. Psychiatric symptoms can be improved with digitally transmitted CBT supports. This work supports the notion that CBT administered via a digital platform can improve the outcomes of mental symptoms. (Chun et al., 2020)

The uniqueness of the study:

This study addresses the difficulties that stroke survivors have in receiving psychological therapy by focusing on using telemedicine to provide CBT. Actigraphy sensors were used to collect data on stroke victims continuously. An independent researcher created a computerized sequence of permuted blocks randomization for the TASK experiment with random block sizes. The TASK researchers who were recruiting participants could not access this sequence since it had been uploaded to REDCap, the trial's web-based data management tool. After being randomly assigned, participants received access to the website for the treatment they were assigned, and baseline data was remotely gathered. (Chun et al., 2020)

Strength:

The study's ability to demonstrate the feasibility and effectiveness of telemedicine cognitive behavioral therapy (CBT) in lowering anxiety levels in stroke survivors is a significant strength that highlights the promise of digital health interventions in mental health care. (Chun et al., 2020)

Weakness:

The study's extremely small sample size (n=27) can be one of its drawbacks since it might restrict how broadly the findings can be applied to a larger number of psychiatric patients. (Chun et al., 2020)

Bias:

No information on bias, no conflict mentioned. Funding: Chief Scientist Office of Scotland Clinical Academic Fellowship (CAF/15/07), Lindsay Bequest and Reid Trust Grant, Stroke Association's Princess, Margaret Research Development Fellowship, Chief Scientist Office of Scotland Senior Clinical Fellowship (CAF/17/01). Health Data Research UK, funded by various organizations including the UK Medical Research Council, Engineering and Physical Sciences Research Council, Economic and Social Research Council, Department of Health and Social Care (England), Chief Scientist Office of the Scottish Government Health and Social Care Directorates, Health and Social Care Research and Development Division (Welsh Government), Public Health Agency (Northern Ireland), British Heart Foundation, Welcome Trust. (Chun et al., 2020)

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- 4. Martin S. Dennis, MD Centre for Clinical Brain Sciences, University of Edinburgh, UK. Area of interest Stroke medicine, Psychiatry.
- 5. Gillian E. Mead, MD Centre for Clinical Brain Sciences, University of Edinburgh, UK. Areas of interest are stroke medicine, geriatric medicine, and general medicine.

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Art	icle 4:						
Cor	mplete Bibliographic citation:						
Birı	Birrell, L., Debenham, J., Furneaux-Bate, A., Prior, K., Spallek, S., Thornton, L., Chapman, C., & Newton,						
	N. (2023). Evaluating a Peer-Support Mobile App for Mental Health and Substance Use Among						

Adolescents Over 12 Months During the COVID-19 Pandemic: Randomized Controlled Trial.

Journal of Medical Internet Research, 25, e45216.

https://doi.org/https://dx.doi.org/10.2196/45216

(Birrell et al., 2023)

Full article link: https://jamanetwork-

com.proxy.ulib.uits.iu.edu/journals/jamanetworkopen/fullarticle/2770048

https://ovidsp-dc2-ovid-com.proxy.ulib.uits.iu.edu/ovid-new-

a/ovidweb.cgi?&S=DDBBFPLNACEBOBIPJPKJBFJECGIKAA00&Complete+Reference=S.sh.17%7c1%7c1&C ounter5=SS view found complete%7c32865576%7cmedall%7cmedline%7cmed18&Counter5Data=328

65576%7cmedall%7cmedline%7cmed18

Summary:

The primary objective of the initiative is to give teens digital resources to help with their mental health.

Evaluates a mobile peer-support application for mental health and substance misuse. The randomized

controlled trial evaluating the Mind your Mate program—a peer-support mobile application for

teenagers—produced significant findings. The results of the study showed how well the program

worked to improve mental health symptoms, lower drug use, and encourage teenagers to seek

treatment when they needed it. Those who participated in the program reported feeling less depressed.

The intervention had a positive effect on adolescents' peer support abilities as well, giving them the

information and resources they needed to effectively support their peers who were struggling with

mental health issues. High retention rates throughout the course of the 12-month trial period imply that

adolescents find the program engaging and acceptable, suggesting that it may have long-term effects. (Birrell et al., 2023)

Relevance to PICO question:-

The study's PICO elements are as follows: Teens', Mind your Mate initiative (an online peer assistance platform), Active control group getting regular school-based health instruction, decrease in substance use, decrease in mental health symptoms (particularly anxiety and sadness), and increase in actions related to seeking treatment. Overall, the study assessed how well the digital peer-support software Mind your Mate improved mental health symptoms, decreased substance use, and increased teenage help-seeking behaviors. The program of study included a companion smartphone app and a 40-minute online classroom session. The Mind your Mate program was found to have a impact in reducing depressed symptoms in students over a 12-month period when compared to the control group. (Birrell et al., 2023)

The uniqueness of the study:

This study is notable for being the first to test Mind your Mate, a digital health peer intervention created to promote peer support via technology in order to avoid drug use and mental health problems in teenagers. The robust methodology of the study, which included randomization, validated measurements, and statistical analysis, allowed for a comprehensive evaluation of the Mind your Mate program's impact on the substance use and mental health outcomes of adolescents during the COVID-19 epidemic. (Birrell et al., 2023)

Strength:

Strong randomized controlled design with outcomes and hypotheses preregistered. students from both public and private schools are included. Outstanding follow-up rates: 83% of participants followed up after a year, which is higher than usual retention rates for research using digital health interventions for kids and teenagers. (Birrell et al., 2023)

Weakness:

Due to the COVID-19 pandemic and lower-than-expected participation rates, the study encountered difficulties in recruiting students and getting parental consent. Consent rates continued to reflect the difficulties faced by the pandemic, even with attempts to address these problems. As a result, the study might not have had enough participants to find meaningful benefits on all outcomes, emphasizing the need for a larger-scale randomized controlled trial to replicate the findings and validate the program's effectiveness. (Birrell et al., 2023)

Bias:

LB's contribution to the creation of the "Mind your Mate" program raises the possibility of bias in the research. Funding Nil. (Birrell et al., 2023)

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Article 5:

Complete Bibliographic citation:

Fitzsimmons-Craft, E. E., Taylor, C. B., Graham, A. K., Sadeh-Sharvit, S., Balantekin, K. N., Eichen, D. M., Monterubio, G. E., Goel, N. J., Flatt, R. E., Karam, A. M., Firebaugh, M. L., Jacobi, C., Jo, B.,

Trockel, M. T., & Wilfley, D. E. (2020). Effectiveness of a Digital Cognitive Behavior Therapy-Guided Self-Help Intervention for Eating Disorders in College Women: A Cluster Randomized Clinical Trial. *JAMA Network Open*, *3*(8), e2015633.

https://doi.org/https://dx.doi.org/10.1001/jamanetworkopen.2020.15633

(Fitzsimmons-Craft et al., 2020)

Full link:

https://oce.ovid.com/article/02093599-202008000-00131?sequence=1&clickthrough=y

Summary:

From 2014 to 2018, a cluster randomized clinical trial was conducted across 27 US institutions with a focus on female students with eating disorders they were at least eighteen years old. The participants were randomized to receive either the digital CBT-guided self-help program, Student Bodies—Eating Disorders or conventional treatment as the control group. The primary results were modifications in the psychopathology of eating disorders, cessation of binge eating, depression, anxiety, and access to treatment. Thorough multilevel mixed effects modeling evaluated the impacts of the interventions.

Following CONSORT criteria, online assessments were carried out at baseline, 8 months, 1 year, and 2 year follow-ups. College women with EDs saw improved outcomes with digital CBT treatments.

(Fitzsimmons-Craft et al., 2020)

Relevance to PICO question:-

Relevance is the main patient population for psychiatric services is college women with binge-purge eating disorders (EDs), including threshold and subthreshold symptoms. Referral to standard care, Student Bodies-EDs, a coached digital CBT, Changes in a number of functional and symptom-related

outcomes, including ED psychopathology, ED behavior frequencies, sadness, anxiety, and impairment, have been measured. These outcomes are important for assessing the influence on mental symptoms in general. Findings demonstrating in the short and long term, the SB-ED app dramatically reduced primary and several secondary mental outcomes as compared to the control group. (Fitzsimmons-Craft et al., 2020)

The uniqueness of the study:

Its long-term follow-up, customized focus on college women, and cluster randomized design, which together offer a thorough assessment of the intervention's efficacy. It represents a substantial development in the provision of mental health care due to its emphasis on scalability and creative use of technology, presenting an effective strategy to bridge the gap in eating disorder treatment.

(Fitzsimmons-Craft et al., 2020)

Strength:

Large participant count, solving a major issue in eating disorder (ED) therapeutic trials. Broad inclusion criteria and population diversity improve generalizability. Delivery across the country, broadening the intervention's potential audience and impact. Long-term monitoring, offering insightful information on the intervention's long-term impacts. performance optimization throughout time, which is a significant innovation for the application of digital and psychosocial interventions. (Fitzsimmons-Craft et al., 2020)

Weakness:

Dependence on self-reported ED status rather than diagnostic interviews, poor overall engagement with the intervention (31%), and the need for additional research comparing the intervention to other

control conditions such in-person Cognitive Behavioral Therapy (CBT) to prove efficacy in context.
(Fitzsimmons-Craft et al., 2020)
Bias:
No information on Bias, funding.
Evaluation of the authors:
1. Fitzsimmons-Craft, Ellen E., PhD: Department of Psychiatry, Washington University School of
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- 8. Goel, Neha J., MS: Department of Psychology, Virginia Commonwealth University, Richmond Institute for Inclusion, Inquiry, and Innovation (iCubed), Virginia Commonwealth University, Richmond. Area of focus Counseling Psychology.
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Work citied pages:

Birrell, L., Debenham, J., Furneaux-Bate, A., Prior, K., Spallek, S., Thornton, L., Chapman, C., & Newton, N. (2023). Evaluating a Peer-Support Mobile App for Mental Health and Substance Use Among Adolescents Over 12 Months During the COVID-19 Pandemic: Randomized Controlled Trial.

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Chun, H. Y., Carson, A. J., Tsanas, A., Dennis, M. S., Mead, G. E., Calabria, C., & Whiteley, W. N. (2020).

Telemedicine Cognitive Behavioral Therapy for Anxiety After Stroke: Proof-of-Concept

Randomized Controlled Trial. *Stroke*, *51*(8), 2297-2306.

https://doi.org/https://dx.doi.org/10.1161/STROKEAHA.120.029042

Fitzsimmons-Craft, E. E., Taylor, C. B., Graham, A. K., Sadeh-Sharvit, S., Balantekin, K. N., Eichen, D. M., Monterubio, G. E., Goel, N. J., Flatt, R. E., Karam, A. M., Firebaugh, M. L., Jacobi, C., Jo, B., Trockel, M. T., & Wilfley, D. E. (2020). Effectiveness of a Digital Cognitive Behavior Therapy-Guided Self-Help Intervention for Eating Disorders in College Women: A Cluster Randomized Clinical Trial. *JAMA Network Open*, *3*(8), e2015633.

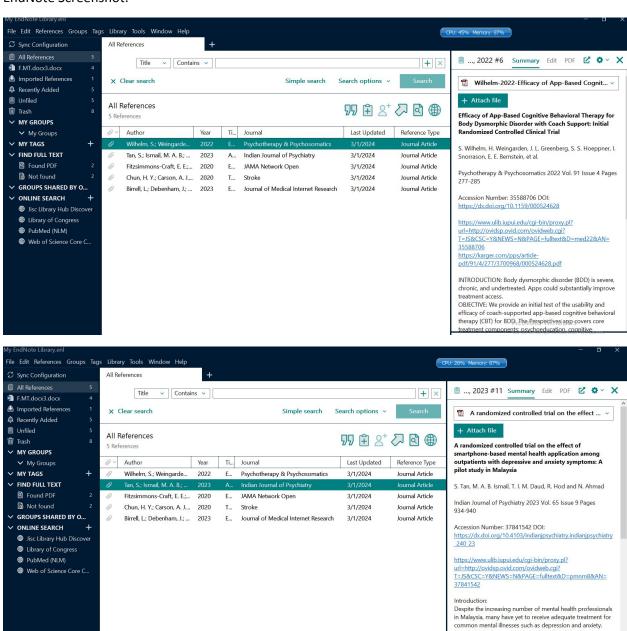
https://doi.org/https://dx.doi.org/10.1001/jamanetworkopen.2020.15633

Tan, S., Ismail, M. A. B., Daud, T. I. M., Hod, R., & Ahmad, N. (2023). A randomized controlled trial on the effect of smartphone-based mental health application among outpatients with depressive and anxiety symptoms: A pilot study in Malaysia. *Indian Journal of Psychiatry*, *65*(9), 934-940. https://doi.org/https://dx.doi.org/10.4103/indianjpsychiatry.indianjpsychiatry 240 23

Wilhelm, S., Weingarden, H., Greenberg, J. L., Hoeppner, S. S., Snorrason, I., Bernstein, E. E., McCoy, T.
 H., & Harrison, O. T. (2022). Efficacy of App-Based Cognitive Behavioral Therapy for Body
 Dysmorphic Disorder with Coach Support: Initial Randomized Controlled Clinical Trial
 [Randomized Controlled Trial]. Psychotherapy & Psychosomatics, 91(4), 277-285.

https://doi.org/https://dx.doi.org/10.1159/000524628

EndNote Screenshot:



Coupled with the increasing number of mobile phone users globally, smartphone-based intervention can be a promising mental health intervention. Thus this study aims to

