

Psychological Interventions in Improving Positive Body Image in Adolescents: A Systematic Review

Retno Puji Astuti¹, Rizki Fitriyasaki^{1*}, Hedy Muagiri Margono²

¹Faculty Of Nursing, Airlangga University, Indonesia

²Faculty Of Medicine, Airlangga University, Indonesia

* rizki-fpk@fkip.unair.ac.id

ABSTRACT

Body image is an important issue for adolescents. This is related to the surrounding appearance that is considered attractive by most people where beautiful people are those who have a tall body and white skin. This is influenced by a fast-developing lifestyle so adolescents who are in the phase of looking for self-identity want to look their best by current appearance criteria. The purpose of this Systematic review is to analyze the effect of psychological interventions on adolescent's body image. Systematic review accessed five electronic databases (Scopus, MEDLINE, CINAHL, Science Direct, and ProQuest). The search was carried out from April to June. Assess the quality of the article used The Center for review and Dissemination and the Joanna Briggs Institute Guideline and the Prisma checklist as a guide in making this review. Title, abstract, full-text, and methodology were assessed for study eligibility. 25 articles were analyzed. Most of the psychological interventions provided offline were 16 studies and the rest were through indirect intervention methods. The research design consisted of 17 randomized control trials and 8 studies using quasi-experimental. The number of samples varied from 22 respondents to 2481 respondents. Two types of psychological interventions can be used as alternatives to enhance and maintain a positive body image: direct psychological intervention and indirect psychological intervention using technology. Psychological intervention is very important in enhancing and maintaining a positive body image.

Keywords : Adolescents, Body Image, Psychological Intervention

Received August 8, 2020; Revised August 20, 2020; Accepted August 26, 2020



STRADA Jurnal Ilmiah Kesehatan, its website, and the articles published there in are licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

BACKGROUND

Attention to the image of a person's body is very strong in adolescents aged 12-18 years, both young women and young men. They try to get their appearance in various ways to change their unwanted appearance, but this does not necessarily guarantee adolescent satisfaction with their bodies (Santrock, 2007). Appearance is very important for a woman. Therefore, women need to maintain an appearance that can attract the attention of others.

Appearance is very important for a woman. The standard of beauty in society for an ideal woman is someone who has a slim body (Mumford & Choudry, 2000), which causes many women to feel dissatisfied with their current weight and body shape (Wong, 2008). Therefore, many women make every effort to achieve ideal standards, especially body shape. Attention to a person's body image is very strong in adolescents aged 12-18 years, both young women and young men. They try to get a display in various ways to change the appearance that is not desired (Santrock, 2007).

The population of teenagers in the world is around 1.2 billion or 18% of the world's population (WHO, 2017). Meanwhile, in Indonesia 25% (66, 3 million) of the population 10-24 years old adolescents of the total population of 258.7 million. One in four people in Indonesia is a teenager (BKKBN, 2017). The number of teenagers in East Java in 2017 recorded 6, 1 million people (15.64%) of the population of East Java. Based on gender composition, the number of male adolescents is higher than the number of adolescent girls (51 boys: 49 girls) (BPS, 2017).

According to Erikson, adolescence is a time to reach the level of ego identity and personal identity. Adolescents try to form and show self-identity and characteristics that are unique to themselves. Physical changes are of great concern to adolescents because body image is a mandatory standard that others will see (Wong, 2008). A negative body image creates anxiety for the individual. The negative body image that occurs makes the individual susceptible to body dysmorphic disorders (Dolezal, 2015). This disorder causes the individual to feel that something is lacking in him/ her which the individual looks normal (Denich & Ifdil, 2015).

Many types of interventions can be done directly to overcome a negative body image to a positive one. One of them is direct intervention through yoga which is very important for the development and maintenance of a positive body image (Jessie E *et al.*, 2011). Intervention can be done indirectly through applications that involve interactive discussions among group members who can overcome eating disorders due to eating patterns that do not match the body's needs to get an ideal body shape (Diao *et al.*, 2020). The purpose of this systematic review is to analyze the effect of psychological interventions on increasing body image in adolescents.

METHODS

The literature search strategy used five electronic databases, namely Scopus, MEDLINE, CINAHL, Science Direct, and ProQuest. The search was carried out from April-June 2020 to identify relevant research. Keywords in this Systematic review are adjusted to the Medical Subject Heading (MeSH). The keywords used are " Psychological effect" OR " Mental health effect " OR " Mental disorder " OR " Mental problem ", "Intervention" OR " Treatment" OR "Healing " OR "Therapy", "Body image" OR "Body dissatisfaction "OR" Body Representation " and " Adolescents "OR " Teenager " OR " Young adults ". Search is limited to journal articles and in English.

Search is limited to journal articles and in English. Feasibility of the article using PICOS framework. Inclusion criteria: 1) Population, adolescents with psychological

problems on body image: healthy, risks and those that have occurred; 2) Intervention, psychological intervention given to respondents, both direct and indirect interventions; 3) Comparisons, the comparison group used is another intervention or the group that was observed without intervention; 4) Outcome, a study that explains interventions that affect the psychological impact felt by adolescents related to body image; 5) Study design and publication type, randomized controlled trials (RCTs) and quasi-experimental; 6) Publication years, research years 2015 to 2020; 7) Language, English.

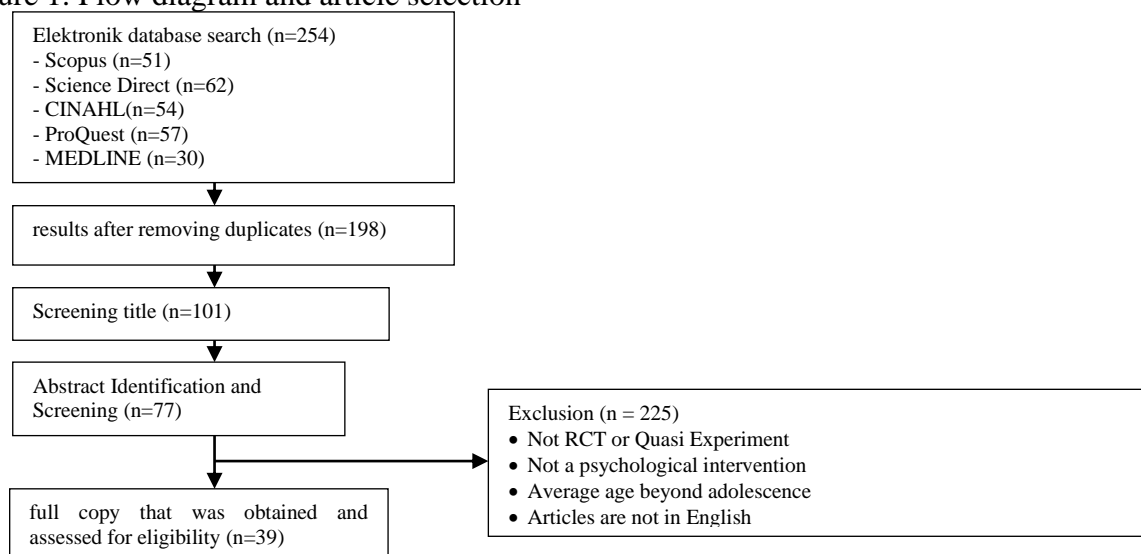
Study selection starts from checking for duplicate articles. Then the title, abstract, full-text, and methodology were screened and assessed for study eligibility. Data tabulation and narrative analysis of the study findings are presented. In assessing the quality of articles, researchers used The Center for review and Dissemination and the Joanna Briggs Institute Guideline. The risk of bias is seen from the research method of each study, which consists of Theory, Design, Samples, Variables, Instruments, and Analysis, and the Prisma checklist as a guide in making this review.

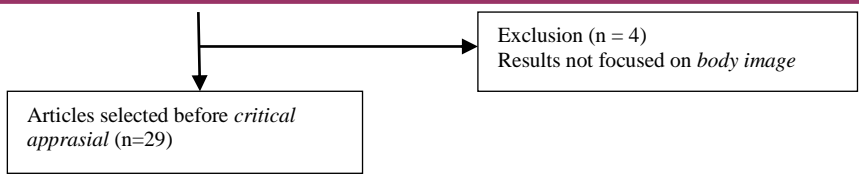
The method of analysis used in this *Systematic review* is a descriptive method based on the themes that have been determined in the *Systematic review*. The study uses a descriptive analysis of the research results described in the *literature*. Relevant data reviewed by review questions, including author, country, year, background, theoretical framework, research objectives, study design, sample size, sampling method, participant descriptions, reliability, and validity, measurement instruments, analysis, and statistical techniques, and analysis of results. The narrative approach collects evidence on the effectiveness of interventions and develops a coherent textual narrative of the similarities and differences between studies, used to synthesize data in this systematic review.

RESULTS

The results obtained were 17 studies were *Randomized Control Trials* and 8 studies used *Quasy Experimental*. Based on these results, after the *critical appraisal* was carried out using the *JBI critical appraisal tools*, a quality score was given. Studies using the *Randomized Control Trials* design were assigned a total score ranging from nine to thirteen points out of a total of thirteen points on the *checklist*. *Pre-Experimental* studies on this *Systematic review* assigned seven to nine points out of a total of nine points on the *checklist*. The process of extracting and filtering articles is summarized in Figure 1.

Figure 1. Flow diagram and article selection





The studies included in this Systematic review article consisted of 7 studies conducted in Australia at universities and research institutes; 3 studies each in the United States, England, and Iran; and 2 studies each in Norway and China. Research and studies were also carried out in Swedish, Italy, Malaysia, Pakistan, and Canada. Respondents in the study had an average age of 11-20 years and were multi-regional. Respondents in this study were adolescents in several countries. Gender characteristics of adolescents in this systematic review are more dominated by women and most of the education levels are at the secondary school level.

Based on the results of the study, it can be grouped according to the specified theme, namely psychological intervention on adolescent body image. The presentation of the results will be determined based on two major themes, a namely psychological intervention which is carried out directly / face to face (offline) and indirectly / via the internet (online). Based on the results of the study, it was found that the psychological interventions provided were mostly online as many as 13 studies, and the rest were through direct intervention methods. The results of this study can be seen in Table 1.

Table 1. Characteristics of research articles

N o	Author and Year	Design Research	Participant s	Intsrumen/ Intervention	Results
1	(Seekis et al., 2020)	Randomized Controlled Trial	76 girls with average age 18.31 years in Australia	The Mindful Self-Compassion workshop is complemented by group discussions on Facebook . The measuring instruments used are: 1) Body Dissatisfaction Subscale from the Eating Disorders Inventory -3 (EDI-3); 2) Drive for Thinness Subscale from the Eating Disorders Inventory -3 (EDI); 3) Social Appearance Anxiety Scale (SAAS); 4) Upward Physical Appearance Comparison Scale (UPACS); 5) Body Appreciation Scale- 2 (BAS-2); and 6) Self-Compassion Scale-Short-Form (SCS-SF)	Participants in group intervention using the Mindful Self-Compassion when experiencing difficulty in appearance and posted on the experience of their group Facebook personally three times per week for two weeks. The findings showed that the intervention group experienced a decrease in anxiety about appearance, body

No	Author and Year	Design Research	Participants	Intsrumen/ Interventions	Results
2	(Fogelkvist et al., 2020)	Randomized Controlled Trial	99 participants of outpatients at clinics in Sweden from 2010-2014	Participants were given 12 sessions consisting of 2 groups: ACT: Acceptance and Commitment Therapy TAU: Treatment as Usual The results of the intervention will be measured through: 1) Self-report instruments; 2) Eating Disorder Examination Questionnaire (EDE-Q); 3) Body Shape Questionnaire (BSQ); 4) Body Checking Questionnaire (BCQ); 5) Self-Concept Questionnaire (SCQ); and 6) Mindful Attention Awareness Scale (MAAS)	dissatisfaction, and the urge to be thin, and a higher body appreciation and self-indulgence on the posttest and follow-up one month This study supports ACT as a valid treatment intervention for patients with residual ED (Eating Disorder) pathology and body image problems. This suggests that ACT is superior in reducing body image problems among patients with different ED
3	(Halliwell et al., 2019)	Randomized experimental	44 women with a mean age of 20.21 years with 61% had tried yoga in the past, but only four participants currently participated in yoga (three in the	A brief yoga-based body image intervention that incorporates specially designed themes to focus on positive body image whose results will be measured using: 1) The Body Appreciation Scale-2 to assess positive body image; 2) The Positive Connection with the Body Subscale of the Experience of Embodiment Scale; 3) Body Areas Satisfaction Subscale (BASS) of the	the intervention group reported significant improvements in body appreciation, bodily connectedness, body satisfaction, and positive mood at posttest and at 4-week follow-up.

No	Author and Year	Design Research	Participants	Intsrumen/ Intervention	Results
			control condition and one in the experimental condition)	Multidimensional Body-Self Relations Questionnaire; 4) The Body Surveillance Subscale of the Objectified Body Consciousness Scale	
4	(Seekis et al., 2017)	Randomized Controlled Trial	96 first-year female psychology students at Australian universities with a mean age of 19.45 years	Participants were randomly divided into three writing treatment groups: self-compassion, self-esteem, and control. The results of the intervention will be measured by: 1) State Body Appreciation Scale-2 Body Image States Scale (BISS); 2) The Physical Appearance State and Trait Anxiety Scale - state version (PASTAS)	Self-compassion writing intervention has a considerable influence as a means helps people in eliminating negative body image
5	(Wilksch et al., 2018)	Randomized Controlled Trial	575 women aged 18-25 years from Australia and New Zealand	Participants were randomly divided into three groups : 1) Smart-Targeted Media (MS-T); 2) Student Bodies (SB); 3) Control. The results of the intervention will be measured using the Eating Disorder Examination Questionnaire (EDE-Q).	MS-T has the potential to achieve risk reduction in women with ED (Disordered Eating) affecting body image at low implementation costs.
6	(Maasoumeh et al., 2020)	quasi-experimental	60 female students of grade 6 SD in Yazd (Iran) aged 12.16 years	The intervention group was educated at school for 8 sessions x 45 minutes per session based on HBM, while the control group was educated using the traditional lecture method . Two groups were assessed with the Multidimensional Body – Self Relations Questionnaire (MBSRQ) at pretest and posttest.	The effectiveness and efficiency of puberty based health teaching HBM (Health Belief Model) on improving body image that is felt in adolescent women
7	(Christie	randomise	174 children	The intervention group was	Intervention HE

No	Author and Year	Design Research	Participants	Intsrumen/ Intervention	Results
	et al., 2017)	d controlled trial	aged 13-17 in the UK	given HELP intervention. HELP is a family-based weight management consisting of 12 sessions program for teenagers for 5 days to change behavior by approaching and motivating	LP no more effective than the one educational sessions individual to reduce BMI (Body Mass Index) in an obese sample of adolescents in communities where a suitable BMI will maintain a positive body image.
8	(Diao et al., 2020)	Randomized Controlled Trial (RCT)	948 participants (479 boys and 469 girls, 642 of whom were elementary school students and 306 high school students) divided into the intervention group (n = 518) and the control group (n = 430)	The intervention group received 1 year of obesity-related health education, physical exercise, and diet control. Their baseline body mass index (BMI) was calculated , their quality of life and baseline information were assessed before and after the intervention period using the self-designed Adolescent Quality of Life Scale and baseline information questionnaire	Family-individual-school-based interventions combining obesity-related health education, physical exercise , and diet control can improve psychological quality, puberty, and total QoL (Quality of Life).
9	(Lee et al., 2017)	Randomized Controlled Trial (RCT)	115 students (intervention group = 63) and control group = 52) with a mean age of 11.4	School based weight program (SBWMP) involve parents through mHealth tools are designed to reduce weight, improve their knowledge and adopt a healthy lifestyle that target children and	There is a positive and direct impact of the SBWMP on students' health knowledge and a psychological impact on the

No	Author and Year	Design Research	Participants	Instruments/ Interventions	Results
			years in four schools	adolescents with obesity with Mild Intellectual Disabilities (MIDs) .	intervention group. SBWMP involving parents through mHealth is a viable and acceptable program for students with MID and their parents
10	(Ishak et al., 2016)	Quasy eksperimen	high school teens first aged 13-14 years	Eat Right, Be Positive About Your Body and Live Actively (EPaL) was promoted were healthy eating, positive body image and an active lifestyle. Interventions will be assessed by the perception of one's body weight status , Body Dissatisfaction subscale and Body Importance subscale extracted from the Body Image and Body Change Inventory, and the Body Image Scale .	EPAL will contribute to preventing overweight and disorders eating with a positive effect on weight status, healthy lifestyle behavior, and quality of life related to health, thereby creating a positive body image.
11	(Goldfield et al., 2015)	Randomized Controlled Trial (RCT)	304 adolescents (91 boys, 213 girls) with 93% being obese over the age of 14-18 years	All adolescents receive counseling and participate in sports 4 times a week for 22 weeks which are divided into 4 groups where the results will be measured using: 1) Brunel Mood Scale for mood; 2) Multiple Body Self-Relations Questionnaire for body image; 3) Harter Physical Self-Perceptions; 4) Questionnaire for physical self-perception and self esteem	All groups showed improved body image and improved physical self-perception
12	(Rodgers	Quasy	274	BodiMojo which is based at	There are

No	Author and Year	Design Research	Participants	Instruments/ Interventions	Results
	et al., 2018)	experiment	adolescents with an average age of 18.36 and 74% were girls	the mercy of themselves to promote positive body image for six weeks. Interventions will be assessed with The Self-Compassion Scale (SCS), The Physical Appearance Comparison Scale , The Body Image-Acceptance and Action Questionnaire (BIAAQ), and The Positive and Negative Affect Schedule 10-Children (HOT-C10)	evidence early use of Applications BodiMojo associated with an increase in the price of self and self-compassion
13	(Tirlea et al., 2016)	randomized controlled trial	122 primary and secondary school girls aged 10 - 16 years	Girls on the Go! is a 10-week program designed to improve self-esteem, body image, and self-confidence using an empowerment model that involves interactive and experiential learning approaches . Measurements were made using the Rosenberg Self-Esteem Scale , clinical interview assessment , health self-efficacy (including mental health and physical health self-efficacy scales), body esteem scale , and the Dutch Eating Behavior Questionnaire for Children.	Intervention cause a significant increase in self-esteem and self-efficacy (subscale self-efficacy physical and mental health) for primary school-age participants and reduce dietary behavior in participants high school.
14	(Stapleton et al., 2016)	randomized controlled trial	22 participants aged 14-15 years	The results of the intervention will be assessed with The Youth Adolescent Food Frequency Questionnaire – Short Version (YAQ), Rosenberg Self-Esteem Scale (RSEQ), Depression Anxiety Stress Scale - 21 (DASS-21) , and Self-Compassion Scale (SCS).	EFT as an effective treatment strategy to promote healthy eating behavior and improve weight psychopathology

No	Author and Year	Design Research	Participants	Instruments/ Interventions	Results
15	(Krebs et al., 2017)	randomized controlled trial	26 adolescents with a mean age of 16.2 years	The intervention group with a primary diagnosis of BDD (Body Dysmorphic Disorder) received CBT intervention for 14 sessions and was followed up for 12 months (2, 6, and 12 months)	The intervention group was able to maintain a positive and consistent body image
16	(Dunstan et al., 2016)	randomized controlled trial	200 girls with a mean age of 12.66 years	Six intervention session Happy Being Me Coedukasi designed to reduce risk factors and body dissatisfaction in girls. The results of the intervention will be assessed using the Eating Disorder Inventory - Body Dissatisfaction Subscale (EDI-BD), Physical Appearance Comparison Scale , Rosenberg Self-Esteem Scale (RSES), and Appearance Conversations Scale	HBM Co-Ed was effective in reducing psychological risk factors for body dissatisfaction during the six-month follow-up period and postintervention of body dissatisfaction in girls.
17	(Christine et al., 2018)	randomized controlled trial	2481 grade 12 students from 30 schools	The intervention consists of three workshops, each 90 minutes to the main theme , namely body image, media literacy, and lifestyle. Interventions are interactive and are led by trained scientists	Healthy Body image Hopefully it can prove its efficacy
18	(Toole & Craighead, 2016)	Nonrandomized controlled study	87 women had a mean age of 18.85 years with body dissatisfaction	Internet-based self-compassion training for 1 week to improve aspects of self-compassion and BID (Body image distress). Interventions will be assessed by BMI, The Self-Compassion Scale , Body Appreciation Scale , Rosenberg Self-Esteem Scale , Body	There is significant in the appreciation of the shape of the body and self-confidence for the intervention group compared with the control group.

No	Author and Year	Design Research	Participants	Intsrumen/ Intervention	Results
19	(Wolfe & Patterson, 2017)	Nonrandomized controlled study	108 female students with an average age of 20.44 years	Surveillance subscale of the Objectified Body Consciousness Scale, Contingencies of Self-Worth Scale-Appearance Subscale, and Body Shape Questionnaire Intervention gratitude with BD (body dissatisfaction) together with a common sequelae of BD: can not eat properly, negative mood, and depressive symptoms. Interventions will be assessed using the Body Shape Questionnaire (BSQ), Attitudes Test-26 (EAT) and the Binge Eating Scale (BINGE), and the Positive and Negative Affect Scale (HOT) and the Center for Epidemiologic Studies Depression Scale (CES-D)	The intervention group in the grateful category was significantly able to increase body reward compared to the control group
20	(Givehki et al., 2018)	randomized clinical trial	75 people with physical pain due to psychological (emotional or mental) disorders	Respondents who were randomly selected were divided into three group members. Intervention will be assessed using Body-Image Acceptance and Action Questionnaire (BI-AAQ), Body awareness questionnaire (BAQ), and Psychosomatic disorders by DSM-5.	ACT (Acceptance and Commitment Therapy) managed to increase the flexibility of the picture's body and consciousness of the patient on the body of her with physical pain due to psychological disorders (emotions or thoughts)
21	(Sundgot-	randomize	2,446 grade	The Healthy Body	The HBI

No	Author and Year	Design Research	Participants	Instruments/ Intervention	Results
	borgen et al., 2019)	d clinical trial	12 boys and girls with a mean age of 16.8 years from 30 secondary schools	Image (HBI) intervention was conducted for positive health - related quality of life among secondary school students. Data collected at baseline, post intervention, 3 and 12 months for follow-up were analyzed using mixed regression models.	intervention led to direct, favorable changes in positive health-related quality of life among the women's intervention group versus the men's intervention group that was maintained at follow-up.
22	(Tanofsky-kraff et al., 2017)	randomized clinical trial	113 adolescent girls aged 12-17 years who are at risk of obesity	Interpersonal Psychotherapy (IPT) is given to compare the effectiveness of IPT with Health Education (HE) in reducing anxiety about body shape and body image of adolescents.	IPT is not superior to HE for reducing anxiety and improving adolescent body image
23	(Khoshkardar & Raeisi, 2020)	Quasy eksperimental	30 girls aged 16-18 years	The experimental group received MBSR (Mindfulness-Based Stress Reduction) intervention for 8 sessions x 90 minutes. Data were collected using the Eating Attitude Test and Body image Concern Inventory	MBSR can be effective in enhancing the body image of adolescent girls with dysfunctional eating behavior
24	(Diedrichs et al., 2015)	randomized clinical trial	1707 adolescents aged 11-13 years with 50.83% female	The intervention was carried out using discussions, small groups, and video for 90 minutes with one provider for about 25-30 students.	The intervention has short-term benefits for body image
25	(Marengo et al., 2018)	Quasy eksperimental	523 adolescents with a mean age of 14.82 years	Teenagers who use Facebook every hour of the day and highly visual social media (HVSM) such as Instagram and Snapchat. Participants were asked to complete the BSQ (Body	Teenagers reported pengunaan HVSM that high-risk increased right image problems

No	Author and Year	Design Research	Participants	Intsrumen/ Interventions	Results
				Shape Questionnaire) questionnaire and the Italian self-rated version of the Strength and Difficulties Questionnaires (SDQ)	Tubuh which in turn can cause a condition psychologically worse .

DISCUSSION**Indirect Psychological Intervention (Online)**

The results of the review show that there is an effect of an indirect (online) intervention on increasing negative body image to positive and maintaining a positive body image. Interventions involving interactive discussions among group members show promising results for overcoming negative body images. This approach also provides an opportunity for data collection and program evaluation online, including allowing participants to choose a place and time convenient to express what is experienced. This is impacting on self-compassion that serves as a useful framework for intervention line (Rodgers et al., 2018). Self-compassion is providing understanding and kindness to oneself when facing suffering, experiencing failure or making mistakes by not judging one's shortcomings, imperfections, failures, and acknowledging that one's own experiences are part of general human experience (Georgakaki & Karakasidou, 2017). Interventions targeting body image have been deployed for individual use, for example, meditation, applications, and writing tasks (Seekis et al., 2017).

The results of reviews of several journals explain several types of interventions that can be carried out using internet technology. Some interventions focus on a more profound cognitive component (eg internalization of media and ineffectiveness). It seeks to reduce the risk and prevention of ED (Eating Disorder) with lower implementation costs (Wilksch et al., 2018). There is a direct positive impact of the intervention which indirectly is an increase in quality of life, self-esteem, body shape rating scale, self-efficacy, student health knowledge, and psychological impact on the intervention group (Lee et al., 2017). Online interventions that can be done to improve self-compassion to achieve a positive body image (Rodgers et al., 2018).

The family-based weight management intervention developed focuses on behavior change techniques so that clients can increase a positive body image with family support and monitoring (Christie et al., 2017). Training using online applications and media can reduce several forms of body dissatisfaction including the symptoms of BDD (Body Dysmorphic Disorder) in women who are at high risk of developing BID (Body image Disorder) (Cerea *et al.*, 2020).

Factors that can support the effectiveness of the intervention to increase body image in adolescents are the level of education, age, and gender of the individual. A person's acceptance of new and easy things in terms of self-adjustment as the level of education increases (Notoatmodjo, 2010). This statement where individuals are increasingly receptive to information along with higher education so that there will be more knowledge (Mandias, 2012). This has an impact, where if low education will hinder the development of their behavior towards the acceptance of new information and knowledge.

Indirect Psychological Intervention (Offline)

Indirect / face-to-face (offline) psychological intervention has been shown to reduce anxiety in appearance, dissatisfaction with body shape, and higher body appreciation. One intervention asked participants to discuss their daily experiences related to their body image (Seekis et al., 2020). Excessive assessment and control of body shape and weight can lead to eating disorders where interventions made through app intermediaries are very helpful for individuals with eating disorders because their behavior is often aimed at avoiding or controlling inner experiences. Methods used to control thoughts and feelings are used to limit food intake and increase the desire to eat a lot (Chairani, 2018).

One of the direct interventions, ACT asks patients to clarify their values, which aim to increase motivation for behavior change (Fogelkvist et al., 2020). Mindfulness and acceptance of inner experiences help the individual to change behaviors that should be avoided or to control painful mental states (Trindade *et al.*, 2018). Intervention writing tasks were also carried out with no interaction between participants. The results of this intervention show a considerable effect in eliminating negative body image (Seekis et al., 2017).

Other interventions include interactive activities and discussions that are incorporated into each session which encourages participation and teamwork. This intervention has been shown to improve self-esteem, mental health self-efficacy, and dietary behavior (Tirlea et al., 2016). Other interventions are effective at improving body image of adolescents with dysfunctional eating behavior (Khoshkerdar & Raeisi, 2020). It does this by raising the awareness that comes when we focus on experiences with a particular topic. It attracts goal-oriented attention (clear attention and focuses on a particular aspect of the experience), focuses on the present (when the mind focuses on the past or future to bring it back to the present), and is non-judgmental (accepts what is happening) (Grossman *et al.*, 2018).

The research conducted shows that changing behavior is proven to help identify appropriate changes in attitude and decision making. The findings of this study emphasize the need for psychosocial support. Working with simple psychological support for the general population can be used to enhance the body image of adolescents (Lee et al., 2017). Good psychological support is expected to improve attitudes and ways of making decisions in determining therapy so that the success of therapy will be more optimal.

CONCLUSION

There are various interventions capable of providing treatment for *body image* with varying success. Some psychological interventions are directly (*offline*) and others are not directly (*online*). Psychological interventions are not directly discussed the use of digital technology intervention in improving *body image* and a negative into a positive. Interventions in the use of digital technology include the *Healthy Eating and Lifestyle Program* (HELP) and BodiMojo. This intervention is very easy and efficient to implement today. Also, technology can reduce the cost burden. Indirect psychological intervention with psycho-educational interventions in the form of providing health education, counseling, psychotherapy, and hypnosis greatly helps patients in improving body image in various settings and patient populations. Some of the indirect interventions include *Yoga*, *Mindfulness-Based Stress Reduction* (MBSR), and *Accuracy and Commitment Therapy* (ACT). Comparison of the effectiveness of an intervention must be through testing or research further by clicking to right interventions already exist to be intervention comparators because several factors influence the effectiveness of an intervention, as long intervention, the number of respondents, the involvement of other parties (eg, the age,

environment) in giving intervention to respondents, and the age range of respondents. It is necessary to further discuss the effectiveness of direct and indirect interventions for adolescents in Indonesia because the intervention in this *Systematic review* is mostly carried out outside Indonesia with almost the same characteristics.

REFERENCES

- Barkhordari sharifabad, M., Vaziri-yazdi, S., & Barkhordari-sharifabad, M. (2020). The effect of teaching puberty health concepts on the basis of a health belief model for improving perceived body image of female adolescents : a quasi-experimental study. *BMC Public Health*, 20(370), 1–7.
- BKKBN. (2017). *Survei Demografi dan Kesehatan Indonesia*. Retrieved from <https://e-koren.bkkbn.go.id/wp-content/uploads/2018/10/Laporan-SDKI-2017-Remaja.pdf>
- BPS. (2017). Data Sensus. Retrieved from <https://jatim.bps.go.id/statictable/2018/02/05/841/persentase-penduduk-usia-15-tahun-keatas-di-jawa-timur-menurut-kabupaten-kota-jenis-kelamin-dan-pendidikan-tertinggi-yang-ditamatkan-2017.html>
- Cerea, S., Ghisi, M., Bottesi, G., Manoli, T., & Doron, G. (2020). Cognitive Behavioral Training Using a Mobile Application Reduces Body Image Related Symptoms in High Risk Female University Students: A Randomized Controlled Study. *Behavior Therapy*, 1–41. <https://doi.org/10.1016/j.beth.2020.04.002>
- Chairani, L.-. (2018). Body Shame dan Gangguan Makan Kajian Meta-Analisis. *Buletin Psikologi*, 26(1), 12–27. <https://doi.org/10.22146/buletinpsikologi.27084>
- Christie, D., Hudson, L. D., Kinra, S., Chi, I., Wong, K., Nazareth, I., ... Viner, R. M. (2017). A community-based motivational personalised lifestyle intervention to reduce BMI in obese adolescents : results from the Healthy Eating and Lifestyle Programme (HELP) randomised controlled trial. *BMJ*, 102, 695–701. <https://doi.org/10.1136/archdischild-2016-311586>
- Denich, A. U., & Ifdil. (2015). Konsep Body Image Remaja Putri. *Jurnal Konseling Dan Pendidikan*, 3(2), 55–61.
- Diao, H., Wang, H., Yang, L., & Li, T. (2020). The impacts of multiple obesity-related interventions on quality of life in children and adolescents : a randomized controlled trial. *Health and Quality of Life Outcomes*, 0(213), 1–10.
- Diedrichs, P. C., Atkinson, M. J., Steer, R. J., Garbett, K. M., Rumsey, N., & Halliwell, E. (2015). Effectiveness of a brief school-based body image intervention ‘Dove Confident Me: Single Session’ when delivered by teachers and researchers: Results from a cluster randomised controlled trial. *Behaviour Research and Therapy*, 74, 94–104. <https://doi.org/10.1016/j.brat.2015.09.004>
- Dolezal. (2015). *The Body and Shame: Phenomenology, Feminism, and the Socially Shaped Body*. The United States of America: Lexington Book. Retrieved from <http://centreformedicalhumanities.org/the-body-and-shame-phenomenology-feminism-and-the-socially-shaped-body-reviewed-by-dr-emily-cock/>
- Dunstan, C. J., Paxton, S. J., & McLean, S. A. (2016). An Evaluation of a Body Image Intervention in Adolescent Girls Delivered in Single-sex versus Co-educational Classroom Settings. *Eating Behaviors*, 1–36. <https://doi.org/10.1016/j.eatbeh.2016.03.016>
- Fogelkvist, M., Aila, S., Kjellin, L., & Parling, T. (2020). Acceptance and commitment therapy to reduce eating disorder symptoms and body image problems in patients with residual eating disorder symptoms : A randomized controlled trial. *Body Image*,

- 32, 155–166. <https://doi.org/10.1016/j.bodyim.2020.01.002>
- Georgakaki, S. K., & Karakasidou, E. (2017). The Effects of Motivational Self-Talk on Competitive Anxiety and Self-Compassion: A Brief Training Program among Competitive Swimmers. *Psychology*, 08(05), 677–699. <https://doi.org/10.4236/psych.2017.85044>
- Givehki, R., Afshar, H., Goli, F., Scheidt, C. E., Omid, A., Sciences, M., & Instructor, F. (2018). Effect of acceptance and commitment therapy on body image flexibility and body awareness in patients with psychosomatic disorders: a randomized clinical trial. *Electronic Physician*, 10(7), 7008–7016. <https://doi.org/http://dx.doi.org/10.19082/7008>
- Goldfield, G. S., Kenny, G. P., Alberga, A. S., Prud, D., Hospital, R. V., Phillips, P., ... Sigal, R. J. (2015). Effects of Aerobic Training , Resistance Training , or Both on Psychological Health in Adolescents with Obesity : The HEARTY Randomized Controlled Trial. *Journal of Consulting and Clinical Psychology*, 83(6), 1123–1135.
- Grossman, S. L., Campagna, B., Brochu, H., Odermatt, M., & Annunziato, R. A. (2018). Improving Body Image and Sexual Health Behaviors Among College Women. *Journal of American College Health*, 1–16. <https://doi.org/10.1080/07448481.2018.1454927>
- Halliwell, E., Dawson, K., & Burkey, S. (2019). A randomized experimental evaluation of a yoga-based body image intervention. *Body Image*, 28, 119–127. <https://doi.org/10.1016/j.bodyim.2018.12.005>
- Ishak, S. I. Z. S., Chin, Y. S., Taib, M., Nasir, M., & Shariff, Z. M. (2016). School-based intervention to prevent overweight and disordered eating in secondary school Malaysian adolescents : a study protocol. *BMC Public Health*, 16(1101), 1–13. <https://doi.org/10.1186/s12889-016-3773-7>
- Jessie E, M., Ross, K., & Kevin, T. J. (2011). Attitudinal Assesment of Body Image for Adolescents and Adults. Retrieved from <https://psycnet.apa.org/record/2011-20792-018>
- Khoshkerdar, P., & Raeisi, Z. (2020). The effect of mindfulness-based stress reduction on body image concerns of adolescent girls with dysfunctional eating attitudes. *Australian Journal of Psychology*, 72, 11–19. <https://doi.org/10.1111/ajpy.12265>
- Krebs, G., Monzani, B., Bowyer, L., Anson, M., Cadman, J., Heyman, I., ... Mataix-cols, D. (2017). ScienceDirect Long-Term Outcomes of Cognitive-Behavioral Therapy for Adolescent Body Dysmorphic Disorder. *Behavior Therapy*, 48(4), 462–473. <https://doi.org/10.1016/j.beth.2017.01.001>
- Lee, R. L., Leung, C., Chen, H., Louie, L. H. T., Brown, M., Chen, J., ... Lee, P. H. (2017). The Impact of a School-Based Weight Management Program Involving Parents via mHealth for Overweight and Obese Children and Adolescents with Intellectual Disability : A Randomized Controlled Trial. *International Journal of Environmental Research and Public Health*, 14(1178), 1–18. <https://doi.org/10.3390/ijerph14101178>
- Mandias. (2012). Hubungan Tingkat Pendidikan Dengan Perilaku Masyarakat Desa Dalam Memanfaatkan Fasilitas Kesehatandi Desa Pulisan Kecamatan Likupang Timur Minahasa Utara, 1(1), 45.
- Marengo, D., Longobardi, C., Fabris, M. A., & Settanni, M. (2018). Computers in Human Behavior Highly-visual social media and internalizing symptoms in adolescence : The mediating role of body image concerns. *Computers in Human Behavior*, 82, 63–69. <https://doi.org/10.1016/j.chb.2018.01.003>

- Mumford, & Choudry. (2000). Body dissatisfaction and eating in slimming and fitness gyms in London and Lahore: A crosscultural study. *European Eating Disorders Review*, 8, 217–224.
- Notoatmodjo. (2010). *Promosi Kesehatan Teori Dan Aplikasi Edisi Revisi*. Jakarta: Rineka Cipta.
- Rodgers, R. F., Donovan, E., Cousineau, T., Yates, K., Mcgowan, K., Cook, E., ... Franko, D. L. (2018). BodiMojo : Efficacy of a Mobile-Based Intervention in Improving Body Image and Self-Compassion among Adolescents. *Journal of Youth and Adolescence*, 47, 1363–1372. <https://doi.org/10.1007/s10964-017-0804-3>
- Santrock, J. W. (2007). *Perkembangan Anak Jilid 1 Edisi Kesebelas*. Jakarta: PT. Erlangga.
- Seekis, V., Bradley, G. L., & Duffy, A. (2017). The effectiveness of self-compassion and self-esteem writing tasks in reducing body image concerns, 23, 206–213. <https://doi.org/10.1016/j.bodyim.2017.09.003>
- Seekis, V., Bradley, G. L., & Duffy, A. L. (2020). Does a Facebook-enhanced Mindful Self-Compassion intervention improve body image? An evaluation study. *Body Image*, 34, 259–269. <https://doi.org/10.1016/j.bodyim.2020.07.006>
- Stapleton, P., Chatwin, H., Hons, B. A., William, M., Hutton, A., Hons, B., ... Hons, B. A. (2016). EMOTIONAL FREEDOM TECHNIQUES IN THE TREATMENT OF UNHEALTHY EATING BEHAVIORS AND RELATED PSYCHOLOGICAL CONSTRUCTS IN A DOLESCENTS : A RANDOMIZED CONTROLLED PILOT TRIAL. *The Journal of Science and Healing*, II(II), 1–10. <https://doi.org/10.1016/j.explore.2015.12.001>
- Sundgot-borgen, C., Bratland-sanda, S., Engen, K. M. E., Pettersen, G., Friborg, O., Torstveit, M. K., ... Rosenvinge, J. H. (2018). The Norwegian healthy body image programme : study protocol for a randomized controlled school-based intervention to promote positive body image and prevent disordered eating among Norwegian high school students. *BMC Psychology*, 6(8), 1–9.
- Sundgot-borgen, C., Friborg, O., Kolle, E., Engen, K. M. E., Sundgot-borgen, J., Rosenvinge, J. H., ... Bratland-sanda, S. (2019). The healthy body image (HBI) intervention : Effects of a school-based cluster-randomized controlled trial with 12-months follow-up. *Body Image*, 29, 122–131. <https://doi.org/10.1016/j.bodyim.2019.03.007>
- Tanofsky-kraff, M., Shomaker, L. B., Wilfley, D. E., Young, F., Sbrocco, T., Stephens, M., ... Kozlosky, M. (2017). Excess Weight Gain Prevention in Adolescents: Three-year Outcome following a Randomized-Controlled Trial. *J Consult Clin Psychol*, 85(3), 218–227. <https://doi.org/10.1037/ccp0000153.Excess>
- Tirlea, L., Truby, H., & Haines, T. P. (2016). Pragmatic , Randomized Controlled Trials of the Girls on the Go ! Program to Improve Self-Esteem in Girls. *American Journal of Health Promotion*, 30(4), 231–241. <https://doi.org/10.1177/08901171166639572>
- Toole, A. M., & Craighead, L. W. (2016). Brief self-compassion meditation training for body image distress in young adult women. *Body Image*, 19, 104–112. <https://doi.org/10.1016/j.bodyim.2016.09.001>
- Trindade, I. A., Marta-Simões, J., Ferreira, C., & Pinto-Gouveia, J. (2018). Chronic illness-related cognitive fusion explains the impact of body dissatisfaction and shame on depression symptoms in breast cancer patients. *Clinical Psychology and Psychotherapy*, 25(6), 886–893. <https://doi.org/10.1002/cpp.2323>
- WHO. (2017). Leaving no adolescent behind in health and development in Indonesia. In 5

SEPTEMBER 2017.

- Wilksch, S. M., Shea, A. O., Taylor, C. B., Wilfley, D., Jacobi, C., & Wade, T. D. (2018). Online prevention of disordered eating in at-risk young-adult women: A two-country pragmatic randomised controlled trial *Simon*, 48(12), 2034–2044. <https://doi.org/10.1017/S0033291717003567>.Online
- Wolfe, W. L., & Patterson, K. (2017). Comparison of a gratitude-based and cognitive restructuring intervention for body dissatisfaction and dysfunctional eating behavior in college women. *Eating Disorders*, 1–15. <https://doi.org/10.1080/10640266.2017.1279908>
- Wong, D. L. (2008). *Buku Ajar Keperawatan Pediatrik*. Jakarta: EGC.