International Journal of Academic Management Science Research (IJAMSR)
ISSN: 2643-900X
Vol. 9 Issue 2 February - 2025, Pages: 125-136

Laundry and dry cleaning practices, cleaning procedures used by laundry and dry cleaning service providers in Kisumu city, Kenya

Matthews Odek1, Dr. Gladys Otieno2

1Department of Art and design, Maseno University, Kenya; E-mail: **odekmatthews@gmail.com**
2 Department of Art and design, Maseno University, Kenya; E-mail: gladotionoO4@yahoo.com

Abstract*: Laundry and dry cleaning practices are a global process that contributes to the length and life of apparel and textile products. However, there were no standard procedures followed. To investigate this, this paper looks at the cleaning procedures used by laundry and dry cleaning service providers in Kisumu city, Kenya, by determining the procedures used by laundry and dry cleaning service providers. The conceptual framework borrowed ideas from the Expectation Disconfirmation Theory. Cross-sectional survey design was employed. Cleaning procedures of laundry and dry cleaning service providers were determined through interview and observation methods and were analyzed using SPSS. The study established that laundry and dry cleaning service providers in Kisumu city did not follow the standard recommended procedures used during laundry and dry cleaning services.*

Keywords: ***Laundry, Dry Cleaning, Laundry and dry cleaning practices, and Kisumu City.***

Introduction

Laundry and Dry Cleaning (LDC) services play a crucial role in society by preventing apparel and textile products from deteriorating which in the long run extend their lifespan, maintain their appearance and promote hygiene (Melita at al., 2005). Proper selection of LDC products and adherence to correct procedures and equipment settings can increase the wear life of apparel and textile products (Rose & Carol, 2016). Selection of specific LDC procedures is dependent on the fabric construction method, fibre properties, and special finishes. In addition, recommended measures which should be adhered so as to reduce risks that can cause harm to the textile and apparel products under treatment, are provided in the care label symbols (Isabel & Nyaradzo, 2013) and should be considered during LDC services. Today's home and commercial LDC practices, as well as the products used are much different from those used in the past since fabrics are now made from both natural and synthetic fibers. LDC services are now routine jobs shared by men, women and children (Rose & Carol, 2016).

Longevity and desirability of apparel and textiles products in use is determined by precaution taken in handling them (Sogaard, 2015). A study done by Morgan, Bowling, Bartram and Kayser (2017) revealed a knowledge gap in the way LDC of apparel and textile products were handled with the Sustainable Development Goal (SDG) 6 projections and targets not being keenly followed. This paper looked at procedures followed by LDC service providers in Kisumu City, Kenya. Apparel and textile care providers are supposed to be guided by apparel and textile manufacturers through the provision of care instructions (Care Labelling of Textile Wearing Apparel & Certain Piece Goods, 2021& Federal Trade Commission, 2014). These care instructions have all the information that LDC service providers may need during their operations. As such, LDC service providers need to understand LDC procedures and care label instructions which when followed well can lead to consumer satisfaction, a core goal of laundry and dry-cleaning.

Laundry and Dry Cleaning

Laundry is a process of cleaning clothes by hand or machine with a soap solution (Melita at al., 2005) and dry cleaning is the removal of paints, grease, dirt and other stains by using non-aqueous liquid solvent from wearing textiles, apparel, rugs, fabrics and similar items (Minneapolis Development Review, 2010) whereas dry-cleaning is a process of removing dirt and creases from clothes without using water to restore their appearance. This involves repairing, sorting, soaking, dry cleaning, rinsing, drying and finishing (Kenya Literature Bureau, 2009). The process of dry cleaning also entails flushing, blowing, brushing, vacuuming, scraping, sweeping and wiping (Scott, 2013).

The services sought from both households and commercial LDC premises are similar. Some of these services include reading of care label, sorting, stain removal, selection of LDC products and selection of cleaning methods (Melita at.al, 2005). Launderette Association of Australia (2005), describes LDC process as a combination of mechanical and chemical processing, temperature and time of which washing machines are used to conduct the mechanical aspect of the washing while a combination of water with washing detergents take the chemical procedures of the washing, pre-wash, major wash and rinsing takes the three major stages of washing procedures.

Appropriate Laundry Procedures

Laundry is a systematic process. Melita at al., (2005) outlines the appropriate laundry processes as: reading of care labels, sorting out according to colour, amount of soil and fabric type, removing stains according to its nature and type of fabric, selection of laundry agents and selection of cleaning method. The Association of Southeast Asian Nations (2012) noted appropriate laundry procedures as sorting, counting the lodged items, assessing stains on the items, spot cleaning stains, identifying appropriate cleaning methods, operating equipment to realize desired cleaning outcome, and lastly effect repairs. The same association mentioned post laundry finishing processes as checking for stains, repairs, doing the necessary correction before the items are collected, pressing, drying, folding and packaging. According to Kenya Literature Bureau (2009) and Mugambi et al., (2004), appropriate laundry procedures are: repairing, sorting, soaking, washing, rinsing, drying, finishing and storage. Goud and Joseph (2014) on the other hand said that appropriate laundry procedures begins from reception to repair which includes the linen receiving area where the linen from various departments are received and segregated, common hall area where the activity of collection of unwashed clothes are done, dirty linen washing area where dirty linen are worked on before transferring them to the washing area, washing area where clothes are washed, linen squeezing area where water from the washed clothes is extracted using "hydro extractor" machine,/hand, drying/spreading area where washed clothes are dried, pressing /ironing area where linen are ironed/pressed to remove creases, folding room area where the washed clothes are folded and organized, store room area where washed clothes are stored and tailoring section that deals with repair of damaged clothes.

The Dry Cleaning Procedures

According to Melita at al., (2005), dry cleaning procedures are those that do not use water as part of cleaning medium as well as the steps or procedures that are followed when clothing articles are received into the dry cleaning plant. Such procedures involve: - Reading of care label(s), tagging items for identification, separating clothing items on the basis of weight, colour and type of fabric, and spot cleaning prior to placing clothing items in the dry cleaning machine. Clothes that are to be dry cleaned should be prepared well by emptying their pockets and turning them inside out to remove fluffs, trimmings, buttons and buckles which can be damaged by cleaning fluid, securing the belt, removing shoulder pads which can be destroyed by dry cleaning solvents, letting the hems at the wrist and lower edge if the clothe(s) are suspected that they may shrink during cleaning and pinning a note to the cloth if any particular stain need special attention (Kenya Literature Bureau, 2009).

The Environmental Protection Agency (2005) and Emissions of Volatile Organic Compounds from Organic Solvents Regulations (2002) declares that after loading the clothes into the dry cleaning machine, the cleaning action should follow five processes which are: cleaning the garments into the solvent, spinning to extract solvent, drying with hot air and recovery of solvent, deodorization to remove last traces of solvent and regeneration of used solvent after the clothes have been cleaned. From the above mentioned procedures, after the last procedure (regeneration of the used solvents), the clothing items are removed from the machine at this stage to allow the process of regeneration. At this stage, the clothes can either be transferred to a dryer in a transfer machine operation or are dried in the same machine if they are to be dried through dry-to-dry model. As part of the finishing process, the apparel and textile products are pressed and lastly placed on hangers and covered with a plastic bag or folded and stored. At some point, dry cleaning procedures can start by first inspecting and classifying garments before washing, removing the stains and lastly washing and drying (Dry cleaning and laundry Institute (2017).

Raw Materials Used in Laundry and Dry Cleaning

Han, Abel, Akkanen & Werner (2017) outlines LDC agents, detergents, soaps, and chemicals as LDC raw materials that are used in apparel and textile cleaning services. According to them, turpentine, spirits, kerosene, camphor oil, white gasoline, chloroform, benzene, petroleum solvents, perchlorethylene, carbon tetrachloride, glycol ethers and liquid carbon dioxide are the commonly used LDC chemicals in the world. Further, they identified petroleum dry cleaning solvents as the most widely used solvents in dry cleaning industry and raw white gasoline as the dry cleaning solvent of choice in the United States of America. Detergents used in LDC performs the functions they are meant for. Such functions are; - carrying moisture to aid in the removal of water soils, suspending soil after it has been removed from the fabric, and acting as a spotting agent to aid in penetrating the fabric to allow the solvent to remove the stains (Han at al., 2017). Pre-cleaning and spotting agents include the wet-side spotting agents, dry-side agents and the bleaches. Bleaches are either oxidizing or reducing bleaches. The garment treatment chemicals include the application of chemicals that do waterproofing, flame retardants, and stain repellents. Other group of raw materials used for LDC include surfactants, bleaching agents, minors, builders and enzymes (Han *at al*., 2017).

Research Methodology

Research Design

A cross-sectional descriptive survey design was adopted, integrating both quantitative and qualitative approaches to provide comprehensive insights on laundry and dry cleaning procedures used by laundry and dry cleaning service providers in Kisumu city, Kenya

Study Area

The research was conducted in Kisumu City, Kenya, a vibrant urban area with diverse LDC service providers, ranging from household-level operations to large-scale commercial enterprises.

Sampling Techniques and Sample Size

- Population: 312 household consumers and 72 commercial LDC service providers.
- Sampling Methods:
  - Quota and stratified random sampling to identify respondents.
  - Snowball sampling to locate smaller, informal service providers.
  - Systematic sampling for household participants.
- Sample Size: A total of 384 respondents were surveyed.

Data Collection Methods

1. Observation Checklists: To assess service provider adherence to laundry and dry cleaning procedures and the tools and equipment used.
2. Interviews: Semi-structured interviews with LDC providers to determine whether they were using the recommended laundry and dry cleaning procedures.

Data Analysis

Quantitative data was analyzed using SPSS Version 20, employing descriptive statistics such as means, percentages, and frequencies. Qualitative data was coded into themes and analyzed to highlight key trends

Results and Discussion

Laundry and Dry Cleaning (LDC) Service Providers' Understanding of Fibre Properties

The understanding of LDC service providers on fibre properties is summarized in Figure 4.1 below.

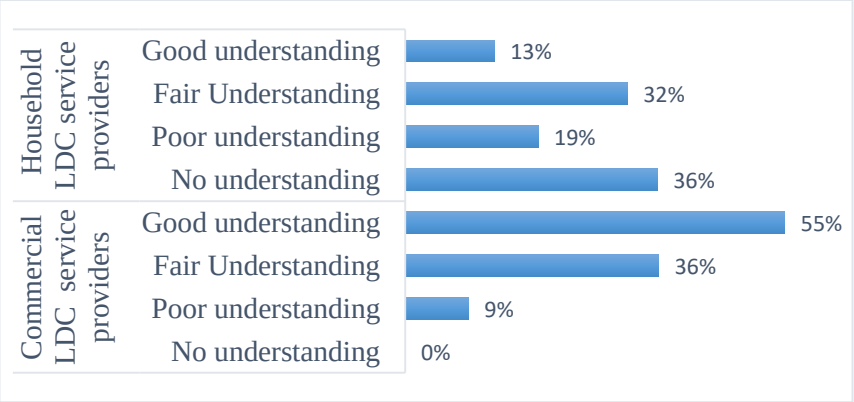

Figure 4.1: The Laundry and Dry Cleaning (LDC) Service Providers' Understanding of Fibre Properties
Source: Odek (2025)

Majority, (55%) of the commercial service providers (CSP) respondents could match fibres with their respective properties, 36% had a fair matching, 9% had poor matching ability and none indicated a lack of understanding to match fibre properties. On the other hand, for the household service providers (HSP), 36% could not match the fibres, 32% had poor matching ability, 19% had fair matching ability and only 13% had good matching ability. The finding showed that, though (55%) of the commercial service providers had good understanding of fibre properties, for both categories, majority had fair, poor or no understanding.

Ideal Ways of Laundering Different Fabrics

The understanding of LDC service providers on ideal ways of laundering different fabrics is summarized and presented in Figure 4.2.

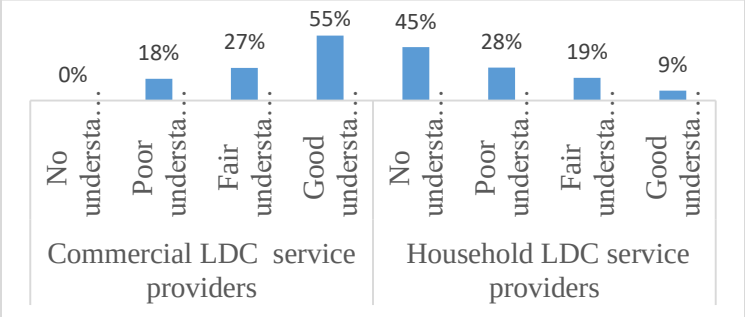

Figure 4.2: Laundry and Dry Cleaning (LDC) Service Providers Understanding of Ideal Ways of Laundering Different Fabrics
Source: Odek (2025)

It was evident that for commercial LDC service providers, majority, (55%) had good understanding of ideal ways of laundering different fabrics, 27% had fair understanding, 18% had poor understanding and none had no understanding. In the case of household LDC service providers, it was the opposite in that, 45% had no understanding, 28% had poor understanding, 19% had fair understanding and only 9% had good understanding.

LDC Service Providers' Understanding of the Right Sequence of LDC Procedures
Summary of the understanding of LDC service providers' understanding of the right sequence of LDC procedures is presented on Figure 4.3.

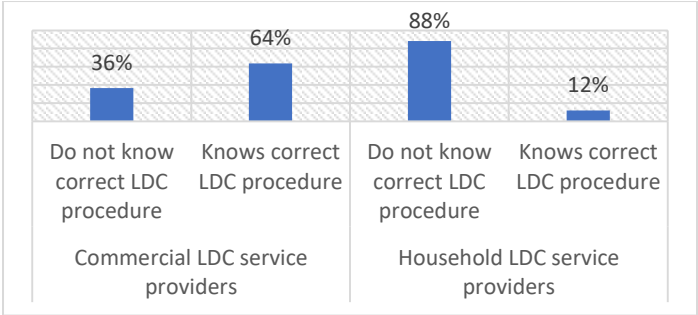

Figure 4.3: LDC Service Providers' Understanding of the Right Sequence of LDC Procedures

Source: Odek (2025)

Results showed that for commercial LDC, most, (64%) of them understood the right sequence and minority (36%) did not understand the right sequence of LDC procedures whereas for the household LDC service providers, most (88%) did not understand the right sequence and only 22% understood the right sequence of LDC procedures. A good percentage, (55%) of the commercial LDC service providers understood the right LDC procedures while majority (88%) of the household service providers did not understand the right sequence of laundering different fabrics.

LDC Service Providers Understanding on How to Prevent Damaging of Fabrics' Physical Properties during Laundry and Dry Cleaning (LDC)
The understanding of LDC service providers on how to prevent fabrics from damaging its physical properties while laundering is summarized and presented in Figure 4.4.

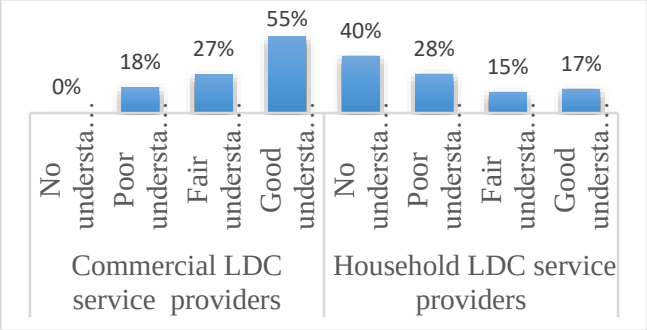

Figure 4.4: LDC Service Providers Understanding on How to Prevent Damaging of Fabrics' Physical Properties during Laundry and Dry Cleaning (LDC)

Source: Odek (2025)

The above result showed that (55%) of commercial LDC service providers had good understanding of how to prevent damage of fabric physical properties, (27%) had a fair understanding, (18%) had poor understanding while none understood how to prevent damage of fabric physical properties. In the case of the households LDC service providers, (17%) reported good understanding, (15%) had fair understanding, (28%) had poor understanding and (40%) had no understanding. The finding thus showed that at least (55%) of the commercial service providers had good understanding on how to prevent damaging of fabric physical properties during LDC while majority of the household service providers, (40%) had no understanding at all.

LDC Service Providers Understanding on How to Remove Selected Stains from Fabrics

The understanding of LDC service providers on how to remove selected stains from fabrics is summarized and presented in Figure 4.5.

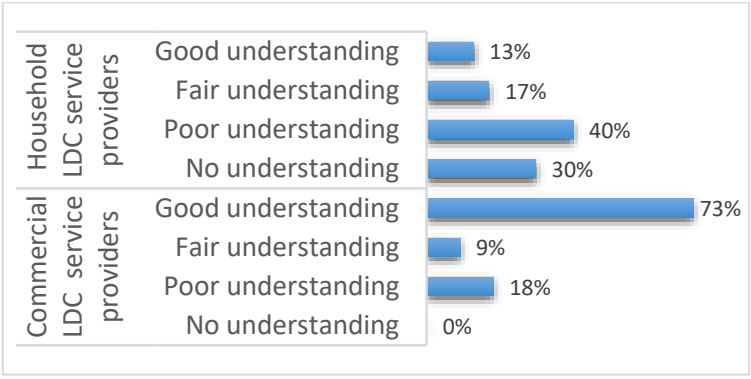

Figure 4.5: LDC Service Providers Understanding on How to Remove Selected Stains from Fabrics
Source: Odek (2025)

Results showed that majority, (73%) of the CSP had good understanding on how to remove selected stains from different fabrics, 9% had fair understanding and18% had poor understanding while none had no understanding of how to remove selected stains from fabrics. Forty percent (40%) of the HSP had poor understanding on how to remove selected stains from fabrics, 17% had fair understanding, 13% had good understanding and 30% had no understanding at all. From the findings, only 13% of the household LDC service providers had good understanding of stain removal, and the rest, 87% had poor, 17% fair understanding and 30% with no understanding which could lead to offering low quality services as compared to the commercial LDC service providers whose level of understanding of stain removal were higher with 73% with good understanding.

LDC Service Providers Understanding of the Meaning of Care Label Symbols and Instructions on the Fabrics

Laundry and dry cleaning service providers understanding of the meaning of care label symbols and instructions on the fabrics is summarized in Figure 4.6.

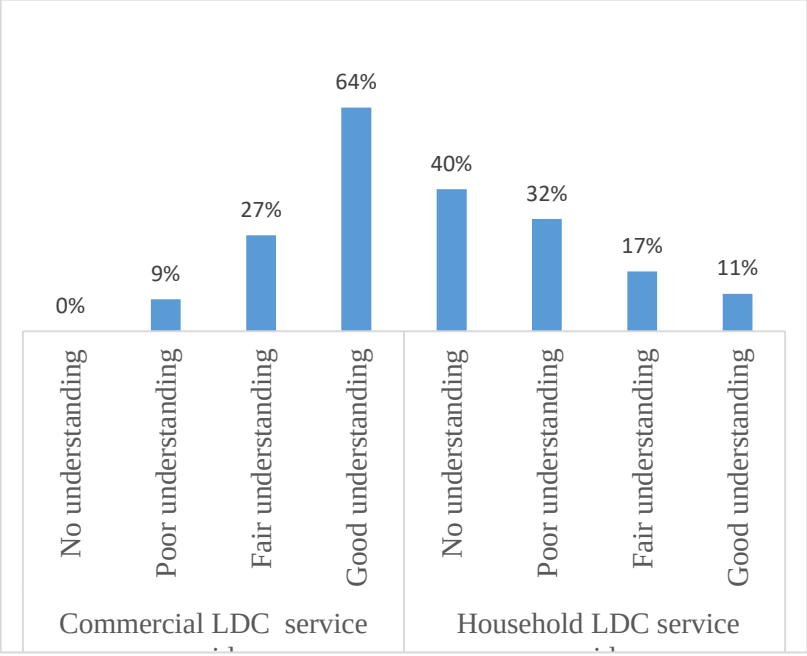

Figure 4.6: LDC Service Providers Understanding of the Meaning of Care Label Symbols and Instructions on the Fabrics
Source: Odek (2025)

Results showed that majority, (64%) of the CSP respondents had good understanding of care labels; 27% had fair understanding and 9% had poor understanding. Majority, (40%) of the HSP had no understanding of care labels, 32% had poor understanding, 17% had fair understanding and only 11% had good understanding of care labels.

Challenges Faced by Laundry and Dry Cleaning (LDC) Service Providers

Challenges faced by laundry and dry cleaning service provider is summarized and presented in Table 4.1

able 4.1
Challenges Faced by LDC Service Providers

Challenges	Challenges Faced by LDC Service Providers							
	Commercial LDC Service Providers				Household LDC Service Providers			
	Always	Occasionally	Rarely	Never	Always	Occasionally	Rarely	Never
Interpretation of care labels	8%	20%	5%	67%	98%	1%	0%	1%
Tools and equipment	5%	4%	17%	74%	97%	3%	0%	0%
Detergents	4%	5%	13%	78%	54%	5%	36%	5%
Space for drying out	12%	22%	44%	22%	56%	33%	10%	1%
Space for disposing waste	23%	7%	46%	24%	98%	2%	0%	0%
Skin Problem(itching)	40%	7%	23%	20%	20%	15%	45%	20%
Skin Problem(dryness)	50%	3%	37%	10%	43%	7%	20%	30%
Skin problem(rashes)	37%	18%	45%	0%	7%	21%	38%	34%
Reaction by the detergents	13%	19%	26%	42%	60%	12%	8%	20%
Posture problem(standing)	20%	20%	35%	25%	55%	15%	20%	10%
Posture problem(bending)	30%	19%	31%	20%	75%	20%	2%	3%
Posture problem(sitting)	13%	17%	32%	28%	23%	22%	35%	20%
Posture problem(squatting)	10%	7%	27%	33%	50%	10%	30%	20%
Finance	0%	0%	0%	100%	99%	1%	0%	0%

Source of water	12%	0%	78%	10%	37%	56%	7%	0%

Source: Odek (2025)

For the CSP, the results showed that the challenges with limited tools and equipment were at 17%, with lack of enough detergents by (13%), regarding limited space for drying out (44%), with limited space for disposing of waste (46%), with rashes problem (45%), with reaction by the detergents (26%), 35% with standing posture, 31% with bending, 32% with sitting problem, 27% with squatting problem, 78% rarely with sources of water and those who never face challenges were at 67% with interpretation of care labels, 74% with tools and equipment, 78% with detergents, 22% with space for drying out, 24% with space for disposing waste, 42% with reaction by detergents, 25% with standing problem, 28% with sitting problem, 33% with squatting problem and 100% with financial problems. A smaller percentage of the CSP always faced challenges of itching of skin at 40%, 50% with dryness of the skin and 30% with bending.

For the HSP, majority always faced challenges with interpretation of care labels at 98%, limited tools and equipment at 97%, lack of enough detergents at 54%, limited space for drying out at 56%, space for disposing waste at 98%, dryness of the skin at 43%, reaction by the detergents at 60%, standing problem at 55%, bending problem at75% and source of water at 56%. A smaller percentage of the HSP rarely faced challenges with space for disposing of waste as indicated by 45%, skin rashes by 38% and with bending problem as indicated by 35%. From the results above, it was observed that all, (100%) of the commercial LDC service providers did not have any challenge with finance while majority (98%) of the HSP had challenges with finance. Again most (97%) of the HSP had challenges of interpreting care labels which could be attributed to their low level of education, most (52%) had secondary education, 21% with primary education and 3% did not have any formal education and none had tertiary education.

Procedures used by the commercial and household LDC service providers are summarized in Table 4.2

Table 4.2

Laundry and Dry Cleaning (LDC) Practices Conducted by LDC Service Providers

Type of LDC	LDC Practices Conducted by LDC Service Providers	Frequency	Percentage
Commercial LDC service providers	Receiving garments	11	100%
	Reading and interpreting care labels	8	73%
	Mending garments	2	18%
	Spotting	11	100%
	Stain removal	11	100%
	Sorting	11	100%
	Soaking	11	100%
	Washing	11	100%
	Rinsing	11	100%
	Starching	6	55%
	Bluing	5	45%
	Drying	11	100%
	Ironing/pressing	11	100%
	Folding	11	100%
	Storing	11	100%
Household LDC service providers	Receiving garments	47	100%
	Reading and interpreting care labels	5	11%
	Mending garments	1	2%
	Stain removal	2	4%
	Sorting	46	98%
	Soaking	30	64%
	Washing	47	100%
	Rinsing	47	100%
	Starching	0	0%

Bluing	0	0%
Drying	47	100%
Ironing/pressing	27	57%
Folding	20	43%
Storing	47	100%

Source: Odek (2025)

The results showed that sorting, soaking, washing, rinsing, drying, ironing/pressing and storage were common LDC procedures among the two categories of LDC service providers (Household and commercial LDC). However, there were other procedures with varied percentages of adoption, an indication that there were no standard procedures followed by the two categories of LDC service providers. A minority, (18%) of commercial LDC service providers practiced mending, 55% practiced starching and 45% practiced bluing. Other procedures were 73 and 100% practiced. For the HSP, 11% were able to read and interpret care labels, 2% practiced mending, 4% practiced stain removal, 43% practiced folding, 57 practiced ironing, 64% practiced soaking, and 98% practiced sorting and none of them practiced starching and bluing. The remaining procedures were practiced at 100%.

Discussion

Majority, (55%) of the commercial service providers could match fibres with their respective properties, 36% had a fair matching, 9% had poor matching ability and none indicated lack of understanding to match fibre properties. On the other hand, for the household service providers (HSP), 36% could not match the fibres, 32% had poor matching ability, 19% had fair matching ability and only 13% had good matching ability. The finding showed that, though (55%) of the commercial service providers had good understanding of fibre properties, in both categories, the bigger percentage had fair, poor or no understanding.

Commercial service providers had an experience in offering LDC services for 7 – 9 years at 27% and more than 10 years and above by 46% while for the households who could not match the fabrics with their respective properties, majority (38%) had primary education and 13% never went to school making them to have low understanding of fibre properties. The ability of the CSP matching the fabric with their properties was due to their high level of education and years of experience at work. This led them to follow good LDC procedures which in the long run led to consumer satisfaction. This was much contrary with the households LDC service providers who were unable to match the fibres with their right properties due to their low level of education, thus, their chance of not following proper LDC procedures were higher which then lead to consumer dissatisfaction.

Majority of the commercial service providers at 55% had good understanding of ideal ways of laundering different fabrics, 27% had fair understanding, 18% had poor understanding and none had no understanding of the ideal ways of laundering different fabrics. In the case of household LDC service providers, it was the opposite in that, 45% had no understanding, 28% had poor understanding, 19% had fair understanding and only 9% had good understanding on the ideal ways of laundering different fabrics. Being unable to understand ideal ways of laundering different fabrics was a very serious issue since it led to total distortion of apparel and textile products during LDC and as well made the consumers have no peace with the LDC service providers.

Levels of education and experience are some of the factors that contributes to following ideal ways of laundering fabrics. The result showed that 45% of the commercial service providers had secondary education while 55% had tertiary education which led them to have good understanding of ideal ways of how to launder different fabrics. Again, they had an experience in offering LDC services for 7 – 9 years and by 27% and more than 10 years and above represented by 46%, while, for the household LDC who have less understanding of the ideal way of laundering different fabrics, majority, (38%) had primary education and 13% never went to school. This was very risky during laundry procedures. The findings again showed that over (55%) of the commercial LDC service providers understood the ideal ways of laundering different fabrics based on their education level and experience though at various percentages while most, (45%) of households LDC service providers had no understanding of ideal ways of laundering different fabrics though a smaller percentage of them had fair and poor understanding at (28%) and (19%) respectively. Knowledge of ideal ways of laundering different fabrics contributes a lot in LDC practices and consumer satisfaction. Therefore, the possibilities of commercial LDC service providers following proper LDC practices was much higher than those of household LDC service providers. Their satisfaction levels also differed, meaning that commercial LDC consumers were more satisfied with LDC services than those for households.

Most, (64%) of commercial service providers understood the right sequence of LDC procedures and minority (36%) did not understand the right sequence of LDC procedures whereas for the household LDC service providers, most (88%) did not understand the right sequence while only 22% understood the right sequence of LDC procedures. This was attributed to the fact that most of the

commercial LDC service providers had either secondary or tertiary education or many years of experience in offering LDC services while the household LDC service providers level of education, ranged from those who never went to school, those who had primary education and a smaller percentage with secondary education. The finding thus showed that a good percentage, (55%) of the commercial LDC service providers understood the right sequence of LDC procedures while majority (88%) of the household service providers did not understand the right sequence of LDC procedures. Understanding the right sequence of LDC procedures meant that they would be able to select good cleaning methods, use the right detergents/ chemicals and all would lead to consumer satisfaction and vice versa.

Fifty-five percent (55%) of the commercial LDC service providers had good understanding of how to prevent damage of fabric physical properties, (27%) had a fair understanding, (18%) had poor understanding while none had no understanding on how to prevent damage of fabric physical properties. In the case of the households LDC service providers, (17%) reported good understanding, (15%) had fair understanding, (28%) had poor understanding and (40%) had no understanding. The finding thus showed that at least (55%) of the commercial service providers had good understanding on how to prevent damaging of fabric physical properties during LDC while majority of the household service providers (40%) had no understanding on how to prevent damaging of fabric physical properties during LDC. When LDC service providers could not be in a position to prevent fabric from being damaged, the end result would be dissatisfaction and vice versa. In this case, the commercial LDC service providers were at a better chance of satisfying their consumers and vice versa.

Seventy-three percent (73%) of the CSP had good understanding on how to remove selected stains from different fabrics, 9% had fair understanding and18% had poor understanding while none had no understanding. Forty percent (40%) of the HSP had poor understanding, 17% had fair understanding, 13% had good understanding and 30% had no understanding at all. From the findings, only 13% of the household LDC service providers had good understanding of stain removal, and the rest, 87% had poor understanding, 17% fair understanding and 30% with no understanding at all. This led them in offering low quality LDC services as compared to the commercial LDC service providers whose level of understanding of stain removal were higher with 73% that lead to higher percent of consumer satisfaction.

Sixty-four percent (64%) of the CSP respondents had good understanding of care labels symbols; 27% had fair understanding and 9% had poor understanding. Majority (40%) of the HSP had no understanding, 32% had poor understanding, 17% had fair understanding and only 11% had good understanding of care labels. Care labels have useful information that should be used by LDC service providers and consumers at all times since they contain rich instructions on care and maintenance of apparel and textile products during care and use. The implication of the above findings was that majority of the commercial LDC service providers understood the meaning of care label symbols which made them follow the right LDC cleaning methods, that lead to consumer satisfaction while most of the household LDC service providers did not understand care label symbols and instructions which made them follow wrong LDC cleaning methods that lead to consumer dissatisfaction with LDC practices. Understanding of care label symbols by the commercial service providers was attributed by their level of education and many work experiences while lack of understanding of care label symbols by HSP was attributed by their low level of education or having no formal education at all.

For commercial LDC service providers, the challenges with limited tools and equipment were by 17%, with lack of enough detergents by (13%), regarding limited space for drying out (44%), with limited space for disposing of waste (46%), with rashes problem (45%), with reaction by the detergents (26%), 35% with standing posture, 31% with bending, 32% with sitting problem, 27% with squatting problem, 78% rarely with sources of water and those who never face challenges were at 67% with interpretation of care labels, 74% with tools and equipment, 78% with detergents, 22% with space for drying out, 24% with space for disposing waste, 42% with reaction by detergents, 25% with standing problem, 28% with sitting problem, 33% with squatting problem and 100% with financial problems. A smaller percentage of the commercial LDC service providers faces challenges of skin itching at 40%, 50% with dryness of the skin and 30% with bending. For the households LDC service providers, majority always faces challenges with interpretation of care labels at 98%, limited tools and equipment at 97%, lack of enough detergents at 54%, limited space for drying out at 56%, space for disposing waste at 98%, dryness of the skin at 43%, reaction by the detergents at 60%, standing problem at 55%, bending problem at75% and source of water at 56%. From the result, the challenges for the commercial LDC service providers were somehow lesser compared to those for the household LDC service providers. Many challenges raise many complaints from consumers while few or no challenges resulted to few complaints or no complaint at all from the consumers. Satisfaction can also be at a higher level where there is less challenges and vice versa. In this case, commercial LDC were at a better position of satisfying their consumers than the household LDC.

A smaller percentage of the HSP rarely faces challenges with space for disposing of waste as Majority of the commercial LDC service providers rarely or did not face any challenges at all as indicated from the aggregate total of rarely and never whereas majority of the household LDC service providers faced many challenges from the aggregate total of always and very frequently. The challenge

that were similar in both categories was that of ergonomics. For the household LDC service providers, the percentages were higher with standing problem at 55%, bending problem at 75%, squatting problem at 55% and with sitting problem at 23%. Medina - Rahom et al. (2003); Zock et al. (2002), EU-OSHA (2008), Mondelli et al. (2006), Scherzer et al. (2005), Kumar and Kumar (2008) and Unge et al. (2007) also revealed about poor ergonomic practices as a challenge of LDC service providers. Most of the challenges faced by LDC service providers in Kisumu City were those that could be easily dealt with since all of them need finance while those mentioned by other authors around the world were those that need proper mechanisms when solving, yet others seamed very difficult to get solved.

Concerning LDC procedures, from the result, most household service providers did not carry most LDC procedures as established Melita at al., (2005), The Association of Southeast Asian Nations (2012), Kenya Literature Bureau (2009), Mugambi et al. (2004) and, Goud and Joseph (2014). This led them not to offer poor quality LDC services that lead to consumer dissatisfaction whereas most commercial LDC service providers carried out most LDC procedures as established by Melita, Claudia and Lilieth (2005), The Association of Southeast Asian Nations (2012), Kenya Literature Bureau (2009), Mugambi et al. (2004) and, Goud and Joseph (2014), which led them to offer quality services that lead to consumer satisfaction. Household's LDC service providers were not in better position to follow most LDC procedures since they were not able to purchase most of the required detergents/chemicals and tools and equipment needed for proper LDC services due to their financial challenges, while commercial LDC service providers were following most LDC procedures since they were in a better position to acquire all that they need for LDC services due to their better financial positions. These aspect of finance also help the commercial LDC service providers to offer better services than the households LDC service providers.

Sorting, soaking, washing, rinsing, drying, ironing/pressing and storage were common LDC procedures for both household and commercial LDC service providers. There were other procedures with varied percentages of adoption which was an indication that there were no standard procedures followed by both categories (households and commercial service providers). For the commercial LDC, Minority, (18%) practiced mending, 55% practiced starching and 45% practiced bluing. Other procedures were at 73 and 100% practiced. For the household LDC service providers, only 11% were able to read and interpret care labels symbols, 2% practiced mending, 4% practiced stain removal, 43% practiced folding, 57 practiced ironing, 64% practiced soaking, and 98% practiced sorting and none practiced starching and bluing. The remaining procedures were practiced at 100%. Every task that was carried out would have a starting point and ending point and would yield a better result, meaning all LDC procedures which were put in place to guide LDC service providers were to be followed to the letter for a good cleaning result to be achieved. When procedures are not followed well, the end result are always bad leading to consumer dissatisfaction and when proper procedures are followed, the end result will always be good leading to consumer satisfaction. LDC service providers therefore should at all times follow the right procedures so as to satisfy, maintain and retain the consumers and for commercial LDC, following the right procedures will make them thrive well in a competitive world whereas for household LDC, satisfaction of the members of the family will help in maintaining peace and love.

Conclusion

The study established that most household service providers did not understood fibre Properties, ideal Ways of laundering different fabrics, right sequence of LDC procedures

, how to prevent damaging of fabrics' physical properties during LDC, how to remove selected stains from different fabrics, did not understand the meaning of care label symbols and instructions and lastly, did not follow the right LDC procedures. The same household LDC service providers faced many challenges while offering LDC service since they were not in a better position to acquire enough tools, equipment, detergents and chemicals necessary for all LDC procedures. All these led them not to offer satisfactory services.

For the commercial LDC service providers, the study observed that most; understood fibre properties, ideal ways of laundering different fabrics, right sequence of LDC procedures

, how to prevent damaging of fabrics' physical properties during LDC, how to remove selected stains from different fabrics, understood the meaning of care label symbols and instructions and lastly, followed proper or most LDC procedures. These made them to offer quality LDC services to their consumers and retain the consumers as well. They also gained a lot since their businesses could also increase in size through good profits.

Although there were common trends in relation to most LDC procedures among the two categories of the LDC service providers, there were other procedures which had varied percentages adopted hence the study confirmed that there were no standard procedures followed by the two categories (Household and commercial LDC service providers).

Recommendations

1. Laundry and dry-cleaning service providers be trained on matters that are related to LDC procedures.
2. Training Institutions to organize seminars /road shows to educate consumers on their rights and responsibilities concerning LDC services.

Suggestions for Further Research

1. A similar study in other Cities in Kenya like Nairobi, Nakuru, and Eldoret.
2. A similar study in rural areas within the country be done.

References

Australian Bureau of Statistics (2013). Annual census report, 2013-14. ABS

Care Labelling of Textile Wearing Apparel & Certain Piece Goods (2021). Cleaning requirements. Retrieved on 5th January 2016; https://www.ftc.gov/node/119456.

Dry cleaning and laundry Institute (2015). Care Labels. Retrieved on 4th, January 2016 from: ec.europa.eu/environment/archives/air/.../d017_best_practice_dry_cleaning.pdf

Emissions of Volatile Organic Compounds from Organic Solvents Regulations 2002 (S.I. No. 543 of 2002) Best Practice Guidelines for Dry Cleaning.

Environmental Protection Agency (2005). Best Practice Guidelines for Dry Cleaning. Retrieved on 25th Jan. 2016 from

erepository.uonbi.ac.ke/.../Ondieki%20Jasper%20Morara_Assessment%20of%20the%.

Federal Trade Commission (2014). Threading your way through the labelling requirements under the textile and wool acts. Accessed on 15th August 2018 from.

Fisher, L.D. (1998). Self-designing clinical trials. Statistics in Medicine, 17, 1551-1562.

Han, Z., Abel, S., Akkanen, J., & Werner, D. (2017). Evaluation of strategies to minimize ecotoxic side-effects of sorbent-based sediment remediation. Journal of Chemical Technology & Biotechnology, 92(8), 1938-1942.

Isabel, M. M., &Nyaradzo, J. (2013). An investigation into care-label knowledge on textile products by Chesvingo residents in Masvingo Zimbabwe. Journal of Studies in Social Sciences, 3(1), 80-100.

Kenya Literature Bureau (2009). Secondary home science form two students book, 3rd edition. Nairobi: Kenya Literature Bureau

Kenya National Bureau of Statistics (2009). Kisumu Population and Housing Census Figures. Nairobi: KNBS.

Kumar, M.S., Goud, B.R., Joseph, B. (2014). A study of occupational health and safety measures in the Laundry Department of a private tertiary care teaching hospital, Bengaluru. Indian J Occup Environ Med.18(1),13-20. doi: 10.4103/0019-5278.134951.

Launderette Association of Australia Inc. (2005). Smart water laundry training notes and workbook.

Melita, M. N., Claudia, B. W., & Lilieth, E. (2005). Needlework for schools (2nd Ed.). Cheltenham: Nelson Thornes.

Minneapolis Development Review (2010). Licenses and Consumer Services.

Morgan, C., Bowling, M., Bartram, J., & Kayser, G. L. (2017). Water, sanitation, and hygiene in schools: Status and implications of low coverage in Ethiopia, Kenya, Mozambique, Rwanda, Uganda, and Zambia. International Journal of Hygiene and Environmental Health, 220(6), 950-959.

Moumié, M. (2010). A water and sanitation needs assessment for Kisumu city, Kenya.Working Paper No. 11/2010). Prepared by MCI Social Sector

Mugambi, R., Mbuthia, O., & Chege, A. (2004). Focus on home science student's book for form two. Longhorn (K) Publishers.

Mugenda, O. M. & Mugenda, A. G. (2003). Research methods: Quantitative and qualitative approaches. Nairobi: ACTS press.

Nyang'or, E. A. (1994). Factors Influencing consumer selection of imported over local clothing among women in Nairobi, Kenya. (Unpublished Master's Thesis), Kenyatta University, Nairobi.

Oso, W. Y. &Onen, D. (2009). A general guide to writing research proposal and report, revised edition. Nairobi: Jomo Kenyatta Foundation.

Otieno, G. K. (1990). Physiological, psychological and socio-economic factors influencing clothing selection and buying practices among Kenyans: A study of Kenyatta University. (Unpublished Thesis), Kenyatta University, Nairobi.

Rose, M. &Carol, T. (2016). Solving laundry problems and selecting laundry products. Accessed on 23rd May 2016 from: pubstorage.sdstate.edu/AgBio Publications/articles/FS901D.pdf

Scott, L. B. (2013). Environmental hygiene control in a dry environment. University of Oregon

Sogaard, S. (2015). Laundry operations (2nd Ed.). London: Textiles Service Association.

The Association of Southeast Asian Nations (ASEAN) [2012]. Launder linen and guests' clothes, D1.HHK.CL3.05. Trainee Manual.:

The County Government of Kisumu (2018). Department of business registration. https//kisumu.go.ke.

Urban Transects Kisumu (2015). The Urban Zones in the Study of Kisumu. Retrieved on30th May 2016 from